TFTP upgrade instructor

1、Hardware Environment & Connections

1）For RS232 operation, the devices are as follows:

PC, RS232 Cable, DVR, network cable

If there is only laptop computer, USB to RS232 cable is required.

2）Connection Mode is as follows:

PC --- RS232 cable --- DVR
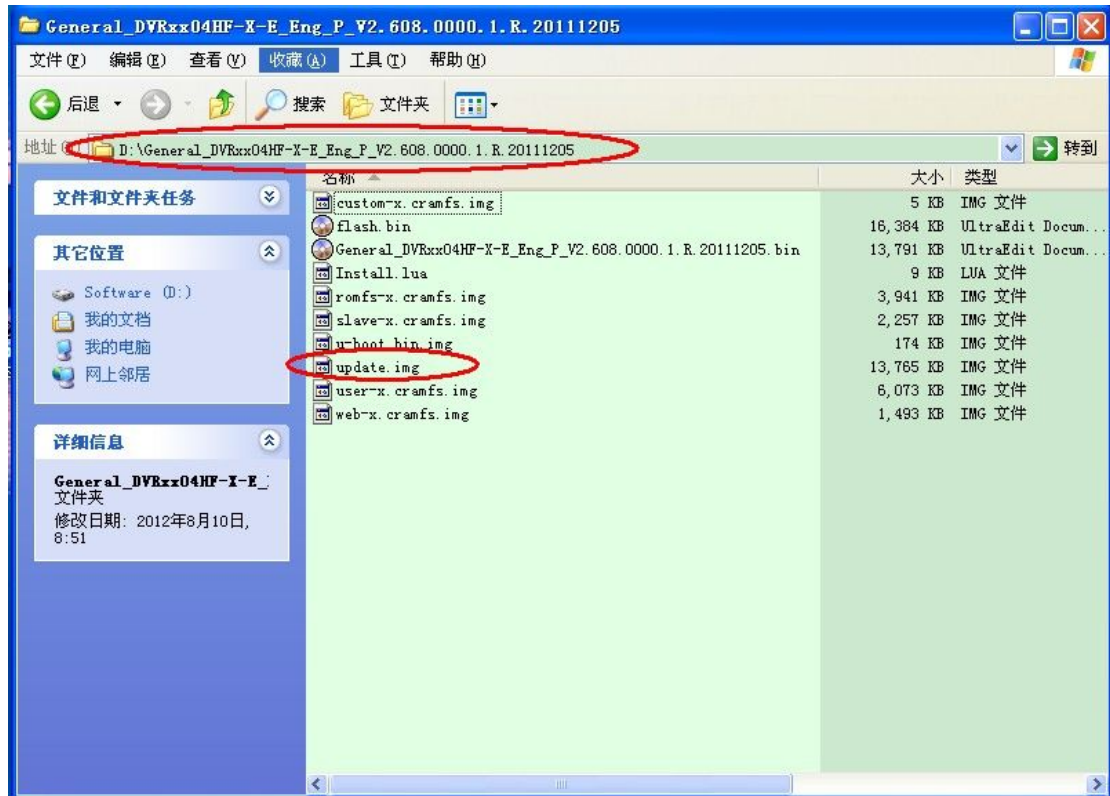
PC--- through network --- DVR

DVR to laptop computer   DVR to pc

2、TFTP Upgrade

1）**Unzip the upgrade software to you PC**
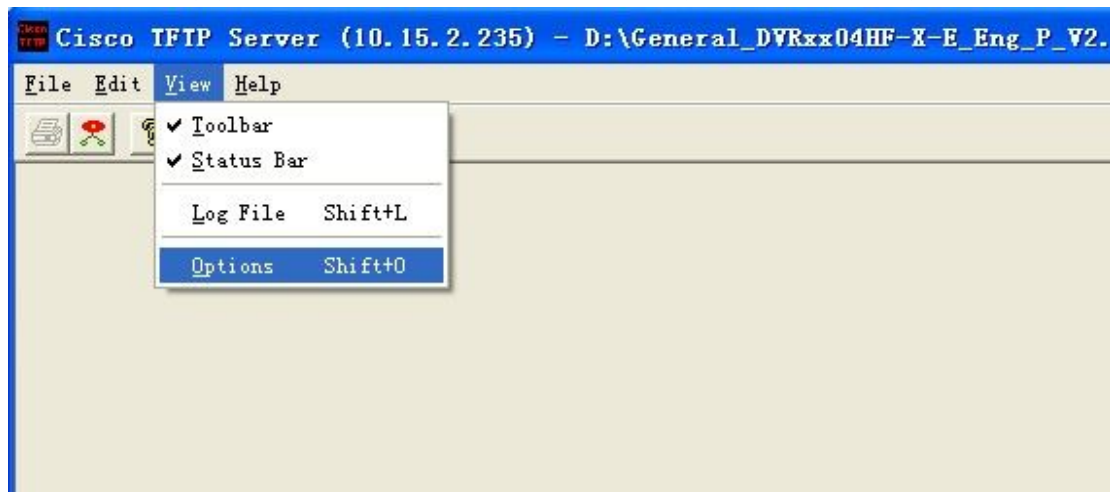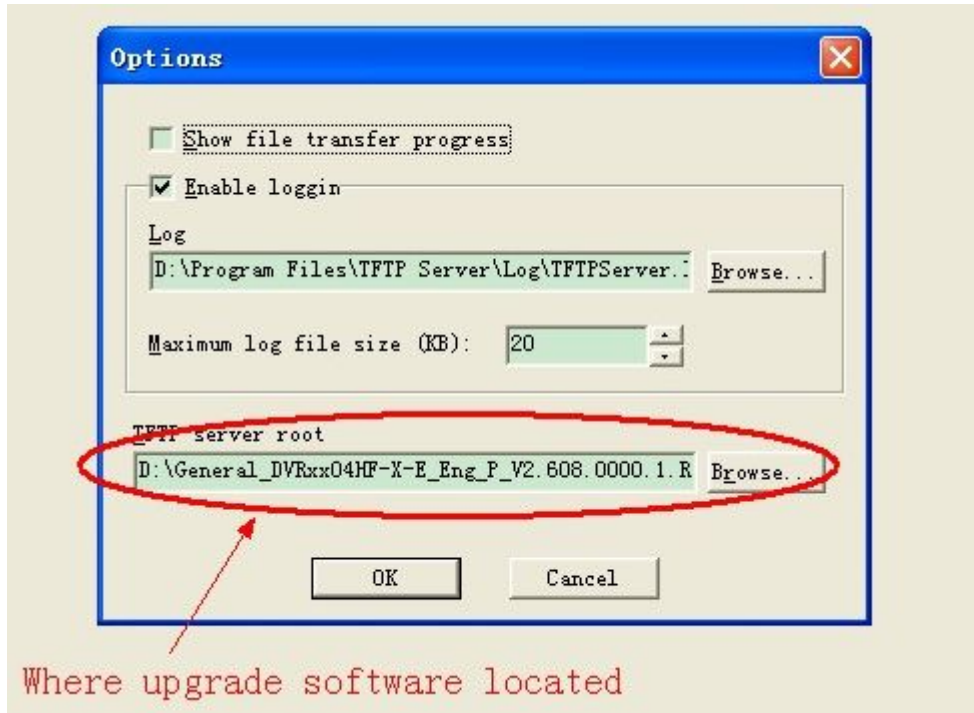
make sure there have this file

update.img

2）Run TFTP server

A、Run TFTP server: TFTPServer_En.exe

B、Set the upgrade route in the TFTP server, please see the picture below

Where upgrade software located

3）Run NOCM in your computer, the com set is as follows:

Choose the right com port according to your computer
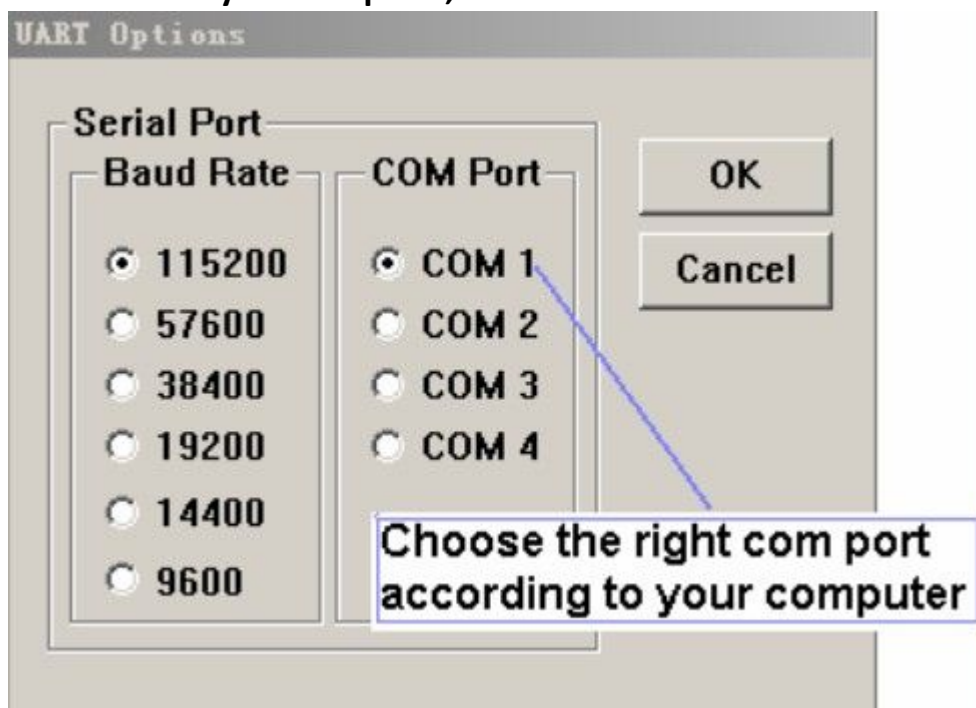
4）See RS232 parameter

A、Restart the DVR，press "*" key of your PC keyboard 3 times quickly (upper right on number pad) when the words Hit any key to stop autoboot are on screen.

keep pressing " * " key of the PC
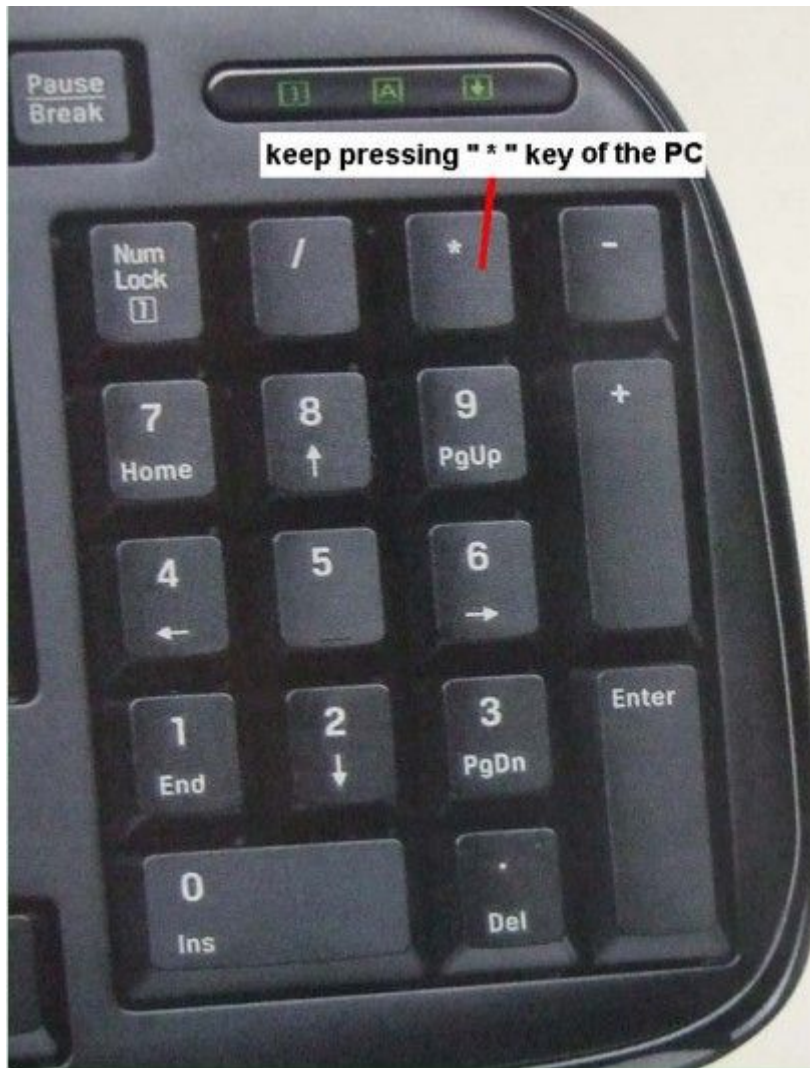
B、 Now you can enter TFTP menu, you can enter the commands now.

```
 MCOM v1.02    [COM1,115200bps]
 File Options Help
 sendtofrontboard ch:3


 Board: STx7108-HDK  [32-bit mode]


 U-Boot 1.3.1 (svn:293, Aug 24 2011 - 14:50:06) - stm24_0053

 DRAM:  128 MiB
 SPI:  info: found S25FL128P (16MiB) device (page=256,erase=65536)
 In:    serial
 Out:   serial
 Err:   serial
 Hit any key to stop autoboot:  0     ←—Hit when countdown from 3 to 0
 HDK7108> **
 Unknown command '**' - try 'help'
 HDK7108>      ←———————It will stop when succeed
```

C、 Type "printenv" to show some information of the DVR, you will find the appauto and dh_keyboard are all 1, for TFTP upgrade, you should set them to 0.

```
DK7108> printenv
bootargs=mem=128M, console=ttyAS0,115200 rootfstype=cramfs
bigphysarea=1512
bootcmd=fsload; bootm
bootdelay=3
load_modules=1
logserver=127.0.0.1
da=tftp 0x80000000 u-boot.bin.img; flwrite
dr=tftp 0x80000000 romfs-x.cramfs.img; flwrite
du=tftp 0x80000000 user-x.cramfs.img; flwrite
dw=tftp 0x80000000 web-x.cramfs.img; flwrite
dl=tftp 0x80000000 logo-x.cramfs.img; flwrite
ds=tftp 0x80000000 slave-x.cramfs.img; flwrite
dc=tftp 0x80000000 custom-x.cramfs.img; flwrite
up=tftp 0x80000000 update.img; flwrite
tk=tftp 0x80000000 uImage; bootm
baudrate=115200
ethaddr=20:11:04:07:13:01
eth1addr=20:11:08:04:17:01
ID=0000000000000000000
HWID=0000000000000
serverip=10.15.2.235
ipaddr=10.15.2.236
netmask=255.255.0.0
gatewayip=10.6.0.1
restore=0
appauto=1
dh_keyboard=1
stdin=serial
stdout=serial
stderr=serial
```

D、Set these two parameters to 0 for TFTP ungrade.

Type "set appauto 0" to set the appauto to 0.

Type "set dh_keyboard 0" to set the dh_keyboard 0.

Type "save".

```
HDK7108> set appauto 0
HDK7108> set dh_keyboard 0
HDK7108> save
Saving Environment to SPI Serial Flash...
HDK7108> printenv
bootargs=mem=128M, console=ttyAS0,115200 rootfstype=cramfs r
bigphysarea=1512
bootcmd=fsload; bootm
bootdelay=3
load_modules=1
logserver=127.0.0.1
da=tftp 0x80000000 u-boot.bin.img; flwrite
dr=tftp 0x80000000 romfs-x.cramfs.img; flwrite
du=tftp 0x80000000 user-x.cramfs.img; flwrite
dw=tftp 0x80000000 web-x.cramfs.img; flwrite
dl=tftp 0x80000000 logo-x.cramfs.img; flwrite
ds=tftp 0x80000000 slave-x.cramfs.img; flwrite
dc=tftp 0x80000000 custom-x.cramfs.img; flwrite
up=tftp 0x80000000 update.img; flwrite
tk=tftp 0x80000000 uImage; bootm
baudrate=115200
ethaddr=20:11:04:07:13:01
eth1addr=20:11:08:04:17:01
ID=0000000000000000000
HWID=0000000000000
serverip=10.15.2.235
ipaddr=10.15.2.236
netmask=255.255.0.0
gatewayip=10.6.0.1
restore=0
stdin=serial
stdout=serial
stderr=serial
appauto=0
dh_keyboard=0
```

E、 Restart the DVR, then hit "*" 3 times again and stop the printing.

5）TFTP upgrade

For DVR with New version software

A、(Make sure the network is OK between your PC and DVR)

Type "sip ip address of the PC " to set the TFTP server ip"

Type "lip ip address of the DVR" to set the DVR ip"

Type "save" to save

B、 Type "run up" to begin upgrade

```
HDK7108> sip 10.15.2.235
Set server ip address success!
Now server ip addr: 10.15.2.235
HDK7108> lip 10.15.2.236
Set local address success!
Now local ip addr: 10.15.2.236
HDK7108> save
Saving Environment to SPI Serial Flash...
HDK7108> run up
Realtek 8211C found
STM-GMAC: 100Mbs full duplex link detected
TFTP from server 10.15.2.235; our IP address is 10.15.2.236
Filename 'update.img'.
Load address: 0x80000000
Loading: #################################################################
         #################################################################
         #################################################################
         #################################################################
         #################################################################
         #################################################################
         #################################################################
         #################################################################
         #################################################################
         #################################################################
         #################################################################
         #################################################################
         #################################################################
         #################################################################
         #################################################################
         #################################################################
         #########################
```

The TFTP Server will show that sending 'update.img' successful

```
Cisco TFTP Server (10.15.2.235) - D:\General_DVRxx04HF-X-E_
File  Edit  View  Help

Fri Aug 10 09:16:20 2012: Sending 'update.img' file to 10.15.2.236 in binary mode
Fri Aug 10 09:16:30 2012: Successful.
```

It will upgrade automatically, write update.img into the flash

```
Image Name:    Linux
Image Type:    Blackfin Linux Kernel Image (gzip compressed)
Data Size:     6217728 Bytes =   5.9 MiB
Load Address: a0460000
Entry Point:  a0a60000
Data CRC Checking ... OK
Programing start at: 0xa0460000

write : 0
write : 0
write : 2
write : 4
write : 6
write : 8
write : 10
write : 12
write : 14
write : 16
write : 18
write : 20
write : 22
write : 25
write : 27
write : 29
write : 31
write : 33
write : 35
write : 37
write : 39
write : 41
write : 43
write : 45
write : 47
write : 50
write : 52
write : 54
write : 56
write : 58
write : 60
write : 62
write : 64
```

C、Wait until it restart, then hit "*" 3 times again and stop the printing

```
write : 77
write : 83
write : 88
write : 94
write : 100
done
sendtofrontboard ch:1
sendtofrontboard ch:2
HDK7108> sendtofrontboard ch:3


Board: STx7108-HDK  [32-bit mode]


U-Boot 1.3.1 (svn:293, Aug 24 2011 - 14:50:06) - stm24_0053

DRAM:   128 MiB
SPI:  info: found S25FL128P (16MiB) device (page=256,erase=655
In:     serial
Out:    serial
Err:    serial
Hit any key to stop autoboot:   0
HDK7108> *
```

D、Then set appauto and dh_keyboard back to 1 for normal booting, then type bootd to restart the DVR

```
HDK7108> set appauto 1
HDK7108> set dh_keyboard 1
HDK7108> save
Saving Environment to SPI Serial Flash...
HDK7108> printenv
bootargs=mem=128M, console=ttyAS0,115200 rootfstype=cramf:
bigphysarea=1512
bootcmd=fsload; bootm
bootdelay=3
load_modules=1
logserver=127.0.0.1
da=tftp 0x80000000 u-boot.bin.img; flwrite
dr=tftp 0x80000000 romfs-x.cramfs.img; flwrite
du=tftp 0x80000000 user-x.cramfs.img; flwrite
dw=tftp 0x80000000 web-x.cramfs.img; flwrite
dl=tftp 0x80000000 logo-x.cramfs.img; flwrite
ds=tftp 0x80000000 slave-x.cramfs.img; flwrite
dc=tftp 0x80000000 custom-x.cramfs.img; flwrite
up=tftp 0x80000000 update.img; flwrite
tk=tftp 0x80000000 uImage; bootm
baudrate=115200
ethaddr=20:11:04:07:13:01
eth1addr=20:11:08:04:17:01
ID=000000000000000000
HWID=0000000000000
netmask=255.255.0.0
gatewayip=10.6.0.1
restore=0
serverip=10.15.2.235
ipaddr=10.15.2.236
stdin=serial
stdout=serial
stderr=serial
appauto=1
dh_keyboard=1
```

```
Environment size: 825/16380 bytes
HDK7108> bootd
### CRAMFS loading '/boot/uImage' to 0x80000000
### CRAMFS load complete: 2437178 bytes loaded to
## Booting image at 80000000 ...
    Image Name:   Linux-2.6.32.28_stm24_0207-HDK71
    Image Type:   SuperH Linux Kernel Image (gzip
    Data Size:    2437114 Bytes =   2.3 MiB
    Load Address: 82000000
    Entry Point:  82001000
    Verifying Checksum ... OK
    Uncompressing Kernel Image ... |
```

E、The DVR will boot itself, and that's all

6）Upgrade Failure

1、To check if the RS232 serial port and serial cable is OK

2、To check if the network connection is OK

3、To check if the mac address of the DVR is right

4、To check if the upgrade software is in the right folder and with right name

5、To check if the NCOM and TFTP software is running

6、Upgrade by TFTP upgrade again

7、After several times attempt, if there is still have problems, please contact with our technical engineers.