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(54) Title: A TRANSMITTER-RECEIVER SYSTEM

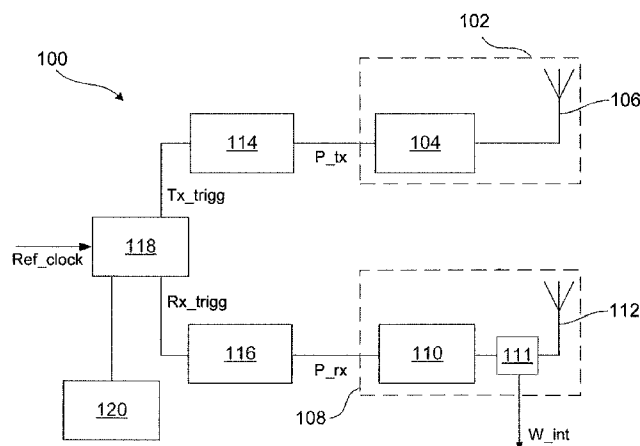


Fig 1

(57) Abstract: According to one aspect of the inventive concept there is provided a transmitter-receiver system comprising: a trans-
mitter arranged to transmit a wavelet; a receiver arranged to receive a wavelet; a wavelet generator arranged to generate a reference
wavelet; and timing circuitry arranged to receive a reference clock signal, output a first trigger signal for triggering transmission of a
wavelet and output a second trigger signal for triggering generation of a reference wavelet. The timing circuitry further comprises a
delay line including at least one delay element and being arranged to receive a signal at an input of the delay line and transmit a
delayed signal at an output of the delay line, wherein a state of each delay element of at least a subset of said at least one delay ele-
ments is switchable between at least a first state and a second state. A delay element in said first state, i.e. switched to its first state,
presents a first propagation delay. A delay element in said second state, i.e. switched to its second state, presents a second propaga-
tion delay which differs from the first propagation delay by a value which is smaller than a period of the reference clock signal.
Thereby a total propagation delay of the delay line is configurable by controlling the state of each delay element of said subset. The
system further comprises a controller arranged to control a delay between the first trigger signal and the second trigger signal by con-
trolling the total propagation delay of the delay line. The system is arranged to correlate the reference wavelet with a received wave-
let for at least one setting of the total propagation delay.