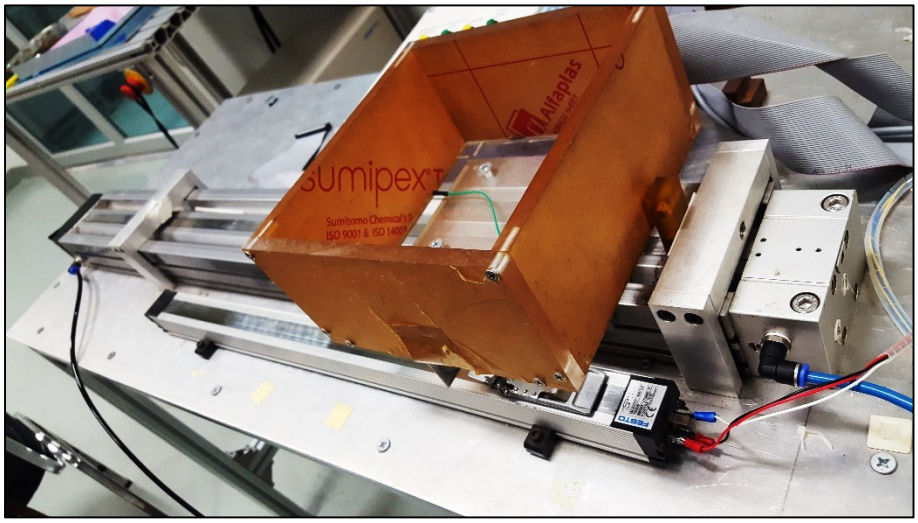
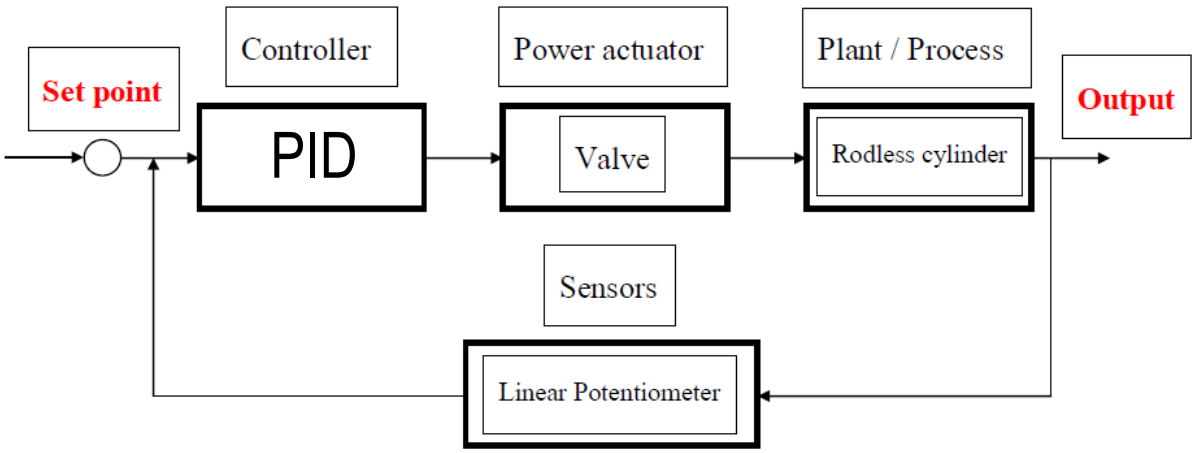
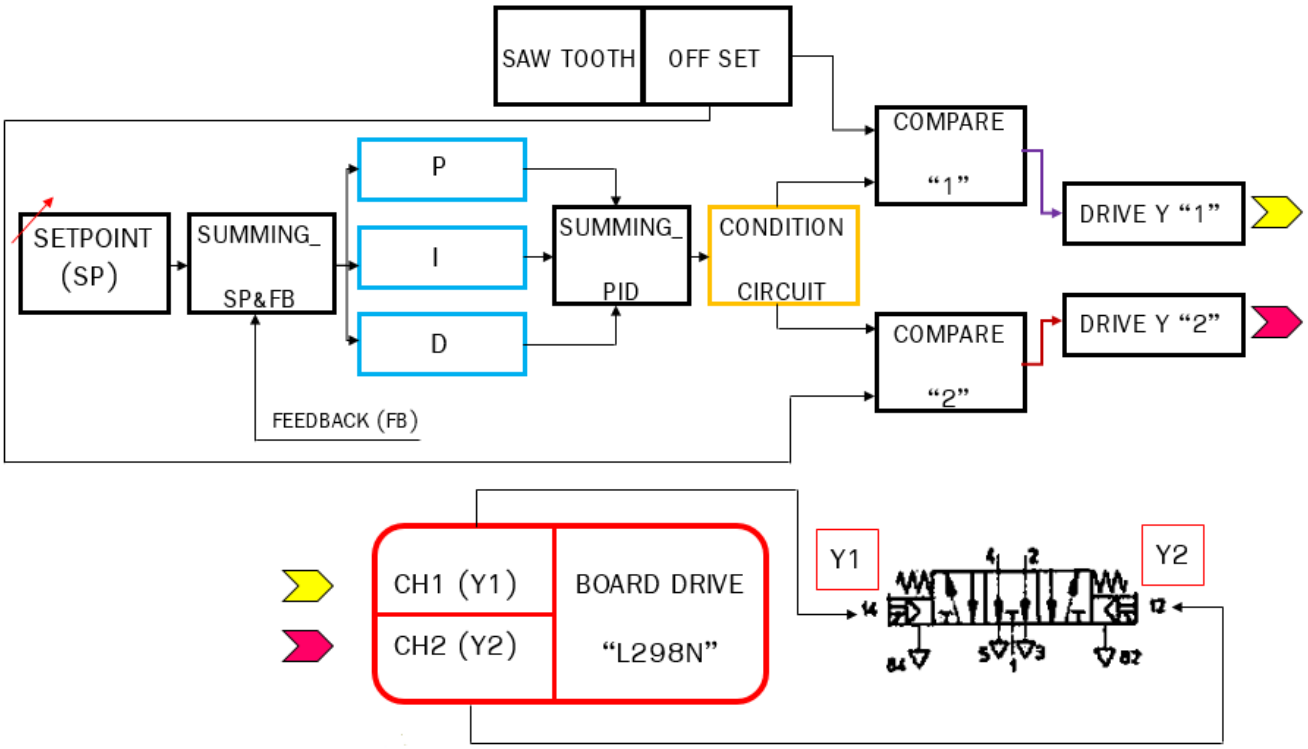
PNEUMATIC PISTON POSITION CONTROL



STRUCTURE OF PNEUMATIC POSITION CONTROL

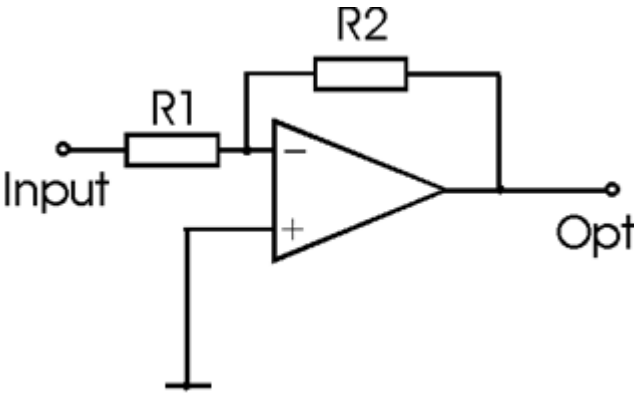


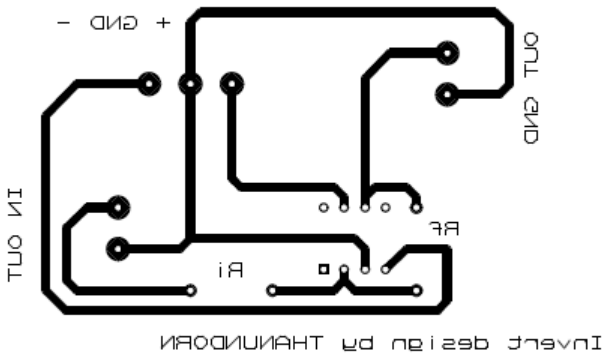
PID CONTROLLER & OTHER CIRCUIT FOR SUPPORT PROCESS (ELECTRONICS CIRCUIT BOARD)



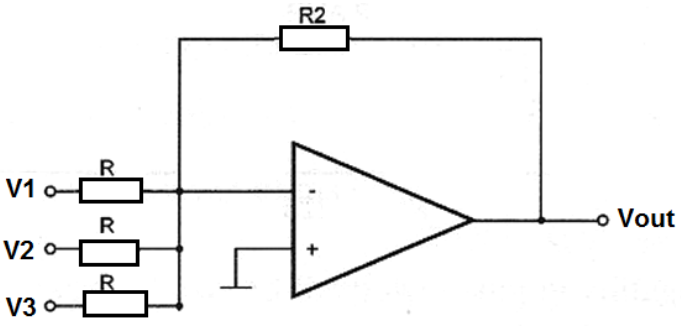
DETAILS OF THE VARIOUS CIRCUIT

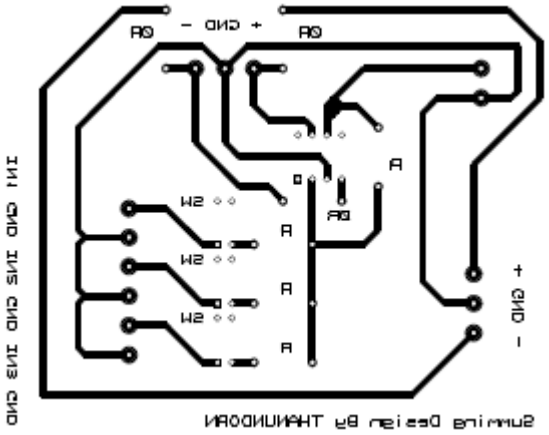
☞ USE "INVERT OP AMP" FOR SET POINT



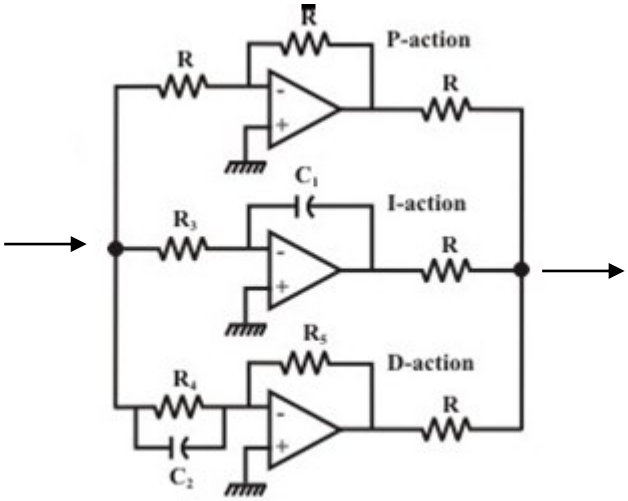


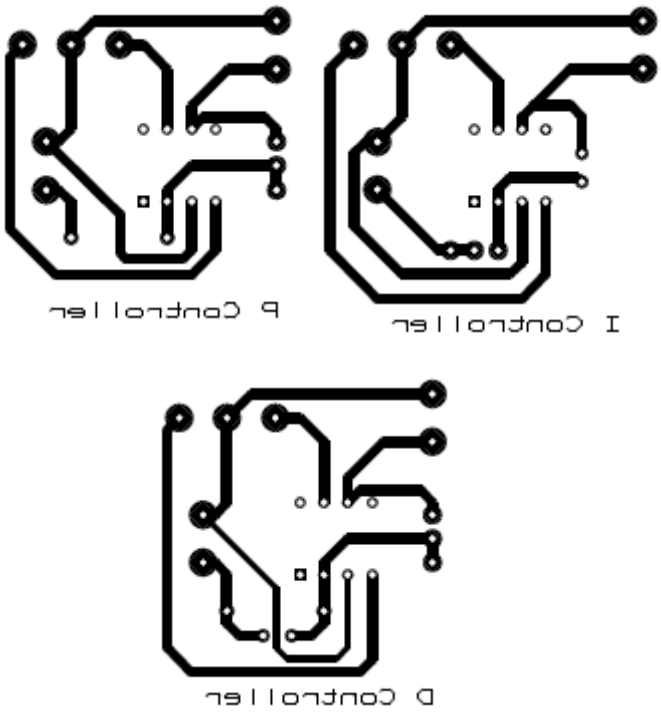
☞ USE “SUMMING OP AMP” FOR SUMMING_SP&FB , SUMMING_PID



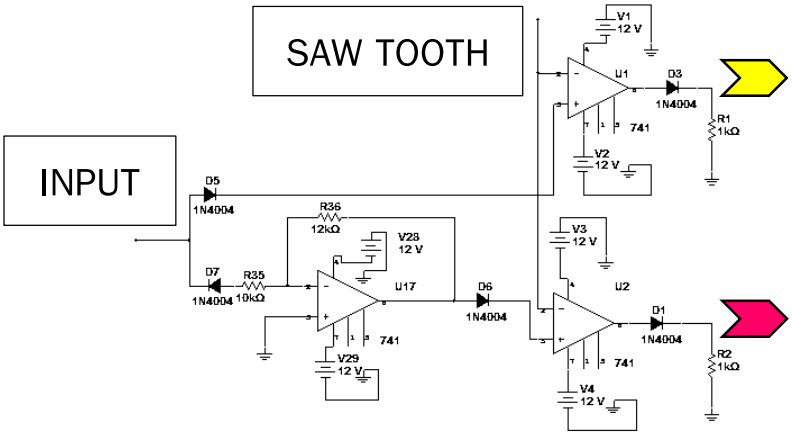


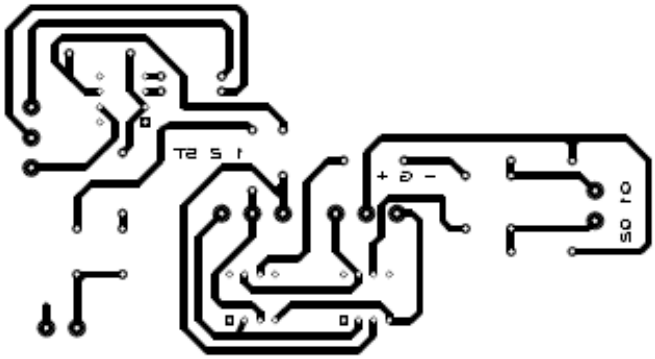
☞ USE “PID CIRCUIT” FOR P,I,D





☞ USE THIS CIRCUIT FOR CONDITION CIRCUIT & COMPARE “1” , COMPARE “2”





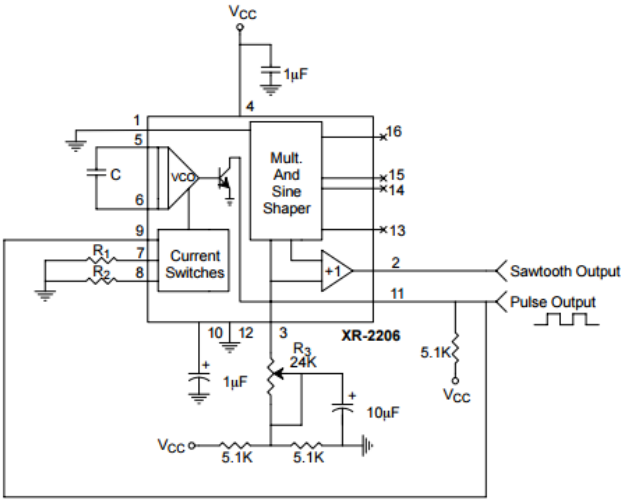
REMARK :

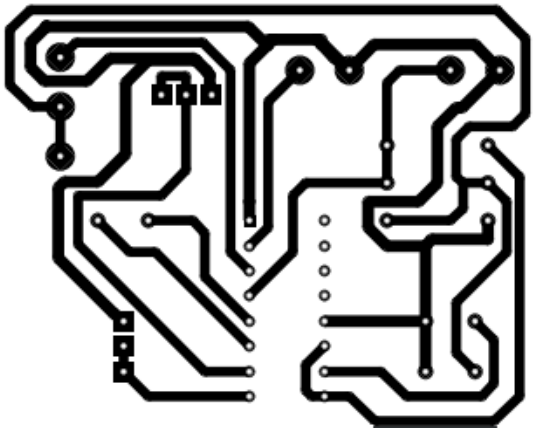
- IF INPUT IS NEGATIVE SIGNAL (BY PID) , PINK SIGNAL “ON” FOR CREATE PWM SIGNAL WITH SAW TOOTH SIGNAL

- IF INPUT IS POSITIVE SIGNAL (BY PID) , YELLOW SIGNAL “ON” FOR CREATE PWM SIGNAL WITH SAW TOOTH SIGNAL

☞ USE “IC XR2206” FOR SAW TOOTH

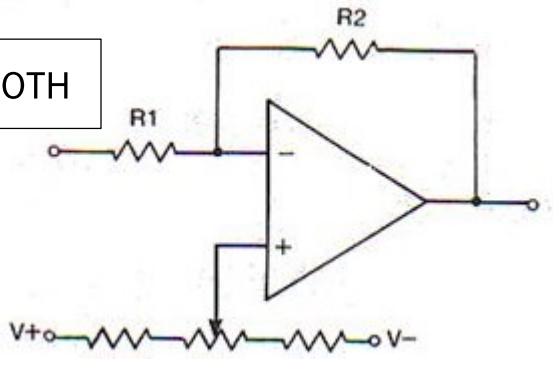
XR-2206 EXAR

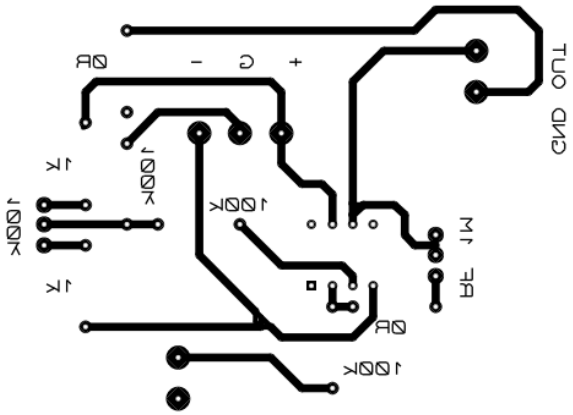




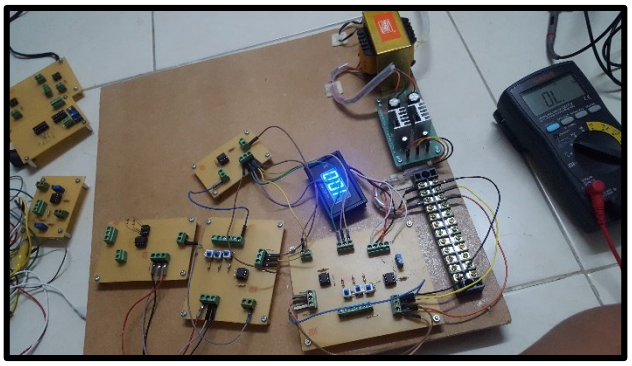
☞ USE “OFF SET OP AMP” FOR OFF SET

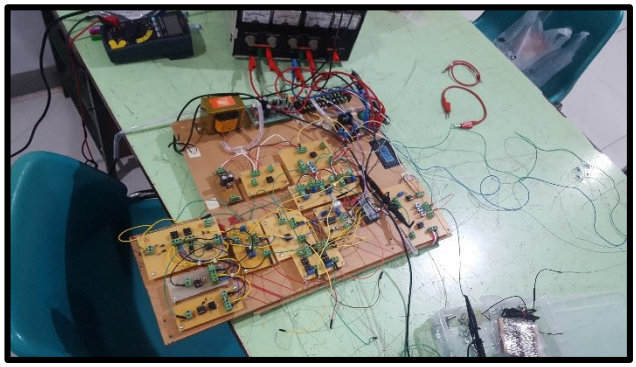
SAW TOOTH

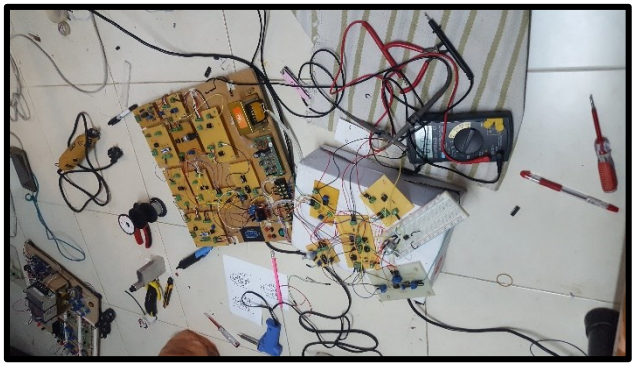


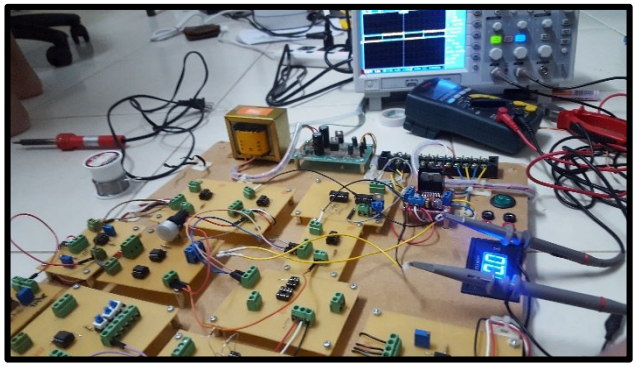


LAUNCH PROCESS & TEST BOARD

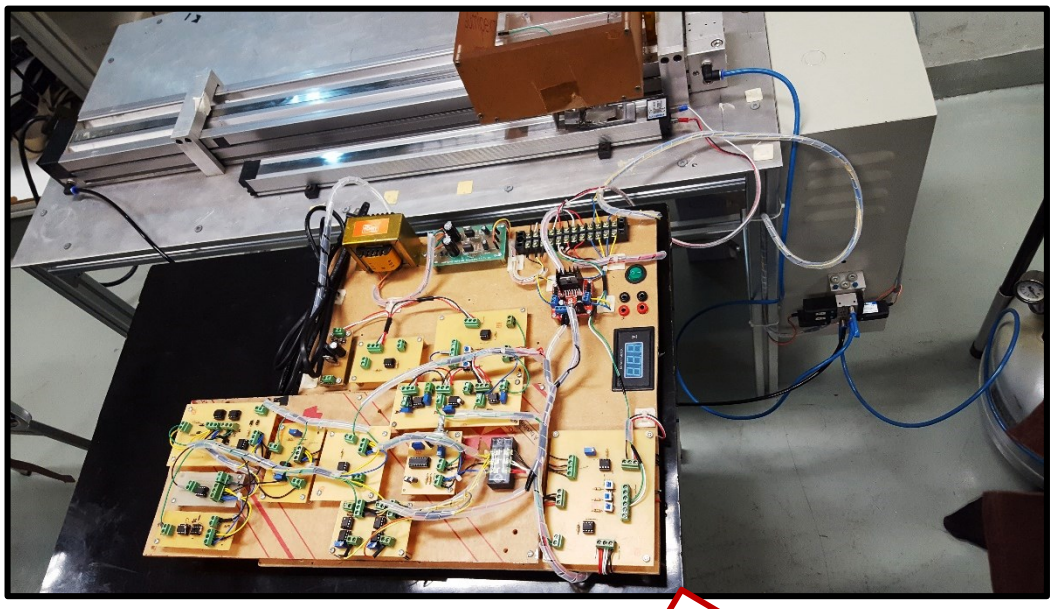


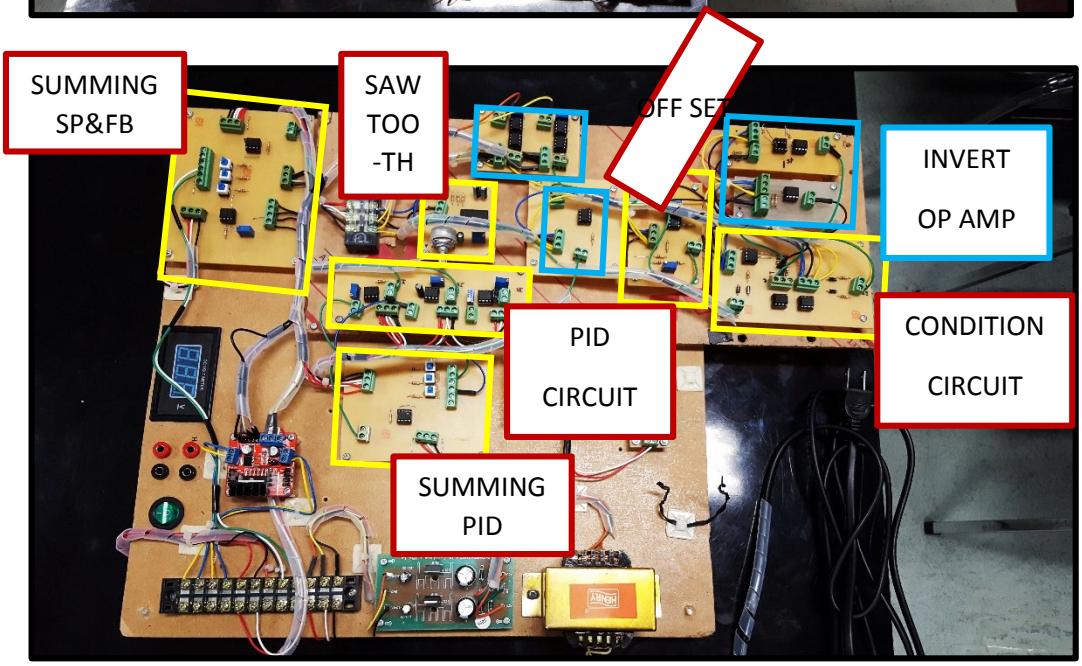






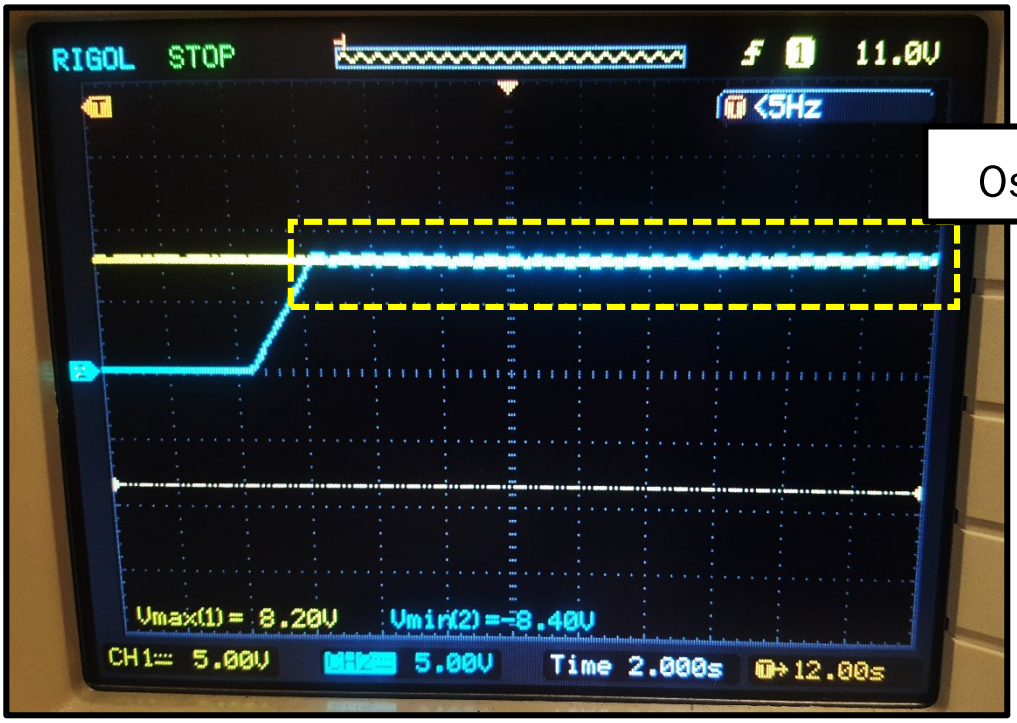
FINISHED FOR MAKE CONTROL BOARD





FIRST STEP : CONTROL PLANT WITH BOARD

CONTROL WITHOUT PID CONTROLLER

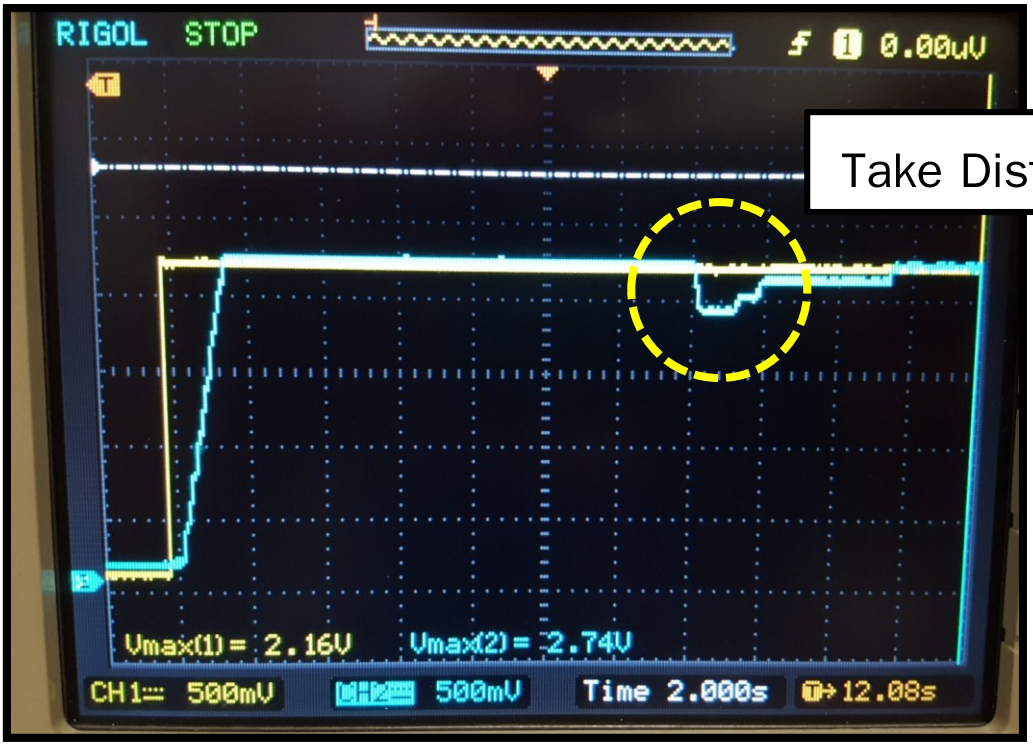


LINK ON YOUTUBE :

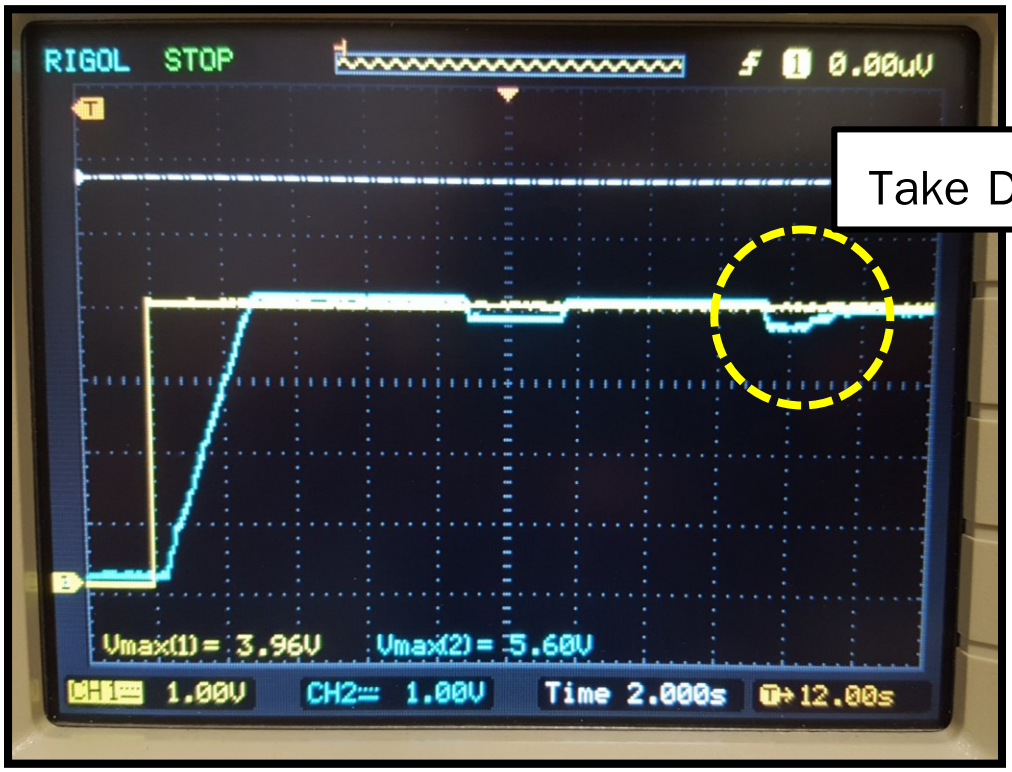
https://www.youtube.com/watch?v=0w9gn3PvptY&feature=youtu.be

SECOND STEP : CONTROL PLANT WITH BOARD CONTROL WITH PID CONTROLLER

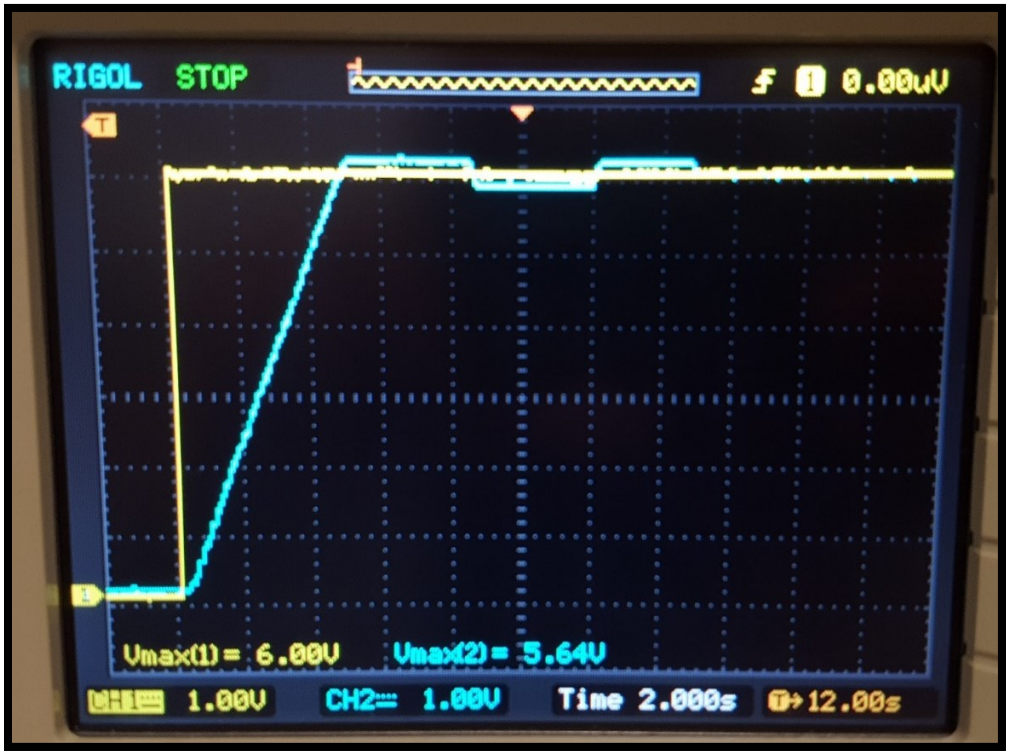
☞ SET POINT = 2 CM



☞ SET POINT = 4 CM

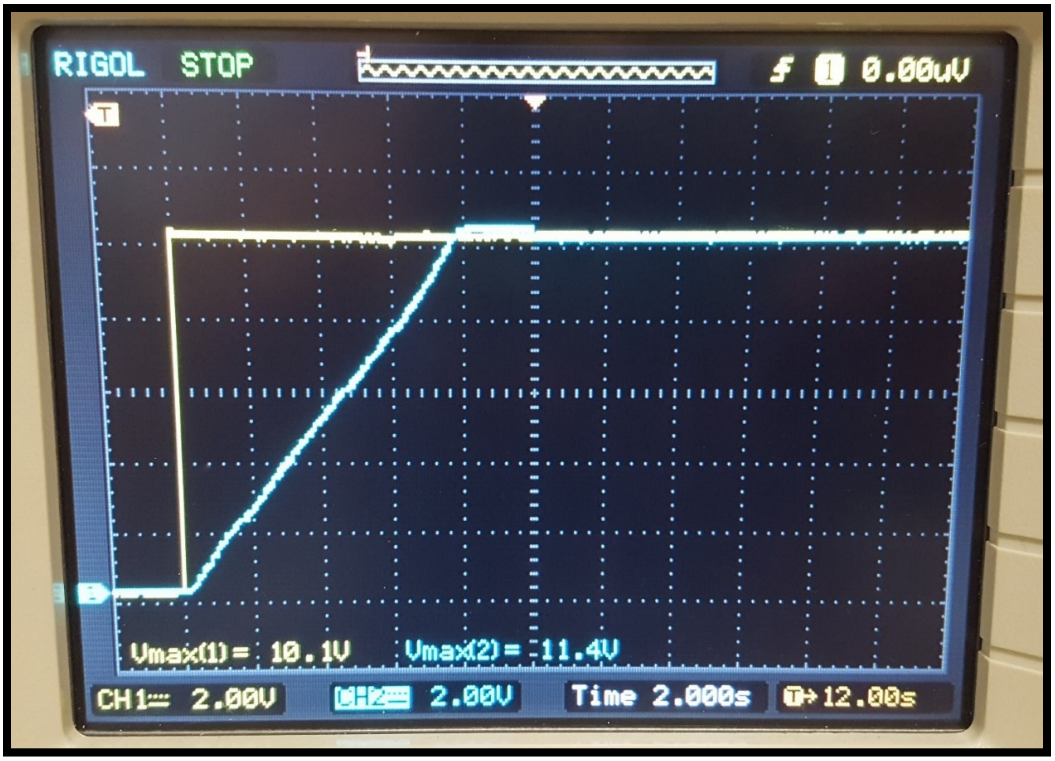


☞ SET POINT = 6 CM



☞ SET POINT = 8 CM

☞ SET POINT = 10 CM



LINK ON YOUTUBE :

https://www.youtube.com/channel/UCk-_PIO-SpOCo8RCGIb2PIw/videos?sort=dd&shelf_id=0&view=0

CONCLUDE EXPERIMENT !

When experiment finished, I found Pneumatic (piston) position control that can control by electronics device with PID controller system , although process use air in to moving position cylinder , which air can subside but PID controller can control position be success. In a position that want to control.

If you want to watch to VDO other in this project you can search “Thanundorn Yamsual” on Youtube or lower the this sheet.

And If you want “User Manual” you can download at uppermost. (Thai Language)