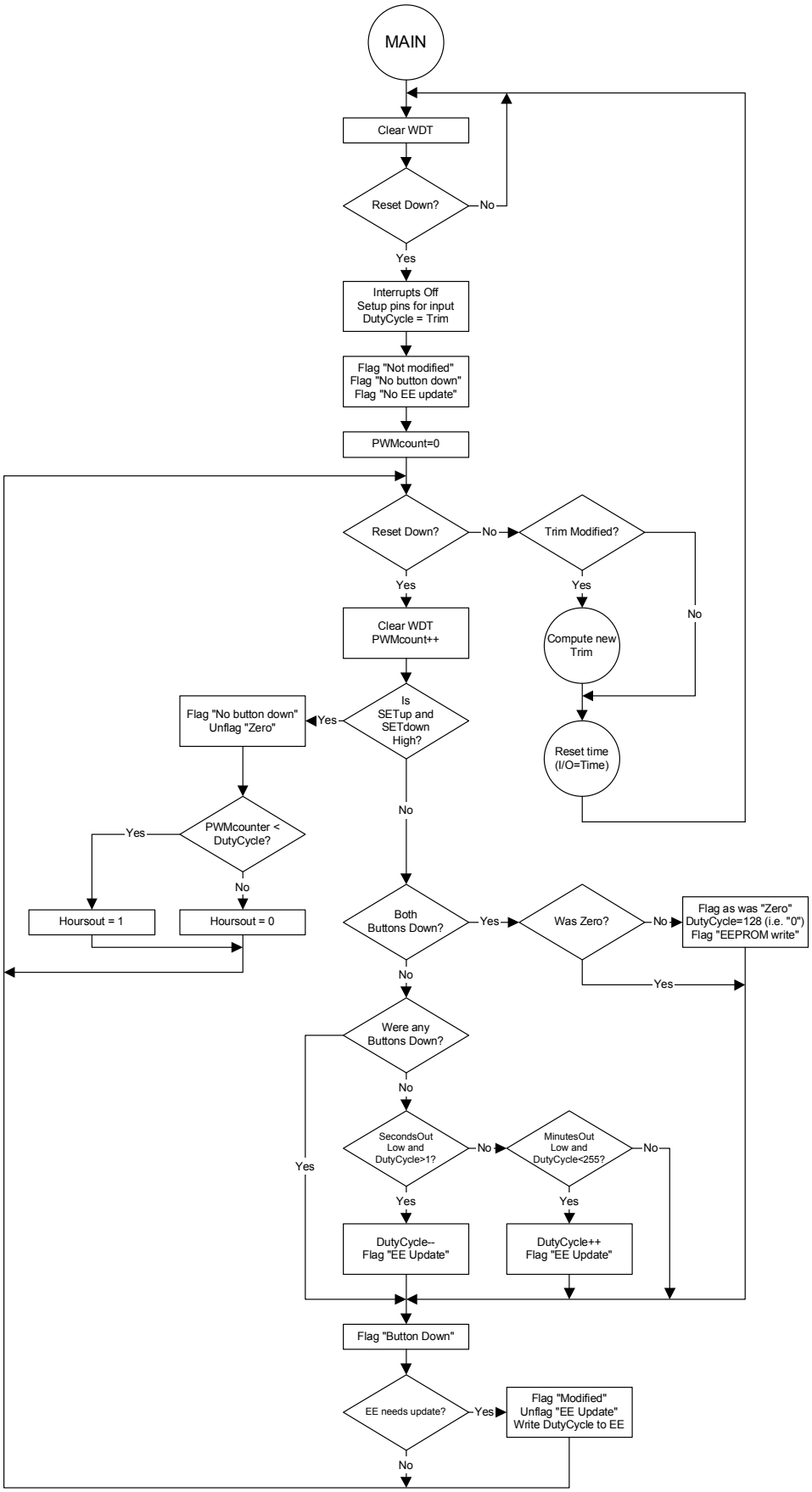
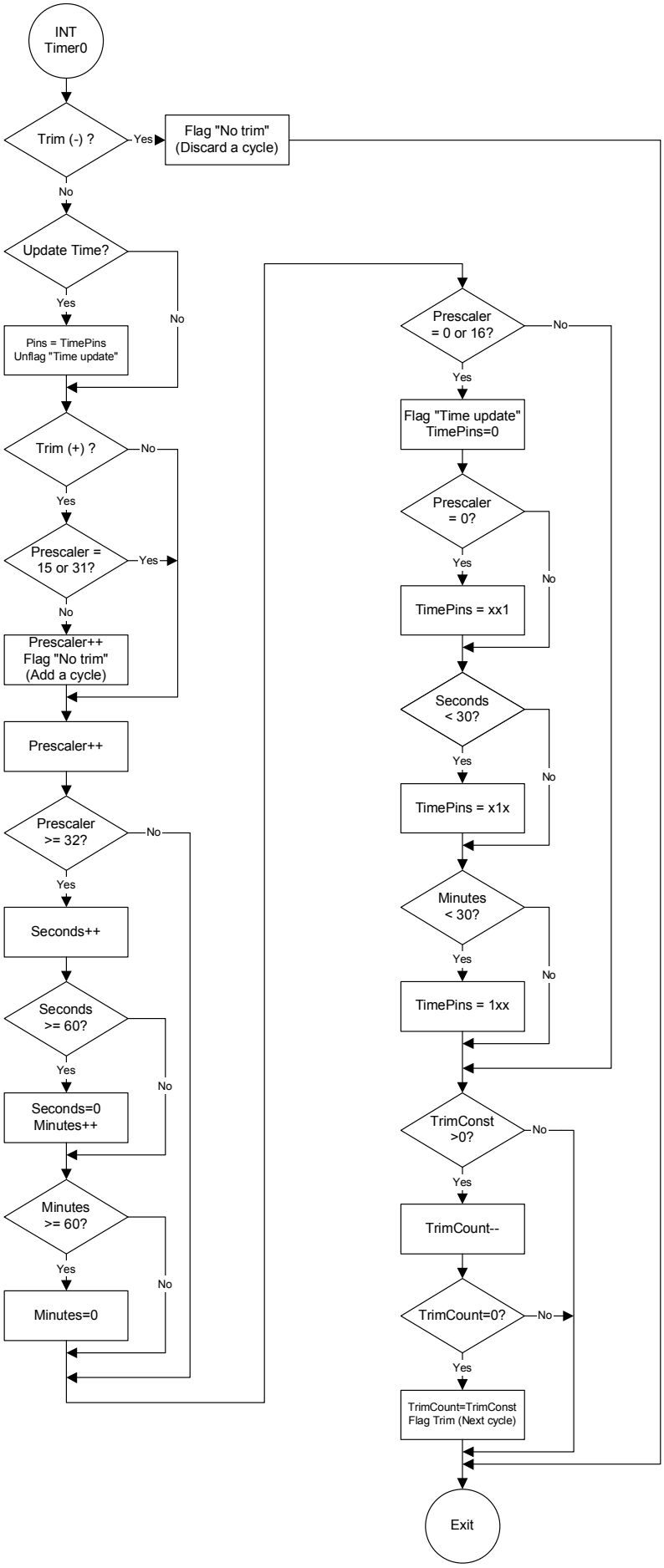

MAIN
Clear WDT
Reset Down?
No
Yes
Interrupts Off
Setup pins for input
DutyCycle = Trim
Flag "Not modified"
Flag "No button down"
Flag "No EE update"
PWMcount=0
Reset Down?
No
Trim Modified?
Yes
Yes
No
Clear WDT
PWMcount++
Compute new Trim
Reset time (I/O=Time)
Is SETup and SETdown High?
Yes
Flag "No button down"
Unflag "Zero"
No
PWMcounter < DutyCycle?
Yes
No
Hoursout = 1
Hoursout = 0
Both Buttons Down?
Yes
Was Zero?
No
Flag as was "Zero"
DutyCycle=128 (i.e. "0")
Flag "EEPROM write"
Yes
No
Were any Buttons Down?
Yes
No
SecondsOut Low and DutyCycle>1?
No
MinutesOut Low and DutyCycle<255?
No
Yes
Yes
DutyCycle--
Flag "EE Update"
DutyCycle++
Flag "EE Update"
Flag "Button Down"
EE needs update?
Yes
Flag "Modified"
Unflag "EE Update"
Write DutyCycle to EE
No


INT
Timer0
Trim (-) ?
Yes
Flag "No trim"
(Discard a cycle)
No
Update Time?
Yes
No
Pins = TimePins
Unflag "Time update"
Trim (+) ?
No
Yes
Prescaler =
15 or 31?
Yes
No
Prescaler++
Flag "No trim"
(Add a cycle)
Prescaler++
Prescaler
>= 32?
No
Yes
Seconds++
Seconds
>= 60?
Yes
No
Seconds=0
Minutes++
Minutes
>= 60?
Yes
No
Minutes=0
Prescaler
= 0 or 16?
No
Yes
Flag "Time update"
TimePins=0
Prescaler
= 0?
Yes
No
TimePins = xx1
Seconds
< 30?
Yes
No
TimePins = x1x
Minutes
< 30?
Yes
No
TimePins = 1xx
TrimConst
>0?
No
Yes
TrimCount--
TrimCount=0?
No
Yes
TrimCount=TrimConst
Flag Trim (Next cycle)
Exit