WHAT IS CLAIMED IS:

1. A timing detection device which detects the timing at which based on a received signal, a value of the signal is switched, the timing detection device comprising:

a draw back amount acquiring unit configured to acquire a draw back amount of a received signal with respect to a peak value of the signal; and

a detecting unit configured to detect the timing at which the draw back amount acquired by the draw back amount acquiring unit has exceeded a constant value as the timing at which a value of the signal is switched.; and

a delay unit configured to delay a restart time of a detection operation of the detecting unit by the time when a constant time passes from the time when the timing at which the value of the signal is switched is detected by the detecting unit,

wherein the draw back amount acquiring unit includes a peak hold circuit configured to hold the peak value, and the detecting unit detects the timing at which a difference between the peak value held by the peak hold circuit and the value of the signal has exceeded the constant value as the timing at which the value of the signal is switched,

wherein the peak hold circuit is configured as a capacitor configured to generate DC voltage according to the peak value where the signal is provided to one end of the capacitor and a voltage value of the other end of the capacitor is clamped selectively in a direction in which the draw back amount decreases, and

wherein the detecting unit configured to detect the timing at which the voltage value of the other end of the capacitor has exceeded a constant value in a direction in which the draw back amount increases as the timing at which the value of the signal is switched.

2. The timing detection device according to claim 1, further comprising:
a delay unit configured to delay a restart time of a detection operation of the detecting unit by the time when a constant time passes from the time when the timing at which the value of the signal is switched is detected by the detecting unit.

3. The timing detection device according to claim 1 or 2,
wherein the draw back amount acquiring unit includes a peak hold circuit configured to hold the peak value, and
wherein the detecting unit detects the timing at which a difference between the peak value held by the peak hold circuit and the value of the signal has exceeded the constant

~~value as the timing at which the value of the signal is switched.~~

~~4. The timing detection device according to claim 1 or 2, wherein the draw back amount acquiring unit include an extracting circuit configured to extract a movement of the signal, and wherein the detecting unit detects the timing at which the movement extracted by the extracting circuit has exceeded the constant value as the timing at which the value of the signal is switched.~~

~~5~~2. The timing detection device according to claim ~~4~~1, comprising:

~~wherein the extracting circuit includes~~ a clamper circuit configured to switch a direction of clamp so that the voltage value of the other end of the capacitor is clamped selectively to the decreasing direction of the draw back amount based on an output of the detecting unit ~~cancel a DC offset of the signal and extract the movement and a capacitor configured to absorb the DC offset canceled by the clamper circuit~~.

WHAT IS CLAIMED IS:

1. A timing detection device which detects the timing at which based on a received signal, a value of the signal is switched, the timing detection device comprising:

a draw back amount acquiring unit configured to acquire a draw back amount of a received signal with respect to a peak value of the signal; and

a detecting unit configured to detect the timing at which the draw back amount acquired by the draw back amount acquiring unit has exceeded a constant value as the timing at which a value of the signal is switched; and

a delay unit configured to delay a restart time of a detection operation of the detecting unit by the time when a constant time passes from the time when the timing at which the value of the signal is switched is detected by the detecting unit,

wherein the draw back amount acquiring unit includes a peak hold circuit configured to hold the peak value, and the detecting unit detects the timing at which a difference between the peak value held by the peak hold circuit and the value of the signal has exceeded the constant value as the timing at which the value of the signal is switched,

wherein the peak hold circuit is configured as a capacitor configured to generate DC voltage according to the peak value where the signal is provided to one end of the capacitor and a voltage value of the other end of the capacitor is clamped selectively in a direction in which the draw back amount decreases, and

wherein the detecting unit configured to detect the timing at which the voltage value of the other end of the capacitor has exceeded a constant value in a direction in which the draw back amount increases as the timing at which the value of the signal is switched.

2. The timing detection device according to claim 1, comprising:

a clamper circuit configured to switch a direction of clamp so that the voltage value of the other end of the capacitor is clamped selectively to the decreasing direction of the draw back amount based on an output of the detecting unit.