Pulse File Generator with Fail safe System

Summary:

A program written by matlab aiming to generate .....

Parameters:

Global parameters:

PAHEADT:

the time protecting pulse sequence needed ahead of the protected MW pulse sequence

PENDT:

the time protecting pulse sequence needed after the protected MW pulse sequence

TAHEADT:

the time TWT_GATE pulse sequence needed ahead of the MW pulse sequence

TENDT:

the time TWT_GATE pulse sequence needed after the MW pulse sequence

MWDELAY:

an adjustable parameter to manage the machine-caused MW pulse sequence advance or delay

RFDELAY:

an adjustable parameter to manage the machine-caused RF pulse sequence advance or delay

MWPDELAY:

an adjustable parameter to manage the machine-caused MW protecting pulse sequence advance or delay

MWTDELAY:

an adjustable parameter to manage the machine-caused MW TWT_GATE pulse sequence advance or delay

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Functions:

Function pulse

main function

Use other defined functions to give needed output pulse sequence

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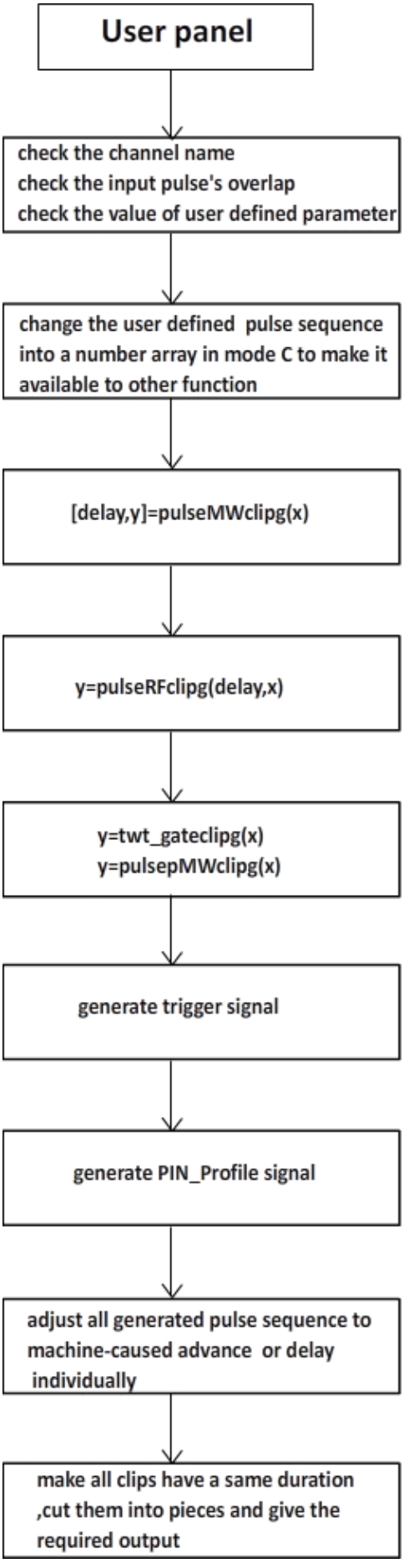
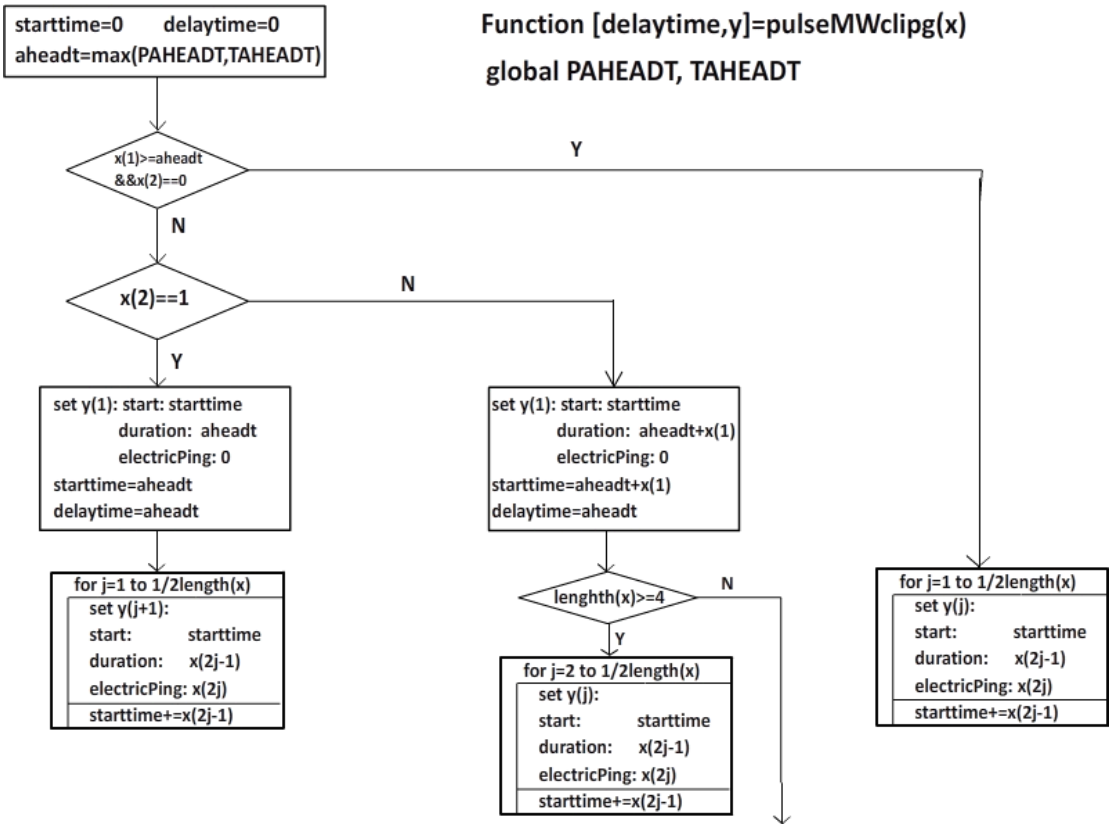

User panel
check the channel name
check the input pulse's overlap
check the value of user defined parameter
change the user defined pulse sequence into a number array in mode C to make it available to other function
[delay,y]=pulseMWclipg(x)
y=pulseRFclipg(delay,x)
y=twt_gateclipg(x)
y=pulsepMWclipg(x)
generate trigger signal
generate PIN_Profile signal
adjust all generated pulse sequence to machine-caused advance or delay individually
make all clips have a same duration ,cut them into pieces and give the required output

Function [delay,y]=pulseMWclipg(x)

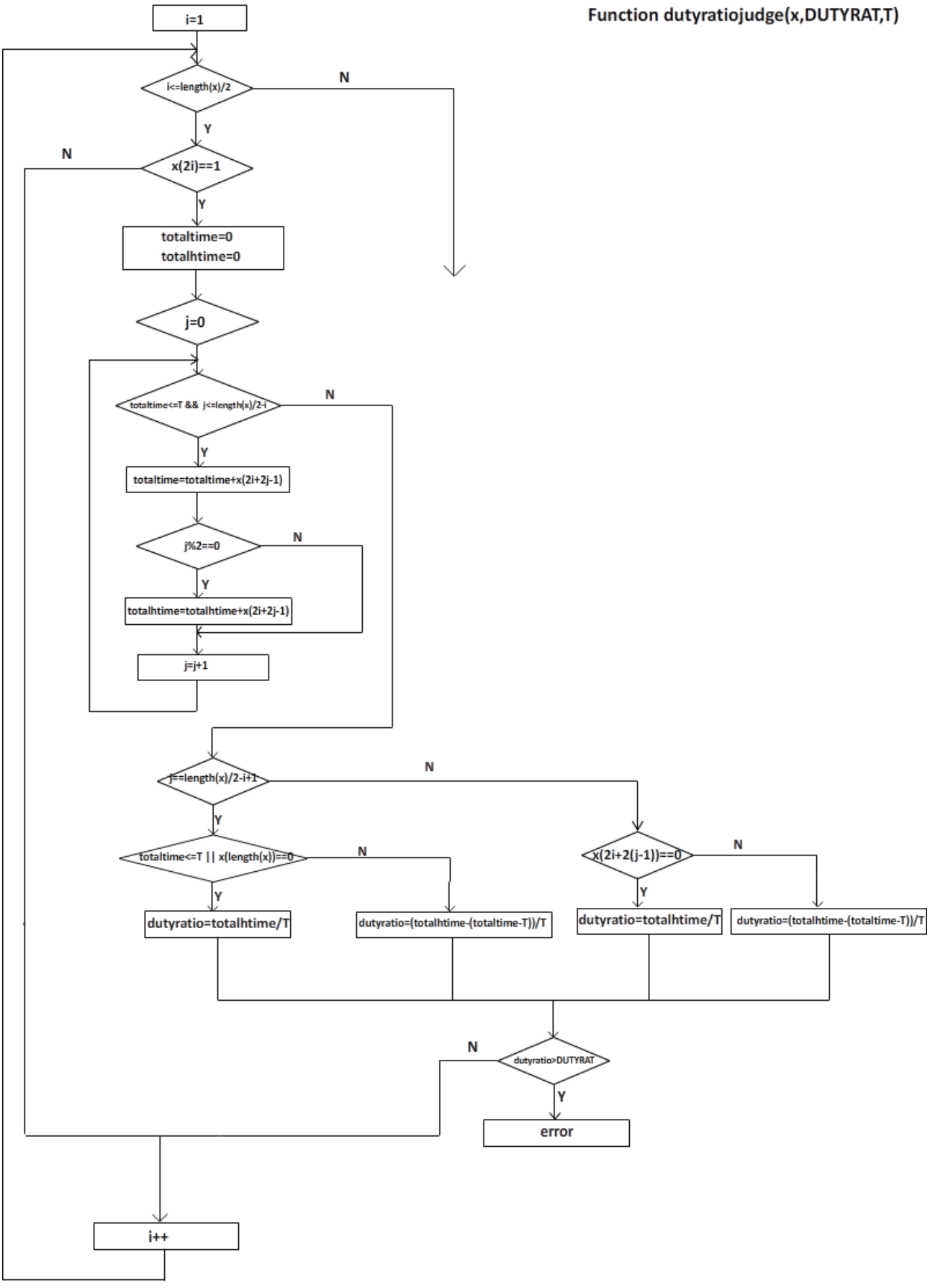
PULSEMWCLIPG(X) is a function to generate pulse clip.
The only parameter X needed is a number array
It has even variables
The odd ones represent the duration time
The even ones represent the electric Ping and should be chosen from 0 and 1
Should define two global variables: PAHEADT,TAHEADT



Function dutyratiojudge(x,DUTYRAT,T)

DUTYRATIOJUDGE(X) is a function to help judge whether the given pulse sequence has too much duty ratio
Input parameter X is a number array
It has even variables
The odd ones represent the duration time
The even ones represent the electric Ping and should be chosen from 0 and 1
Input parameter dutyratio is the maximum duty ratio permitted
Input parameter T is the period

Function dutyratiojudge(x,DUTYRAT,T)



Function y=pulseRFclipg(delay,x)

PULSERFCLIPG is a function to generate the RF pulse clip

Parameter DELAY is the time of the needed delay, get from function pulseMWclipg

Parameter X is a number array

It has even variables

The odd ones represent the duration time

The even ones represent the electric Ping and should be chosen from 0 and 1

Should define two variables: T, the period; DUTYRAT, the maximum duty ratio