CLAIMS

[Claim 1]

A transmission device comprising:

a clock signal transmitting circuit that outputs a clock signal onto a clock signal line;

a data signal transmitting circuit that outputs a data signal onto a data signal line; and

a blanking controller that controls the clock signal transmitting circuit to output a predetermined blanking signal, in place of the clock signal, from the clock signal transmitting circuit to the clock signal line in synchronization with a blanking period of the data signal, wherein

the clock signal transmitting circuit is a differential clock signal transmitting circuit that outputs a differential clock signal as the clock signal onto the clock signal line,

the data signal transmitting circuit is a differential data signal transmitting circuit that outputs a differential data signal as the data signal onto the data signal line, and

the blanking controller controls the differential clock signal transmitting circuit to output, as the predetermined blanking signal, a differential blanking signal in which a predetermined first signal value continues throughout a predetermined period or longer from the differential clock signal transmitting circuit to the clock signal line in synchronization with a starting time of the blanking period of the data signal.

[Claim 2]

The transmission device according to claim 1, wherein the predetermined period is a longer period than a clock cycle of the clock signal.

[Claim 3]

The transmission device according to claim 1, wherein the blanking controller controls the differential clock signal transmitting circuit to output a predetermined differential signal different from the differential blanking signal, in place of the differential blanking signal, from the differential clock signal transmitting circuit to the clock signal line in synchronization with an ending time of the blanking period of the data signal.

[Claim 4]

The transmission device according to claim 3, wherein the blanking controller controls the differential clock signal transmitting circuit to output, as the predetermined differential signal, a differential signal in which a predetermined second signal value different from the predetermined first signal value continues throughout the predetermined period or longer from the differential clock signal transmitting circuit to the clock signal line.

[Claim 5]

The transmission device according to claim 3, wherein the blanking controller controls the differential clock signal transmitting circuit to output the clock signal as

the predetermined differential signal from the differential clock signal transmitting circuit to the clock signal line throughout the predetermined period or longer.

[Claim 6]

The transmission device according to claim 4, wherein after a signal with the predetermined second signal value is outputted, the blanking controller controls the differential clock signal transmitting circuit to output the clock signal from the differential clock signal transmitting circuit to the clock signal line in the blanking period.

[Claim 7]

The transmission device according to claim 1, wherein the blanking controller further controls the data signal transmitting circuit to output at least a predetermined data blanking signal, in place of the data signal, from the data signal transmitting circuit to the data signal line in synchronization with the starting time of the blanking period of the data signal.

[Claim 8]

The transmission device according to claim 7, wherein the blanking controller controls the data signal transmitting circuit to output, as the predetermined data blanking signal, a signal having an inverted value of a last signal value of the data signal.

[Claim 9]

The transmission device according to claim 7, wherein the blanking controller controls the differential data signal transmitting circuit to output, as the predetermined data blanking signal, a differential signal with a value of 1.

[Claim 10]

The transmission device according to claim 7, wherein after the predetermined data blanking signal is outputted, the blanking controller controls the differential data signal transmitting circuit to output a differential signal with a value of 0 in synchronization with an ending time of the blanking period of the data signal.

[Claim 11]

The transmission device according to claim 7, wherein the blanking controller controls the differential data signal transmitting circuit to output a differential signal with a value of 0 throughout the whole blanking period as the predetermined data blanking signal.

[Claim 12]

The transmission device according to claim 1, further comprising:

a first single-end signal transmitting circuit that outputs a first single-end signal;

a first transmission switching circuit that switches signal output paths to allow a signal to be outputted from one of the differential clock signal transmitting circuit and the first single-end signal transmitting circuit to the clock signal line;

a second single-end signal transmitting circuit that outputs a second single-end signal; and

a second transmission switching circuit that switches signal output paths to allow a signal to be outputted from one of the differential data signal transmitting circuit and the second single-end signal transmitting circuit to the data signal line.

[Claim 13]

A reception device comprising:

a data signal receiving circuit that receives a data signal through a data signal line; and

a clock signal receiving circuit that receives a clock signal and a predetermined blanking signal that is outputted in synchronization with a blanking period of the data signal through a clock signal line, wherein

the data signal receiving circuit is a differential data signal receiving circuit that receives a differential data signal as the data signal through the data signal line, and

the clock signal receiving circuit is a differential clock signal receiving circuit that receives a differential clock signal as the clock signal and receives, as the predetermined blanking signal, a differential blanking signal that is outputted in such a manner that a predetermined first signal value continues throughout a predetermined period or longer in synchronization with a starting time of the blanking period of the data signal.

[Claim 14]

The reception device according to claim 13, wherein

the differential data signal receiving circuit has:

a data signal termination circuit including a termination resistor coupled to the data signal line, and

the differential clock signal receiving circuit has:

a clock signal termination circuit including a termination resistor coupled to the clock signal line, and

a termination control circuit allowing the data signal termination circuit and the clock signal termination circuit to turn off the respective termination resistors on a basis of the differential blanking signal.

[Claim 15]

The reception device according to claim 14, wherein

the differential clock signal receiving circuit further receives a differential signal that is different from the differential blanking signal and is outputted in synchronization with an ending time of the blanking period of the data signal through the clock signal line, and

the termination control circuit allows the data signal termination circuit and the clock signal termination circuit to turn on the respective termination resistors on a basis of the predetermined differential signal.

[Claim 16]

The reception device according to claim 13, further comprising:

a first single-end signal receiving circuit that receives a first single-end signal through the clock signal line;

a first reception switching circuit that switches whether or not to receive the first single-end signal;

a second single-end signal receiving circuit that receives a second single-end signal through the data signal line; and

a second reception switching circuit that switches whether or not to receive the second single-end signal.

[Claim 17]

A communication system comprising:

a transmission device that outputs a clock signal onto a clock signal line, outputs a data signal onto a data signal line, and outputs a predetermined blanking signal in place of the clock signal in synchronization with a blanking period of the data signal,

wherein the transmission device outputs a differential clock signal as the clock signal onto the clock signal line, outputs a differential data signal as the data signal onto the data signal line, and outputs as the predetermined blanking signal, a differential blanking signal in which a predetermined first signal value continues throughout a predetermined period or longer in synchronization with a starting time of the blanking period of the data signal; and

a reception device that receives the data signal through the data signal line, and receives the clock signal and the predetermined blanking signal through the clock signal line,

wherein the reception device receives the differential data signal as the data signal through the data signal line, receives the differential clock signal as the clock signal and receives, as the predetermined blanking signal, the differential blanking signal

through the clock signal line.

[Claim 18]

The communication system according to claim 17, further comprising an oscillator that supplies the clock signal to the transmission device.

[Claim 19]

The communication system according to claim 17, wherein

the transmission device includes:

a first single-end signal transmitting circuit that outputs a first single-end signal;

a first transmission switching circuit that switches signal output paths to output one of the clock signal and the first single-end signal onto the clock signal line,

a second single-end signal transmitting circuit that outputs a second single-end signal, and

a second transmission switching circuit that switches signal output paths to output one of the data signal and the second single-end signal onto the data signal line, and

the reception device includes:

a first single-end signal receiving circuit that receives the first single-end signal through the clock signal line,

a first reception switching circuit that switches whether or not to receive the first single-end signal,

a second single-end signal receiving circuit that receives the second single-end signal through the data signal line, and

a second reception switching circuit that switches whether or not to receive the

second single-end signal.

[Claim 20]

A signal transmission method comprising:

outputting a clock signal onto a clock signal line, wherein the clock signal is a differential clock signal;

outputting a data signal onto a data signal line, wherein the data signal is a differential data signal; and

outputting a predetermined blanking signal, in place of the clock signal, onto the clock signal line in synchronization with a blanking period of the data signal,

wherein the predetermined blanking signal is a differential blanking signal in which a predetermined first signal value continues throughout a predetermined period or longer in synchronization with a starting time of the blanking period of the data signal.

[Claim 21]

A signal reception method comprising:

receiving a data signal through a data signal line, wherein the data signal is a differential data signal; and

receiving a clock signal and a predetermined blanking signal that is outputted in synchronization with a blanking period of the data signal through a clock signal line, wherein the clock signal is a differential clock signal and receiving, as the predetermined blanking signal, a differential blanking signal that is outputted in such a manner that a predetermined first signal value continues throughout a predetermined

period or longer in synchronization with a starting time of the blanking period of the data signal.

[Claim 22]

A communication method comprising:

outputting a clock signal onto a clock signal line, wherein the clock signal is a differential clock signal;

outputting a data signal onto a data signal line, wherein the data signal is a differential data signal;

outputting a predetermined blanking signal, in place of the clock signal, onto the clock signal line in synchronization with a blanking period of the data signal,

wherein the predetermined blanking signal is a differential blanking signal in which a predetermined first signal value continues throughout a predetermined period or longer in synchronization with a starting time of the blanking period of the data signal;

receiving the differential data signal as the data signal through the data signal line; and

receiving the differential clock signal as the clock signal and the differential blanking signal as the predetermined blanking signal through the clock signal line.