

## Head Up Display by BOYO

Model: VTHUD7

HUD short for Head Up Display. It displays driving data on the front windshield such as speed, rpm, fuel consumption, water temperature, voltage; avoiding drivers' unsafety because of watching the instrument while driving. Drivers can read the driving information, and can always keep the best state on the way with HUD.

### HUD Main Functions & Features:

1. Combine OBD & GPS HUD system into one, free switch
2. 20 kinds of functional data
3. Screen size 5.8 Inch HD display
4. Auto power on/off
5. Automatic and manual brightness adjustment modes

### OBDII Main Functions:



1. RPM, voltage, driving distance, water temperature, driving time
2. Fuel consumption, water temperature, voltage
3. RPM unit, voltage unit (V), driving distance unit (KM/Mile), water temperature unit (°C/°F)
4. Fuel consumption unit (L/H, L/100km)
5. All small circle lights turn off when driving speed exceeds 50km/H
6. Decorative light (will be turned on all the time when driving)

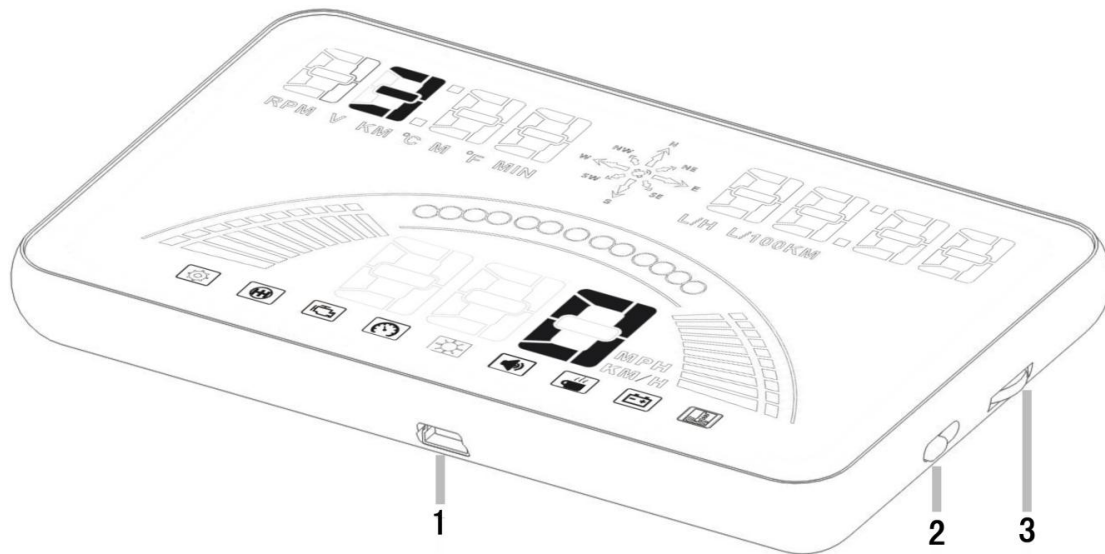
- 7.All light circle turns off when the RPM exceed 4000r
- 8.Vehicle speed
- 9.Speed unit(KM/H,MPH)
- 10.Display icon (from left to right): menu setting,shift reminder,engine fault code,over speed icon,light sensor,buzzer mark,fatigue driving,low voltage alarm,high water temperature alarm

**GPS Main Functions:**



- 1. Driving distance&time,voltage
- 2. Driving directions
- 3. Clock,driving time
- 4 Driving distance unit(KM,M)driving time unit(MIN),voltage unit
- 5. Satellite states
- 6. Decorative light(will be turn on all the time when driving)
- 7. Speed icon (all light turns off when driving speed exceeds 100km / H)
- 8. Vehicle speed
- 9.Speed unit(KM/H & MPH)
- 10.Display icon (from left to right) :over speed icon,light sensor,buzzer mark,fatigue driving,low voltage alarm.

**Function button:**



1. USB cable port
2. Power Switch: three way
  - a. up for power on and OBD mode,
  - b. middle for switch off,
  - c. down for power on and GPS mode.
3. Setting button: Three way wave button, short or long press
  - a. Up button = up motion
  - b. Ok button = inward button press
  - c. Down button = down motion

**OBD functions for wave button:**



1. Short pull up: switch between instantaneous fuel consumption, fuel consumption for 100 km, driving time (pls note, after enter into the setting menu, short pull up is to increase the parameter).
2. Short pull down: switch between RPM, voltage, driving mileage, water temperature, driving time (pls note, after enter into the setting menu, short pull down is to decrease the parameter).
3. Vertical Short press: switch between speed unit Mile or KM (pls note: after enter into the setting menu, vertical short press is to increase the menu).
4. Long pull down: turn on or off the alarm sound.
5. Vertical long Press 5 seconds: enter into setting menu (menu 0-7), after finish adjustment, vertical long press in 5 seconds to save it and exit.
6. Long pull up: up for 5 seconds to clear the engine fault code.

## GPS functions for wave button:



- 1.Short pull up:switch between driving distance&time(pls note, after enter into the setting menu, short pull up is to increase the parameter).
- 2.Short pull down:switch between clock,driving distance&time(pls note, after enter into the setting menu, short pull down is to decrease the parameter).
- 3.Vertical Short press:switch between speed unit Mile or KM(pls note: after enter into the setting menu, vertical short press is to increase the menu).
4. Long pull down: turn on or off the alarm sound.
- 5.Vertical long Press 5 seconds: enter into setting menu(menu 0-7),after finish adjustment,vertical long press in 5 seconds to save it and exit.
- 6.Long pull up:up for 5 seconds to clear the engine fault code.

### **Buzzer switch:**

Down the wave button 5 seconds to turn off the buzzer, down the wave button 5 seconds again to turn on the buzzer mark.

### **Engine fault code clearance:**

When HUD connected car,pls donnot start the car, put the key to "ON", waiting for HUD shutdown,then downside the wave button for 5 second, you will hear “beep” sound from HUD, which means clear the fault codes completed.

### **Reset setting:**

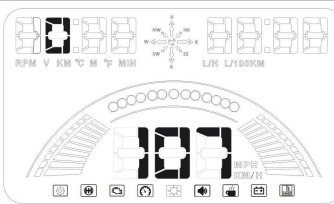
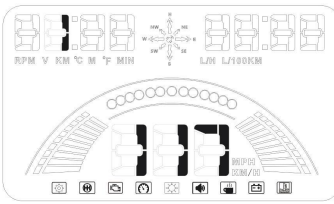
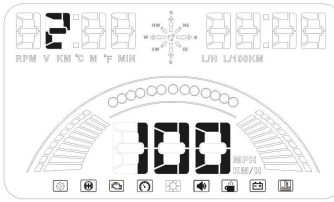

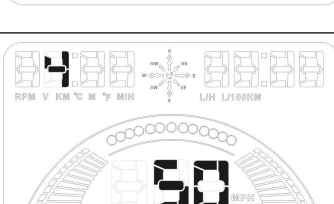
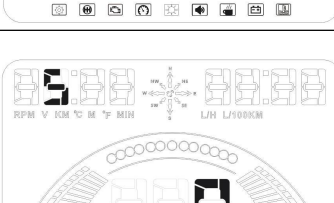
Vertically long press 5 seconds to enter into menu setting, short press 16 times to find menu 16, short pull down to parameter 1, long press in 5 seconds to save after adjustment.


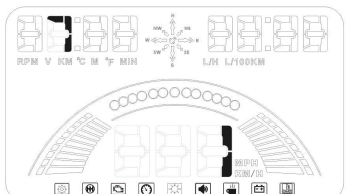
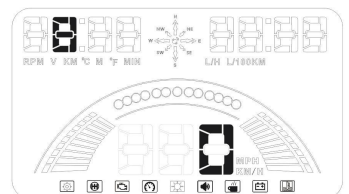
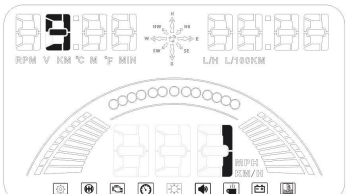
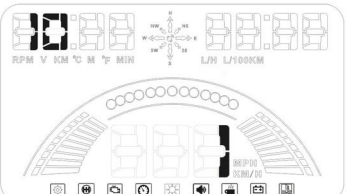
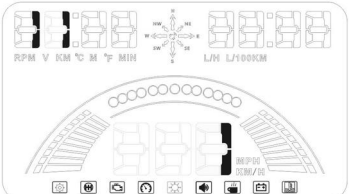
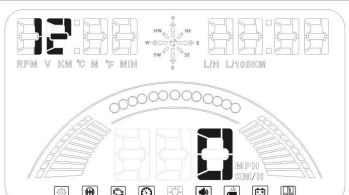
### **HUD setting:**

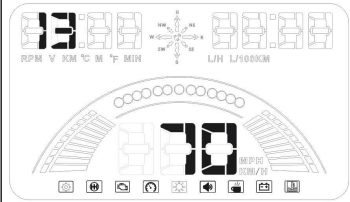
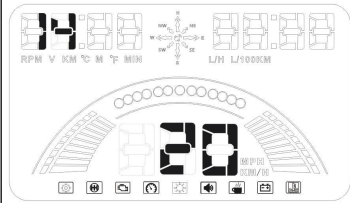
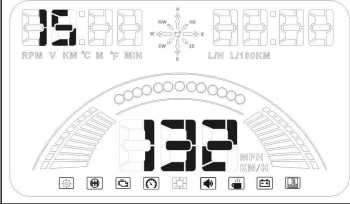
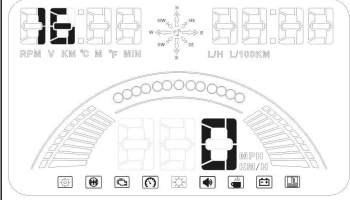
Since HUD displays data getting from ECU,ECU data will be a little different with car dashboard data.At that time,you can enter into menu setting to have a fine adjustment of HUD in order to get the same data as dashboard.HUD manufacturers make adjustments according to the general test values before HUD releases, if you are finding there is something different with the the dashboard values,please make an adjustment as below:

Long press in the wave button 5 seconds to enter into menu setting(3 directions here for your choose:up,vertical,and down),vertical short press 1 time,menu value will increase along with it,up or down the button to increase or decrease the

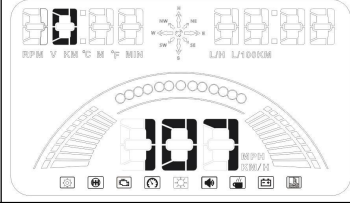
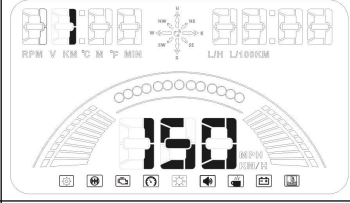
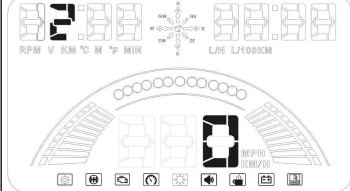
parameter.Vertically long press 5 seconds to save and exit after adjustment.

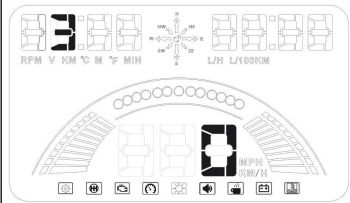
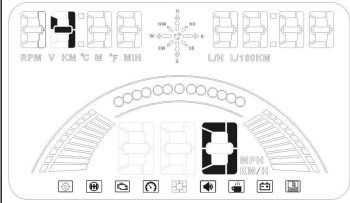
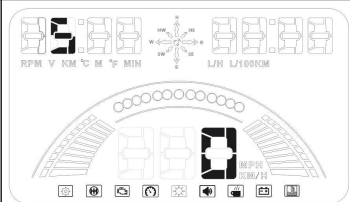
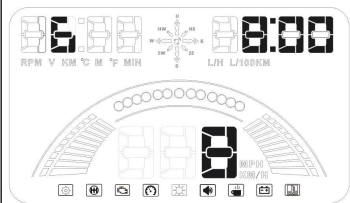
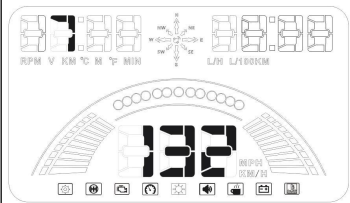
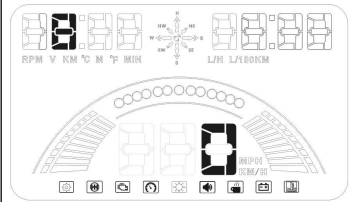
OBD Menu Setting					
Menu	According Parameter	Adjustment Range	Explanation	Default Value	Setting State
0 (OBD)	Speed	50-150	When the Speed is not the same as dashboard: Up or down the wave button to adjust	107	
1 (OBD)	RPM	50-150	When RPM is not the same as dashboard: Up or down the wave button to adjust	117	
2 (OBD)	Fuel consumption	50-150	When fuel consumption is not the same as dashboard: Up or down the wave button to adjust	100	
3 (OBD)	RPM alarm	10-75	When RPM reaches 5000, HUD will give RPM alarm	50	
4 (OBD)	Shift reminder	0-75	When RPM reaches 5000, HUD will give RPM alarm	50	
5 (OBD)	Four-stage alarm	0-1	0 for turn off,1 for turn on the four-stage alarm (60KM/H,80KM/H,100KM/H,120KM/H),speed alarm shows up when it reaches to above four speed	0	

6 (OBD)	Single-stage alarm	30-250	Over speed alarm shows up when the vehicle speed exceeds 150	150	
7 (OBD)	Display mode	0-2	0 is automatic mode: when speed below 80km/h, hud show all information ;and when speed over 80km/h,hud is in high speed mode,1 is display all information, 2 is high speed mode(only display speed and fuel consumption) 3 is use voltage to control power on/off(for gas - electric hybrid vehicles)	1	
8 (OBD)	Brightness adjustment	0-2	0 is automatic adjustment, 1 is darkest by manual, 2 is brightest by manual	0	
9 (OBD)	Fuel consumption unit	0-2	0 is no display,1 is L/H, 2 is L/100KM	1	
10 (OBD)	Speed unit	0-2	0 is no display,1 is KM, 2 is MPH	1	
11 (OBD)	Water temperature unit	0-2	0 is no display, 1 for °C, 2 for °F	1	
12 (OBD)	Mileage Unit	0-1	(switch between KM/Mile) 0 is single driving in KM, 2 is single driving in Mile	0	

<b>13 (OBD)</b>	Reference fuel consumption	10-500	Average fuel consumption of 100KM, default 70 means average fuel consumption of 100KM is 7L	70	
<b>14 (OBD)</b>	Emission setting	10-100	The default car emission is 20(means 2.0L), if there is no display fuel consumption, pls adjust the default value to 0	20	
<b>15 (OBD)</b>	Reference start voltage	110-150	HUD will automatically turns on when voltage above 13.2V, and hud automatically turns off when voltage below 13.2V	132	
<b>16 (OBD)</b>	Reset setting	0-1	Adjust the parameter to 1, and vertical press in the wave button 5 seconds to save, then the reset is finished	0	

### GPS Menu Setting

Menu	According Parameter	Adjustment Range	Explanation	Default Value	Setting State
<b>0 (GPS)</b>	Speed	50-150	When the Speed is not the same as dashboard: Up or down the wave button to adjust	107	
<b>1 (GPS)</b>	Over speed alarm	30-250	Over speed alarm will show up when driving speed reaches 150KM/H, up or down the button to adjust according to your requirement.	150	
<b>2 (GPS)</b>	Brightness adjustment	0-2	0 is automatic adjustment, 1 is darkest by manual, 2 is brightest by manual	0	

3 (GPS)	Speed unit	0-2	0 is KM, 1 is Mile, 2 is Voltage	0	
4 (GPS)	Mileage unit	0-1	0 is single driving in KM, 2 is single driving in Mile	0	
5 (GPS)	Function switch	0-2	0 is clock,1 is driving mileage, 2 is driving time	0	
6 (GPS)	GMT adjustment	0-23	Default for GMT+8	8	
7 (GPS)	Voltage switch	110-150	HUD will automatically turns on when voltage above 13.2V,and hud automatically turns off when voltage below 13.2V	132	
8 (GPS)	Reset setting	0-1	Adjust the parameter to 1,and vertical press in the wave button 5 seconds to save,then the reset is finished	0	

**GMT Adjustment:**

Make sure your GMT(the default is GMT+8).According to your time zone to adjust HUD.Vertical press 5 seconds to enter into menu setting,short press 6 times to menu 6,parameter shows 8 (means GMT +8)up or down the wave button adjust to the time zone of your own country,and then vertical press in 5 seconds to return to the previous page.

HUD adjustment Code	Region	GMT
0	United Kingdom, Iceland, Ireland, Portugal	UTC
1	Norway, Sweden, Denmark, Poland, Germany, France, Netherlands,	GMT+1



	Spain, Italy	
2	Finland, Belarus, Ukraine, Romania, Turkey, Israel, Egypt, South Africa	GMT+2
3	Russia, Saudi Arabia, Bahrain, Kenya, Iran	GMT+3
4	Mauritius, United Arab Emirates, Afghanistan, Seychelles	GMT+4
5	Pakistan, Turkmenistan, Sri Lanka, India	GMT+5
6	Bangladesh, Kazakhstan, Bhutan, Nepal	GMT+6
7	Vietnam, Laos, Cambodia, Thailand, Indonesia	GMT+7
8	<b>(The default GMT) China, Malaysia, Singapore, Philippines, Hong Kong, Taiwan, Macau</b>	GMT+8
9	Japan, Korea	GMT+9
10	Australia, Guam	GMT+10
11	Solomon Islands, Vanuatu	GMT+11
12	New Zealand, Fiji	GMT+12
13	Azores	GMT-1
14	Mid-Atlantic, Cape Verde	GMT-2
15	Brazil, Argentina, Uruguay	GMT-3
16	Venezuela, Bolivia, Paraguay, intelligence	GMT-4
17	Canada, Panama, Cuba, New York	GMT-5
18	Mexico	GMT-6
19	Salt Lake City	GMT-7
20	California, California, San Francisco	GMT-8
21	East Alaska	GMT-9
22	Hawaii	GMT-10
23	Samoa, Midway	GMT-11

**Use and installation for reflection film:**

Please Note: HUD projects dashboard information on the car front windscreen , because the windscreen is double, which will make double reflection on the windscreen when it works. The double reflection will be different cause of the different windscreen. If you can see clear of the displaying information, then there is no need to use the reflection film. If there is a double image, then please use the reflection film.

First, please put the non-slip mat on the dashboard, and then put HUD on it. Reflection film can be stick to the position right above the HUD position which can reflect host screen to windscreen.

**Methods of pasting the film:**

1. Spray some water on the place that the film will be pasted on, and then use a dry cloth to clean it;

2. Take off the back side (marked 1) of reflection film, then paste it to the window glass.
3. After you have adjusted the location, you can use a scratch board or something else flat to slick the film and squeeze the water inside out until there is no bubble or water in it.

Take off the protection film (marked 2) of the reflection film. If the film cannot display the whole information, please adjust the non-slip mat to move the position

### **HUD Specifications:**

Working Temperature:	-40c—+80c
Atmospheric pressure:	86-106KPa
Relative humidity:	10%-95%
Environmental noise:	<=60dB(A)
Alarm sound level:	》 =30dB(A)
Working voltage:	9V~16Vdc(12Vdc/400mA)
Screen size:	13.5*8*1.5(cm)
HUD Weight	120g

### **OBD mode :Solutions for common problems**

#### **1. (OBD mode) HUD screen without any display, and no power**

Checking the car charger cable if it is tight, pull down the OBD cable repeatedly inserted several times, check the HUD switch if it powers on. If there still no display please try another car to test and analyze whether the car cigarette lighter interface is bad, if it is a bad cigarette lighter, please try to connect the cable line to the car battery.

#### **2. (OBD mode) HUD screen only shows voltage, and automatic power off after 30 seconds.**

HUD in OBD mode only available for cars with OBDII and EOBD agreement (US region: after 2003, other regions: after 2007), if HUD can only display voltage, it prove your car cannot compatibility with the OBD mode, in this time, pls change to GPS mode, than HUD can work.

#### **3. (OBD mode) See not clearly when HUD under the sunlight, and with double reflection.**

Check whether the HUD host protective film is torn, and please attached the reflection film in the gift box corresponding on the windscreen.

Under the condition with power, vertical press wave button 5 seconds to enter into menu option, short press 8 times to menu 8, pull down the wave button to parameter

2,and vertical press 5 seconds to save.

#### **4.(OBD mode) wrong operation lead to crashes or inaccurate datas**

Do a reset setting.Under the condition of power,vertical press in wave button for 5 seconds to enter into the menu option,short press several times to the menu 16,pull down the wave button to parameter 1,vertical press in 5 seconds to save.

#### **5. (OBD mode) Inaccurate Speed**

When HUD is power on,vertical press the wave button 5 seconds to enter into the menu options, here menu option shows 0,parameter shows 107,up or down the wave button to increase or decrease the value according to the difference until it shows correct one.After adjustment, vertical press in 5 seconds to save it.

#### **6. (OBD mode) Inaccurate fuel consumption**

Under the condition with power,vertical press the wave button 5 seconds to enter into menu option, show press in 14 times to find menu 14,the default value is 20(means the emission is 2.0L),up or down the wave button to increase or decrease the value according to the difference with your car emission until it shows correct.Vertical press in 5 seconds to save and exit.

Or find menu 2 ,the parameter shows 100,up or down to adjust.

#### **7. (OBD mode) HUD cannot be automatically power off and menu setting for cars with Start Stop function**

Vertical short press the wave button 5 seconds to enter into menu setting, vertical short press 7 times to menu 7, the default parameter is 1, up or down the wave button to adjust the default value to 3 ( 3 is for voltage control switch for start-stop car) ,vertical press in 5 seconds to save and exit.

If still can not turns off automatically,vertical press in 5 seconds to enter into menu setting, short press 15 times to menu 15, the default value is 132, up or down to adjust the default value to 135, vertical press in 5 seconds to save and exit.

#### **8. (OBD mode) HUD cannot be automatically power on**

Vertical press in 5 seconds to enter into menu setting, short press 15 times to menu 15,the default parameter is 132, up or down change it to 128, vertical press in 5 seconds to save and exit.

### **GPS mode:Solutions for common problems**

#### **1. (GPS mode) HUD screen without any display,and no power**

In order to prevent power consumption, default start voltage is 13.2v, when start the engine, HUD will be automatically turns on when it reaches 13.2v, check if the car charger cable is tight, pull down repeatedly insert several times, check if the HUD switch is open . If there are still no response,please try another car,or analyze

whether the car cigarette lighter interface is bad, if the diagnosis is not good, please connect the cable line to the storage battery.

## **2.(GPS mode) HUD can not be automatically power on or repeated shutdown when driving**

HUD default start voltage is 13.2v, if car voltage less than this value, HUD can not start, check if the car engine is turned on. If you already start the engine, please vertical press in the wave button 5 seconds to enter into menu setting, short press 7 times to menu 7, up or down the button to adjust the parameter value from 132 to 128.

## **3.(GPS mode) HUD can not be automatically power off after car shutdown**

HUD default start voltage is 13.2v, if car voltage reaches this value, HUD will automatically power on, when car voltage below this value, HUD will automatically power off, please press 7 times to find menu 7, and adjust the default value from 132 to 135.

## **4.(GPS mode) Inaccurate speed**

Under the condition with power, vertical press in the wave button 5 seconds to enter into menu option, menu shows 0, parameter shows 107, up or down the wave button to increase or decrease the value according to the difference with your dashboard until it shows correct. Vertical press in 5 seconds to save and exit.

## **5.(GPS mode) Over speed alarm**

HUD default over speed alarm value is 150, it can be adjusted.

Under the condition with power, vertical press in the wave button 5 seconds to enter into menu option, short press 1 time to menu 1, parameter 150, here 150 means over when driving speed reach 150, hud will give over speed alarm, up or down the wave button to increase or decrease the value. Vertical press in 5 seconds to save after adjustment.

## **6.(GPS mode) See not clearly when HUD under the sunlight and with double reflection.**

Check whether the HUD host protective film is torn, and please attached the reflection film in the gift box corresponding on the windscreen.

## **7.(GPS mode) Wrong operation lead to crashes or inaccurate data**

Do a reset setting. Under the condition of power, vertical press in 5 seconds to enter into the menu option, short press several times to the menu 8, pull down the wave button to parameter 1, vertical press in 5 seconds to save and exit.

## **8.(GPS mode) Inaccurate Time**

Make sure your GMT (the default is GMT+8). According to your time zone to adjust HUD. Vertical press 5 seconds to enter into menu setting, short press 6 times to menu 6, parameter shows 8 (means GMT +8) up or down the wave button adjust to the time

zone of your own country.(pls refer to the form of hud adjustment code)