

VHA300 GPIO function specific development steps guide (remote control side)

1. Remote registry server needs to create a UDP socket listening services, configure socket to be able to listening to the broadcast packets, listen on Port and VHA300 web page configuration of the Remote Port is consistent;

```
int skfd;
int so_brd = 1;
struct sockaddr_in serv_addr;

skfd = socket(AF_INET, SOCK_DGRAM, 0);
...
setsockopt(skfd, SOL_SOCKET, SO_BROADCAST, (char *) &so_brd, sizeof(so_brd));
...
memset(&serv_addr, 0x0, sizeof(serv_addr));
serv_addr.sin_family = AF_INET;
serv_addr.sin_port = htons(Remote_Port); //With VHA300 web page configuration of the Remote Port
serv_addr.sin_addr.s_addr = htonl(INADDR_ANY);
...
bind(skfd, (struct sockaddr*)&serv_addr, sizeof(serv_addr));
...

while(1)
{
    recvfrom(); //Receive UDP socket data
    ...
    sendto(); //Send the UDP data processing
    ...
}
```

2. Remote control terminal after doing UDP socket listener, it will receive 2 Class data:
 - 1). VHA300 boot initialization data: submit the state of the total number of channels and each channel data; (For data format and analysis, please refer to 《the VHA300 GPIO function APP programming guide》 PDF "Initialize the GPIO status register ")

```
10 23 00 62 00 00 00 17 13 17 da f0 ff ff ff ff
ff ff ff ff 1a 20 04 44 00 d2 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 23 20 88 03 04 00
0d 0a 88 04 ff 02 01 01 00 00 0a 0a ff 10 01 01
00 00 0a 0a ff 12 02 02 00 01 05 00 00 05 00 00
00 00 00 00 0a 0a ff 13 02 01 00 00 00 00 0d 0a
0d 0a
```

- 2). GPI produce event data:
 - 0x0: short press event 0x1: long press event
 - 0x2: press the action 0x3: pop-up action;

(please refer to the data format and analysis the 《VHA300 GPIO function APP programming guide》 PDF " GPI events register data ")

```
10 23 00 62 00 00 00 17 13 17 da f0 ff ff ff ff
ff ff ff ff 1a 20 04 44 00 d2 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 23 20 88 04 ff 02
01 01 00 01 01 0d 0a 0d 0a
```

3. Remote registration server can send data to VHA300 (received on VHA300, unifying the GPI action events as a short press processing), VHA300 after processing will return all the state of the GPO LED.

1). GPO has two kinds of working mode, switch mode and PWM dimming mode.

2). GPO LED state two work modes:

Switch mode (There are two kinds of leds):

0x0:led always off

0x5:led always on

PWM dimming mode(There are six kinds of leds):

0x0:led always off

0x1:led level 1 on

0x2:led level 2 on

0x3:led level 3 on

0x4:led level 4 on

0x5:led always on

3). GPO two operating modes:

Switch mode(three ways):

0x01:Flip the current state of the LED

0x00: LED OFF

0xff: LED ON

PWM dimming mode(four ways):

0x0:cycle dimming

0x1:rising dimming

0x2:falling dimming

0x3:ON/OFF dimming

4). If VHA300 configured the GPI and GPO binding operation, you can directly operate GPO through the GPI;

```
10 23 00 62 00 00 00 17 13 17 da f0 ff ff ff ff
ff ff ff ff 1a 22 04 44 00 d2 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 33 00 ff 13 02 01
01 00 00 00 00 02 01 01 0a 0a ff 12 02 02 01 00
00 00 00 03 03 01 05 0d 0a 0d 0a
```

5). Control data format and analysis please refer to the 《VHA300 GPIO function APP programming guide》PDF" Control data";

On Wednesday, November 5, 2014