1. When the car first starts, the cruise control shall be off. The output CruiseState should be set to OFF. In this state, pressing Off, Resume, Set, QuickAccel and QuickDecel has no effect.  
     
   CruiseState := OFF
2. The cruise control shall go on when the on button (On) is pressed. The output CruiseState should be set to ON  
     
   await On  
   CruiseState := ON
3. The cruise control shall go off whenever the off button (Off) is pressed. The output CruiseState should be set to OFF  
     
   await Off  
   CruiseState := OFF
4. When the cruise control is on, if the car speed (Speed) is within the speed limit ([SpeedMin, SpeedMax]) and the accelerator pedal (Accel) is not pressed, the cruise control shall regulate the car speed and the output CruiseState shall be set to ON  
     
   if Speed > 30.0 and Speed < 150 and Accel := 0 and CruiseState := ON  
    CruiseState := ON  
    Speed := CruiseSpeed
5. The cruise control shall be disabled when the accelerator pedal is pressed, or the car speed is outside the speed limit. The output CruiseState shall be set to DISABLE.  
     
   await Accel: = 1 or Speed > 150 or Speed < 30  
    CruiseState := DISABLE
6. The cruise control shall go from disable state to the on state when both the accelerator pedal is not pressed, and the car speed is within the speed limit. The previous set cruise speed shall be reused.  
     
   if Speed > 30.0 and Speed < 150 and Accel: = 0 and CruiseState:= DISABLE   
    CruiseState := ON  
    Speed := CruiseSpeed
7. The cruise control shall be immediately interrupted and should enter the standby state, when the brake (Brake) is pressed. The output CruiseState shall be set to STDBY.  
     
   await Brake  
    CruiseState := STDBY
8. From the standby state, the cruise control shall resume either to the on or disable states, depending on the accelerator pedal and the speed value when the Resume button is pressed. The last set cruise speed shall be reused  
     
   if CruiseState := STDBY  
    await Resume  
    if Speed > 30.0 and Speed < 150 and Accel: = 0 and CruiseState:= DISABLE   
    CruiseState := ON  
    Speed := CruiseSpeed  
    if Accel: = 1 or Speed > 150 or Speed < 30  
    CruiseState := DISABLE

Car Driving control

1. When the cruise control is off, the car speed shall be driven by the accelerator pedal.  
     
   while CruiseState := OFF  
    // Accel take control
2. When the cruise control is on, the car speed shall be automatically regulated.  
     
   while CruiseState := ON  
    Speed := CruiseSpeed
3. The regulation shall be done using a proportional and integral algorithm, with Kp and Ki factors.  
     
   CruiseSpeed := Kp Ki blah blah blah
4. The regulation shall be protected against the overshoot of its integral part: the integral action shall be reset when the cruise control is going on, and frozen when the throttle output is saturated
5. The throttle command (ThrottleCmd) shall be saturated at ThrottleSatMax when automatically regulating, in order to limit the car acceleration for passenger comfort.