

17SERVICE MENU SETTINGS

In order to reach service menu, First Press **"MENU"** Then press the remote control code, which is **"4725"**. In DTV mode, first press **"MENU"** and select **"TV SETUP"**. Then, press **"4725"**.

17.1 Video Setup

Panel Info <.....>

32_LC_SAC1

Blue Background <.....>

If "Menu" selected, **"Blue Background"** item is seen in **"Feature"** menu.

If "Yes" selected, **"Blue Background"** is on and not seen in **"Feature"** menu

Film Mode <.....>

If "Yes" selected, **"Film Mode"** feature is active.

Dynamic Contrast <.....>

If "Yes" selected, **"Dynamic Contrast"** feature is active.

Game Mode <.....>

If "Yes" selected, **"Game Mode"** feature is active

SRGB For PC <.....>

If "Yes" selected, PCs can use SRGB option.

Dynamic Noise Reduction<.....>

If "Yes" selected, **"Dynamic Noise Reduction"** feature is active

WSS Option<.....>

If "Yes" selected, WSS Option can be used

17.2 AudioSetup

BG<.....>

Europe
New Zeland
Australia
No

DK<.....>

I<.....>

L<.....>

Equalizer <.....>

If "Yes" selected, **"Equalizer"** item is seen in **"Sound"** menu.

Headphone <.....>

If "Yes" selected, **"Headphone"** item is seen in **"Sound"** menu.

Power On/Off Melody <.....>

If "Yes" selected, when power on/off conditions, the power on/off melody can be heard.

Dynamic Bass <.....>Value between 0 to 12

Effect<.....> Value between 0 to 7

Audio Delay ,offset <.....> Value between 0 to 190

Audio Setup Cont...2

Carrier mute<.....> Value between 0 to 28

Headphone Sound Select <.....>

Always Active Select

Always Inactive Select

Menu

Always Main Menu

Always PIP/PAP Window

Sound Mode Detect Time <.....> Value between 0 to 255

Noise Reduction Threshold <.....> Value between 0 to 255

Noise Reduction Time <.....> Value between 0 to 15

AVL Attack Time <.....> Value between 0 to 255

AVL Release Time <.....> Value between 0 to 255

Prescales (AVL On)

FM Prescale<.....> Value between 0 to 255

AM Prescale <.....> Value between 0 to 255

NICAM Prescale <.....> Value between 0 to 255

SCART Prescale <.....> Value between 0 to 255

FAV Prescale <.....> Value between 0 to 255

DTV Prescale <.....> Value between 0 to 255

HDMI Prescale <.....> Value between 0 to 255

YPbPr/PC Prescale <.....> Value between 0 to 255

An. USB Prescale <.....> Value between 0 to 255

Dig. USB Prescale <.....> Value between 0 to 255

Prescales (AVL Off)

FM Prescale<.....> Value between 0 to 255

AM Prescale <.....> Value between 0 to 255

NICAM Prescale <.....> Value between 0 to 255

SCART Prescale <.....> Value between 0 to 255

FAV Prescale <.....> Value between 0 to 255

DTV Prescale <.....> Value between 0 to 255

HDMI Prescale <.....> Value between 0 to 255

YPbPr/PC Prescale <.....> Value between 0 to 255

An. USB Prescale <.....> Value between 0 to 255

Dig. USB Prescale <.....> Value between 0 to 255

Clipping Levels (AVL On)

FM Clipping <.....> Value between 0 to 255

AM Clipping <.....> Value between 0 to 255

NICAM Clipping <.....> Value between 0 to 255

SCART Clipping <.....> Value between 0 to 255

FAV Clipping <.....> Value between 0 to 255

DTV Clipping <.....> Value between 0 to 255

HDMI Clipping <.....> Value between 0 to 255

YPbPr/PC Clipping <.....> Value between 0 to 255

An. USB Clipping <.....> Value between 0 to 255

Dig. USB Clipping <.....> Value between 0 to 255

Clipping Levels (AVL Off)

FM Clipping <.....> Value between 0 to 255

AM Clipping <.....> Value between 0 to 255

NICAM Clipping <.....> Value between 0 to 255

SCART Clipping <.....> Value between 0 to 255
FAV Clipping <.....> Value between 0 to 255
DTV Clipping <.....> Value between 0 to 255
HDMI Clipping <.....> Value between 0 to 255
YPbPr/PC Clipping <.....> Value between 0 to 255
An. USB Clipping <.....> Value between 0 to 255
Dig. USB Clipping <.....> Value between 0 to 255

17.3 Service Scan/Tuning Setup

First Search for L/L' <.....>

ATS Delay Time (ms) <.....> Value between 0 to +200

Main Tuner Setup

Tuner Type

LC_TDTC_GXX1D

Thomson DTT7543X

Philips TD1318AF-3

Samsung DTOs403LH172A

Generic (Analog Only)

Control Byte <.....> Value between 0 to +255

BSW1 <.....> Value between 0 to +255

BSW2 <.....> Value between 0 to +255

BSW3 <.....> Value between 0 to +255

Low-Mid – Low Byte <.....>

Low-Mid – High Byte <.....>

Mid-High – Low Byte <.....>

Mid-High – High Byte <.....>

S Band TOP <.....>

VIF TOP <.....> Value between 0 to +15

VIF TOP SECAM <.....> Value between 0 to +15

VIF TOP DK<.....> Value between 0 to +15

Synch Threshold<.....> Value between 0 to +40

17.4 Options

Options-1

Power Up

Standby

Last state

TV Open Mode

Source

1st TV

Last Tv

First APS <.....>

If "Yes" selected, first time TV opens by asking APS.

APS Volume <.....> Value between 0 to +63

Burn In Mode <.....>

If "Yes" selected, TV opens with Burn-In mode. This mode is used in manufacturing.

APS Test

Autostore <.....>

If "Yes" selected, Channel is automatically stored.

Unicode Enabled <.....>

If "Yes" selected, Unicode characters can be read in the USB Files.

Options-2

Source List menu <.....>

If "Yes" selected, Source List Menu appears on the screen when press "source" button.

RC Select <.....>

RC Group 1

RC Group 2

RC Group 3

RC Group 4

RC Group 5

RC Group 6

Double Digit Key <.....>

If "Yes" selected, Double Digit Button on RC activates.

Protection <.....>

If "Yes" selected, short circuit protection activates.

Led Type <.....>

1 Led 1 Color

1 Led 2 Color

2 Led 2 Color

1 Led 3 Color

2 Led 3 Color

200 Programme <.....>

If "Yes" selected, totally 200 programmes can be used.

TouchPad <.....>

If "Yes" selected, TouchPad can be used.

Teletext Options

TXT Darkness <.....> *Value between 0 to +63*

TXT Type <.....>

Fasttext&Toptext

No

Default

Fasttext

Toptext

TXT Language <.....>

Menu

West

East

Cyrillic

Turk/Gre

Arabic

Persian

Auto

No Txt Warning <.....>

If "Yes" selected, "No Txt Transmission" warning appears on the screen when pressing txt button from RC.

Txt Subtitle <.....>

If "Yes" selected, Teletext subtitles can be seen.

Optional Features

Default Zoom <.....>

Menu

16:9

4:3

Panaromic

14:9 Zoom

Menu Timeout <.....>

Menu

15 Sec

30 Sec

60 Sec

No Time

Backlight <.....>

If "Yes" selected, "**Backlight**" feature is active.

100 Step Slider <.....>

If "Yes" selected, 64 step sliders will become 100 step sliders.

Analog USB Enabled <.....>

If "Yes" selected, "**Analog USB**" option is active.

Menu Double Size <.....>

If "Yes" selected, menu sizes increases.

CEC Enable <.....>

If "Yes" selected, "**CEC**" feature is active.

Digital USB Hotplug <.....>

If "Yes" selected, "**Digital USB Hotplug**" feature is active.

PIP Options

Pip <.....>

AV PIP

No PIP

PC PIP

Hotel Options <.....>

Hotel TV <.....>

If "Yes" selected, "**Hotel TV**" feature is active.

IR Smartloader <.....>

If "Yes" selected, "**IR Smartloader**" feature is active.

17.5 External Source Settings

TV <.....>

DTV <.....>

Ext 2 <.....>

Ext 2 S <.....>

FAV <.....>

BAV <.....>

S-Video <.....>
HDMI 1 <.....>
HDMI 2 <.....>
HDMI 3 <.....>
HDMI 4 <.....>
YPbPr <.....>
PC <.....>

17.6 Preset

User Adj.
ADC Adj.
Service Adj.
All Adj.
Init Factory Channels.

17.7 NVM Edit

NVM-edit addr. (hex)
NVM-edit data (hex)
NVM-data dec

17.8 Programming

HDMI DDC Update Mode <.....>
HDCP Key Update Mode <.....>
Software Bypass <.....>

If "On" selected, speaker effects are bypassed.

LVDS Clock Step <.....> *Value between 0 to +255*

Memory Clock Step <.....> *Value between 0 to +255*

DTV Download <.....>

If "On" selected, DTV software can be updated from SCART.

DSUB9 Download <.....>

If "On" selected, DTV software can be updated from DSUB9.

17.9 Diagnostic

Eeprom I2C
Tuner I2C
IF I2C
HDMI I2C

17.10 Product Info

18 SOFTWARE UPDATE DESCRIPTION

16.1 17MB37 Analog Part Software Update With Bootloader Procedure

1.1 The File Types Used By The Bootloader

All file types that used by the bootloader software are listed below:

- 1. The Binary File :** It has “.bin” extension and it is the tv application. Its size is 1920 Kb.
- 2. The Config Binary File :** It has “.cin” extension and it is the config of the tv application. Its size may be 64 Kb or a few times 64 Kb.
- 3. The Test Script File :** It has “.txt” extension and it is the test script that is parsed and executed by the bootloader. It don't have to be any times of 64 Kb.
- 4. The Test Binary File :** It has “.tin” extension and it is used and written by the test groups. It is run to understand the problem part of the hardware.

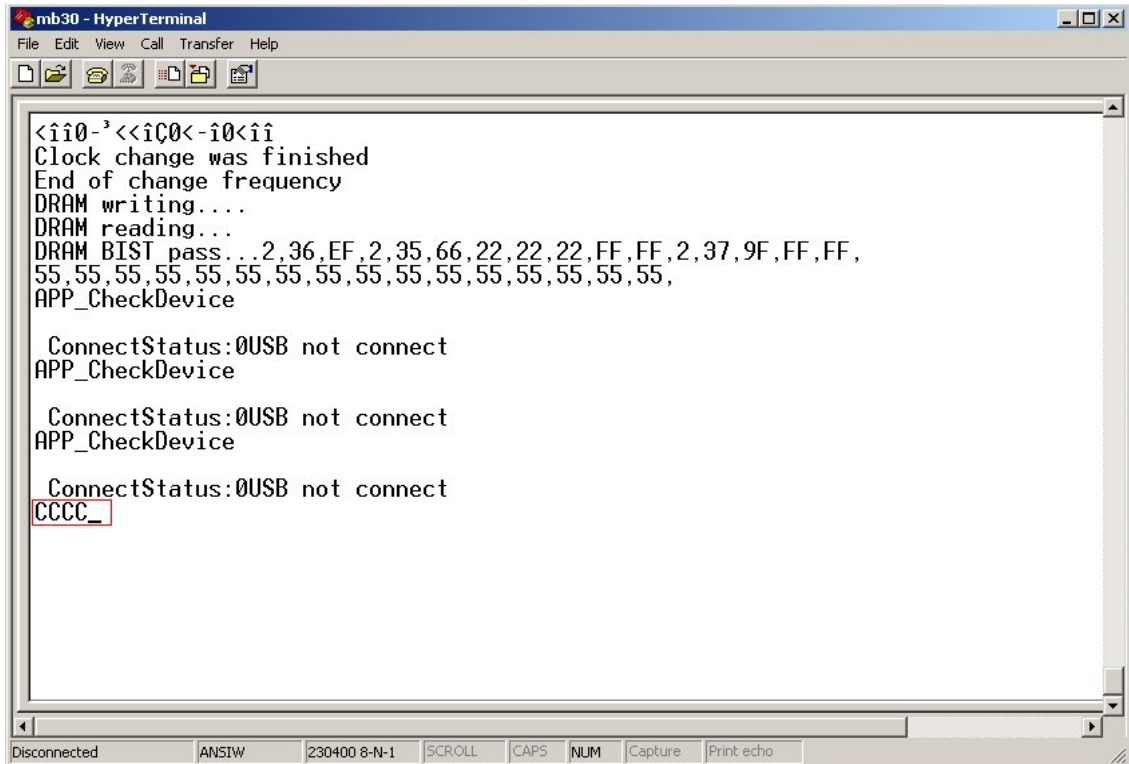
Although a file that is used by the bootloader can be had any one of these extensions, its name has to be “VESTEL_S” and it has to be located in the root directory of the usb device.

1.2 Usage of The Bootloader

1. The starting to pass through : The chassis is only powered up.
 2. The starting to download something : When chassis is powered up the menu key has to be pushed. Before the chassis is powered up and if any usb device is plugged to the usb port, the programme is downloaded from usb firstly.
- Any usb device is plugged to usb port , user must open hyperterminal in the pc and connect pc to chassis via Mstar debug tool and any one of scart, dsub9 or I2c connectors. Serial connection settings are listed below:

- Bit per second: 115200
- Data bits: 8
- Parity: None
- Stop bits: 1
- Flow control: None

In this case the bootloader software puts “C” character to uart. After repeating “C” characters are seen in the hyperterminal user can send any file to chassis by selecting Transfer -> Send File menu item and choosing “**1K Xmodem**” from protocol section.



```
mb30 - HyperTerminal
File Edit View Call Transfer Help
[Icons]
<ïï0-³<<ïç0<-ï0<ïï
Clock change was finished
End of change frequency
DRAM writing....
DRAM reading...
DRAM BIST pass... 2,36,EF,2,35,66,22,22,22,FF,FF,2,37,9F,FF,FF,
55,55,55,55,55,55,55,55,55,55,55,55,55,55,55,55,
APP_CheckDevice

ConnectStatus:@USB not connect
APP_CheckDevice

ConnectStatus:@USB not connect
APP_CheckDevice

ConnectStatus:@USB not connect
CCCC_
```

Disconnected ANSIV 230400 8-N-1 SCROLL CAPS NUM Capture Print echo

Figure 1. The Sample Output Before Sending The File

2. EEPROM update

To Update eeprom content via uart scart,dsub9 or i2c with Mstar tool can used. Serial connection settings are listed below:

- Bit per second: 9600
- Data bits: 8
- Parity: None
- Stop bits: 1
- Flow control: None

Programming menu item is chosen in the service menu and switch “HDCP Key Update Mode” from off to on.

Programming	
1. HDMI DDC Update Mode	Off
2. HDCP Key Update Mode	Off
3. Software Bypass	On
4. LVDS Clock Step	255
5. Memory Clock Step	255
6. DTV Download	Off

Figure 2. The Programming Service Menu

After then you must see Xmodem menu in the hyperterminal. To download hdcp key press k or to download eeprom content press w.

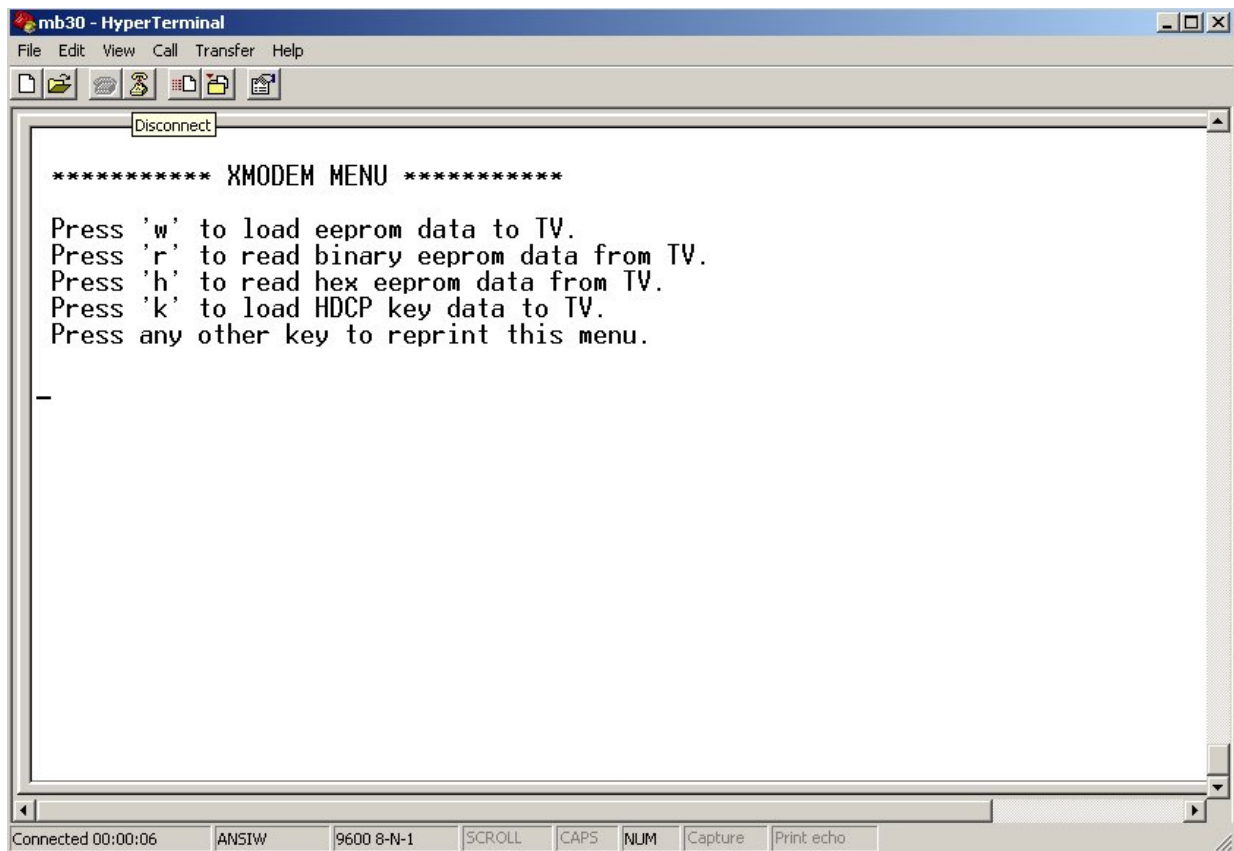


Figure 3. Xmodem Menu

If the repeated "C" characters are seen you can transfer file content via select Transfer->Send File and choose "Xmodem" protocol and click the "Send" button.

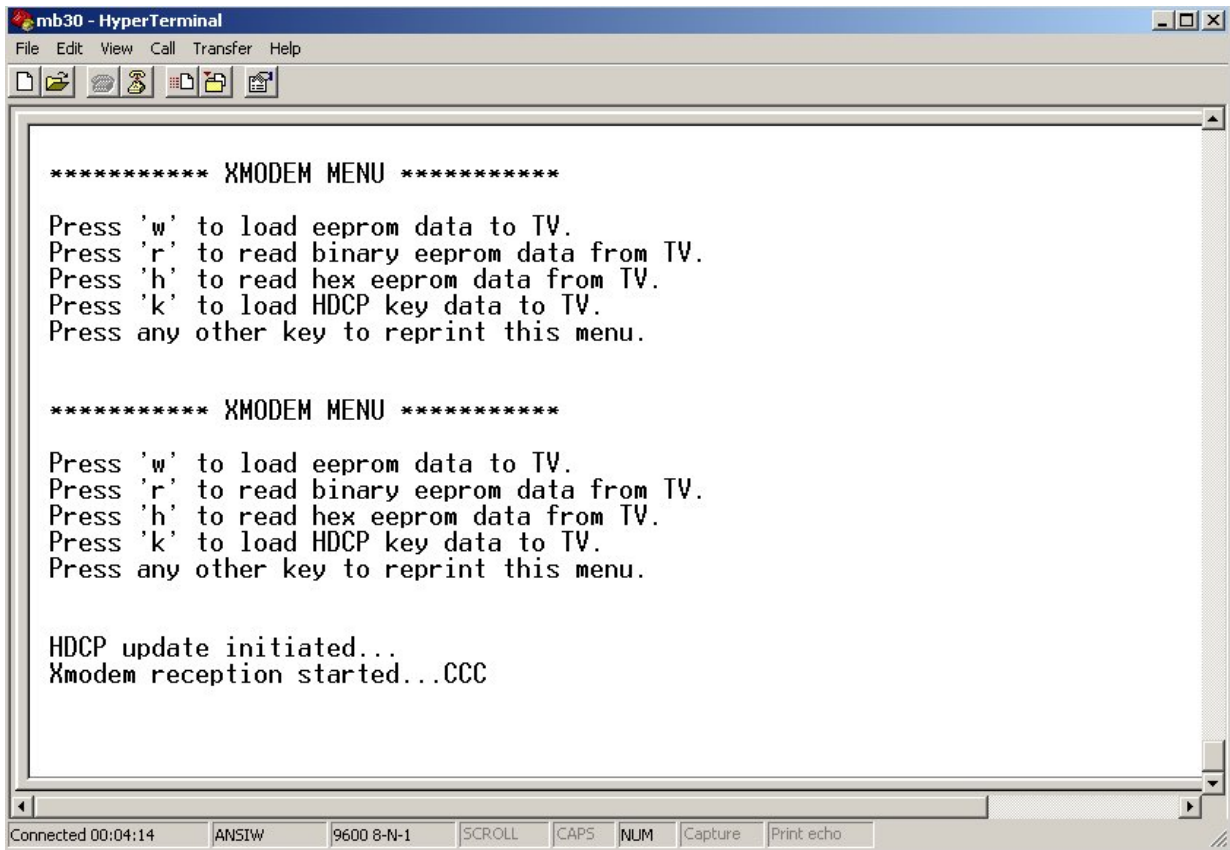


Figure 4. The Starting To Send

16.2 17MB37 HDCP key upload procedure.

- 1) Turn on TV set.
- 2) Open a COM connection using following parameters and select ISP COM Port No
Baud Rate: 9600 bps
Data Bits: 8
Stop Bits: 1
Parity: None
Flow Control: None
- 3) Enter service menu by pressing "4" "7" "2" "5" consecutively while main menu is open
- 4) Select "9. Programming"
- 5) Select "HDMI HDCP Update Mode" yes.
- 6) On Hyper Terminal Window press "k"
- 7) Click on send file under Transfer Tab.
- 8) Select Xmodem and choose the HDCP key to be uploaded.
- 9) Press send button
- 10) Restart TV set

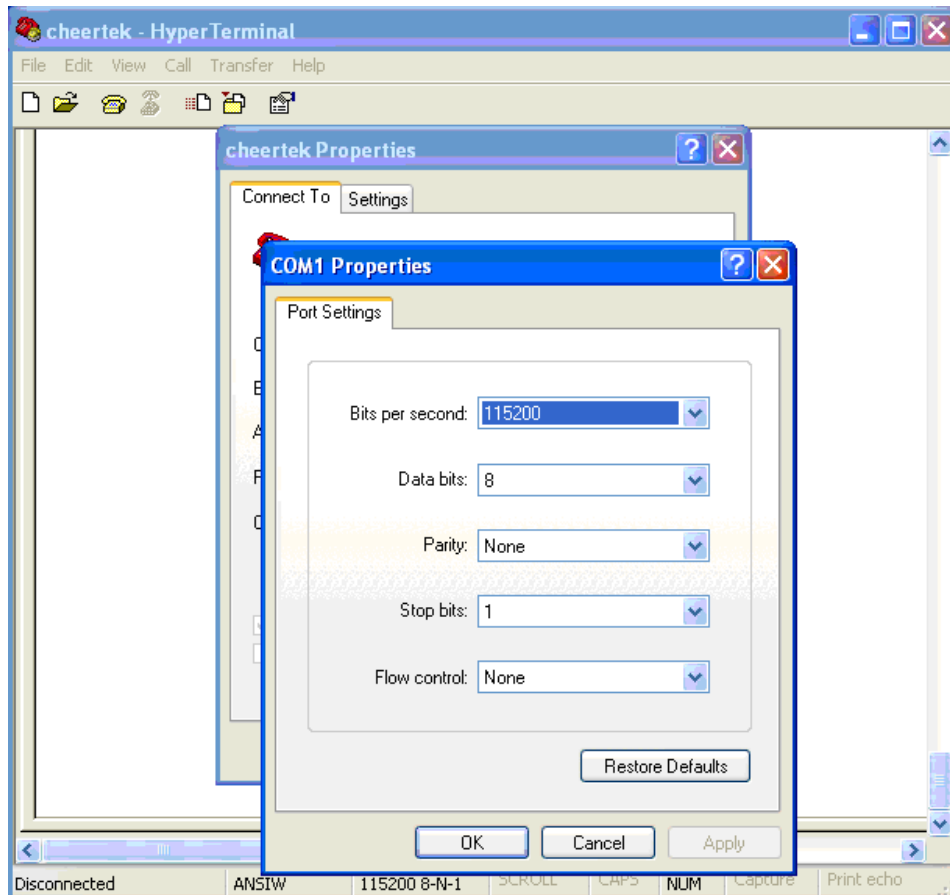
16.3 17MB37 Digital Software Update From SCART

Adjusting DTV Download Mode:

1. Power on the TV.
2. Exit the Stby Mode.
3. Enter the "Tv Menu".
4. Enter "4725" for jumping to "Service Settings".
5. Select "8. Programming" step.
6. Change "6. DTV Download" to "On".
7. Switch to the Stby mode.

Adjusting HyperTerminal:

1. Connect the "MB37 SCART Interface" to SCART1 (bottom SCART plug).
2. Also connect the "MB37 SCART Interface" to PC.
3. Open "HyperTerminal".
4. Determine the "COM" settings listed and showed below.
 - Bit per second: 115200
 - Data bits: 8
 - Parity: None
 - Stop bits: 1
 - Flow control: None



COM Properties Window

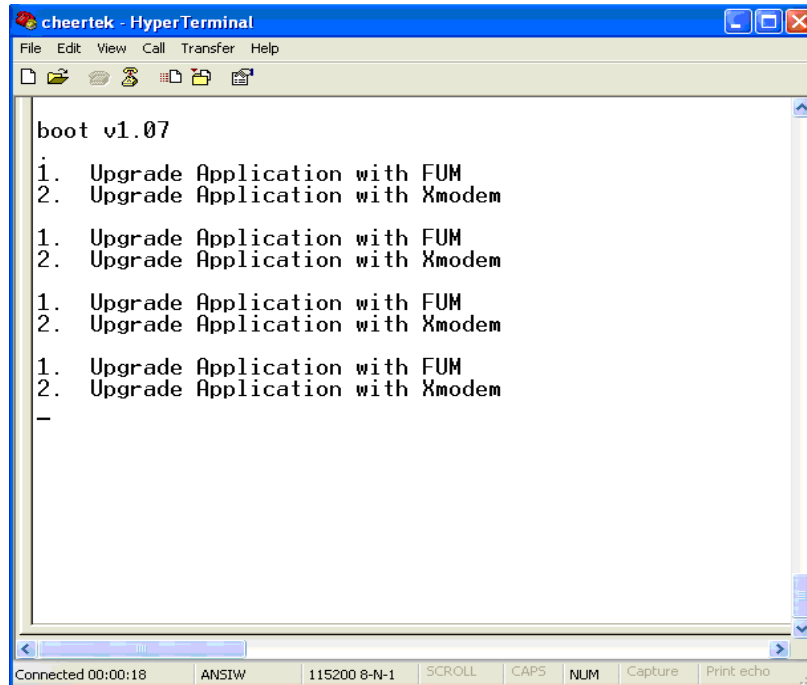
6. Click "OK".

Software Updating Procedure

1. In the HyperTerminal Menu, click the "Connect" button.

2. Exit the Stby Mode.

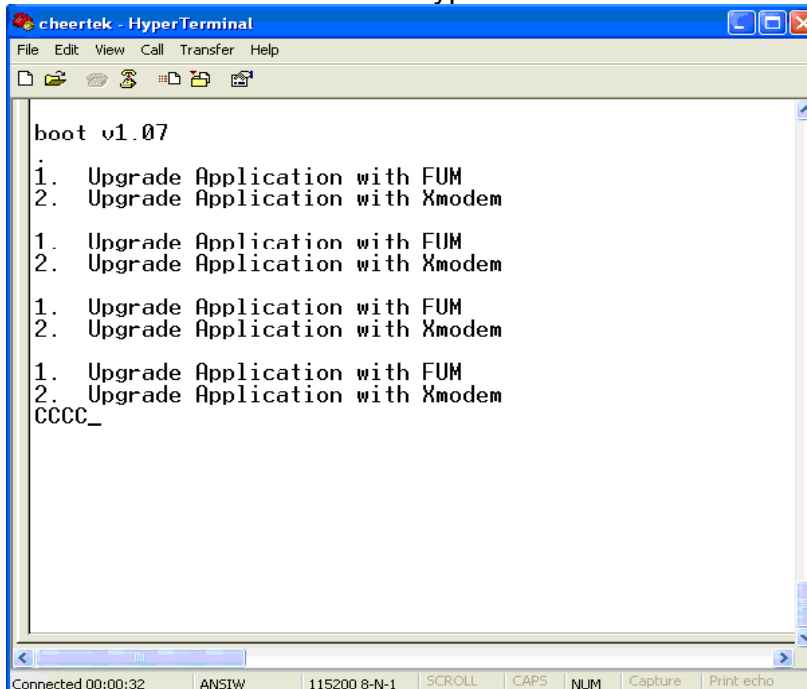
3. The "Space" button on the keyboard must be pressed, when the following window can be seen.



Selection Window

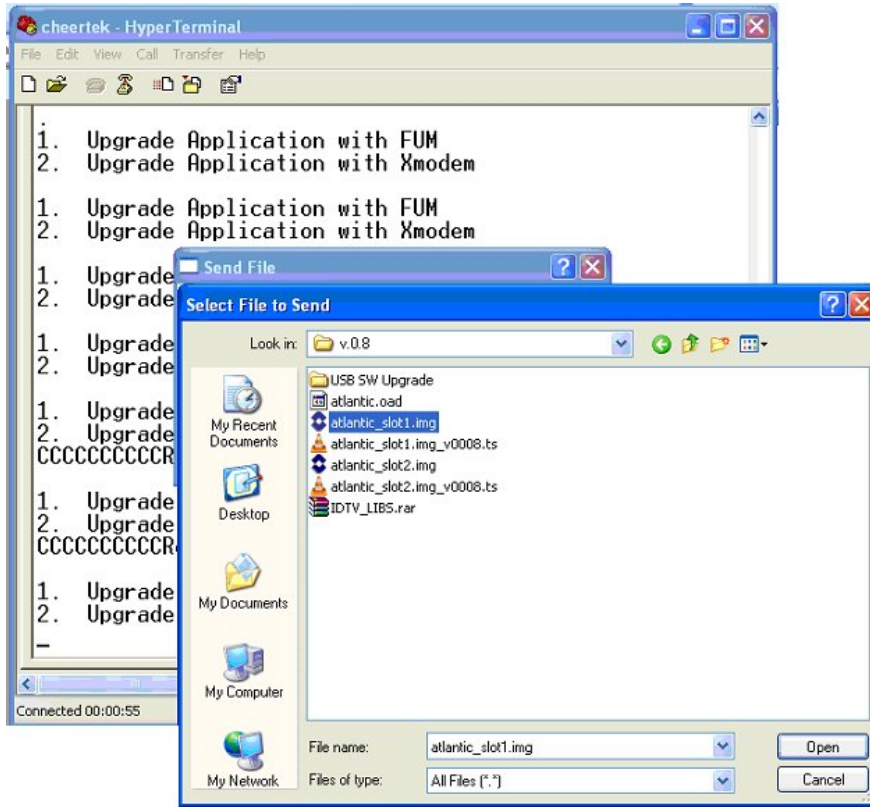
4. Press the "2" button on the keyboard for choosing "2. Upgrade Application with Xmodem".

5. Repeating "C" characters are seen in the "HyperTerminal" menu.

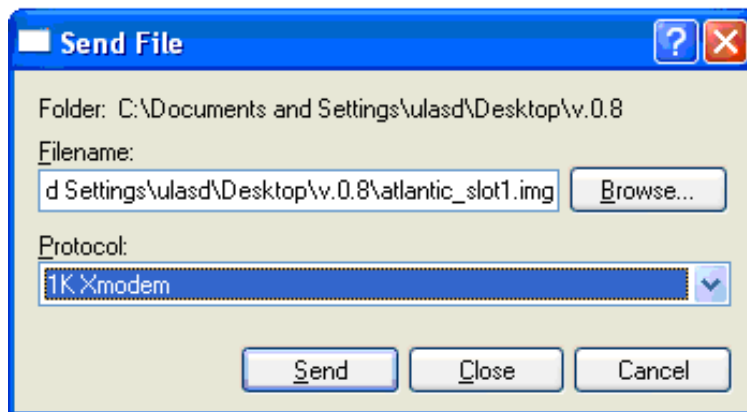


The Sample Output Before Sending The File

6. Click the “Send” button on the HyperTerminal
7. Select the “Filename **xxxx_slot1.img**” using “Browse”.
8. Choose the “1K Xmodem” from “Protocol” option.

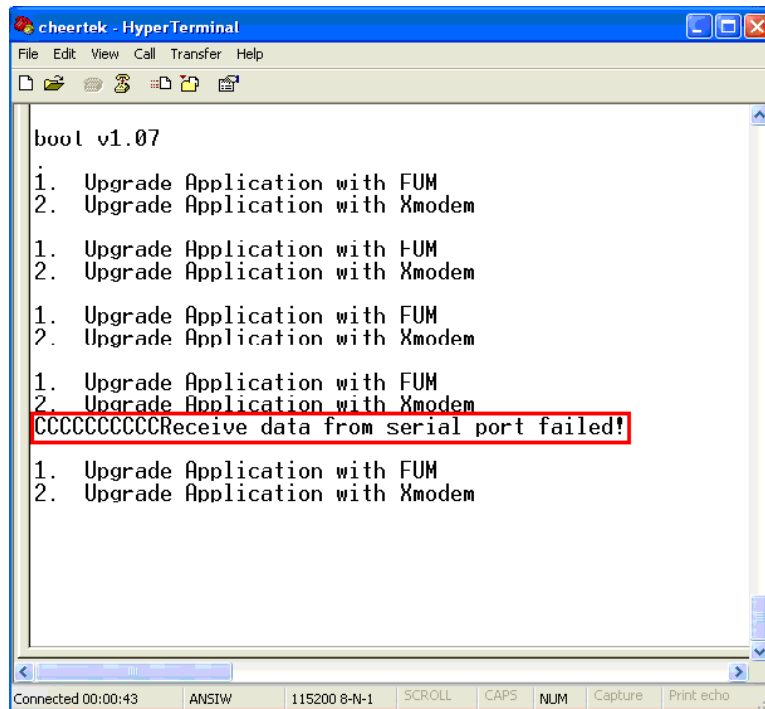


Selection of File



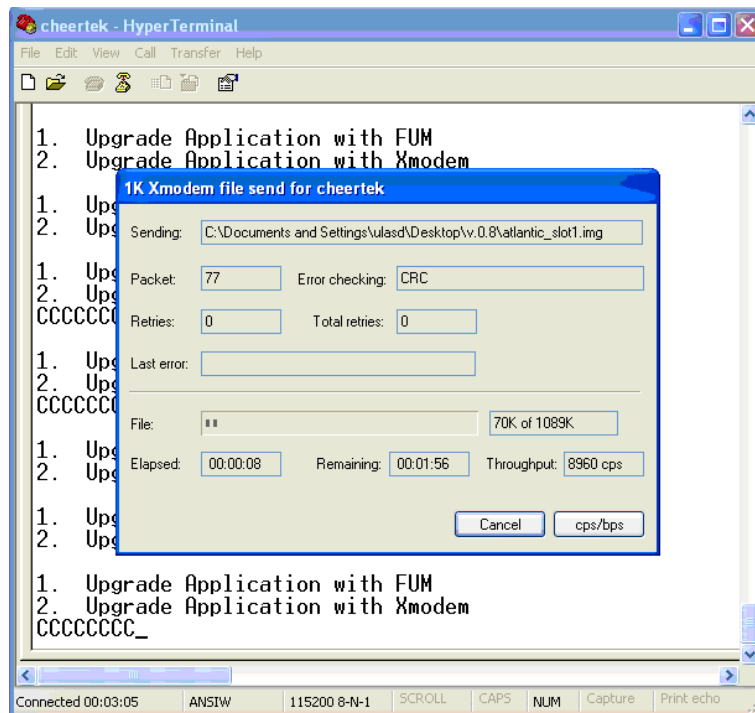
File and Protocol Selection Window

Note: In the Software updating Procedure section, when the first “C” character is seen, the filename selection process must be finished before 10 seconds. If the process can not be finished, the file sending operation will be cancelled. The following figure shows this situation.



Capture of Receiving Data Failing

9. When sending the file the following window must be seen.



Capture of Sending Process

10. After the sending process the following HyperTerminal window must be seen.

```
cheertek - HyperTerminal
File Edit View Call Transfer Help
erase sector 0x00050000...success
erase sector 0x00060000...success
erase sector 0x00070000...success
erase sector 0x00080000...success
erase sector 0x00090000...success
erase sector 0x000a0000...success
erase sector 0x000b0000...success
erase sector 0x000c0000...success
erase sector 0x000d0000...success
erase sector 0x000e0000...success
erase sector 0x000f0000...success
erase sector 0x00100000...success
erase sector 0x00110000...success
erase sector 0x00120000...success

Start to write to flash...

Write to flash finished

Please reboot the system!!

1. Upgrade Application with FUM
2. Upgrade Application with Xmodem

Connected 00:05:44 ANSIW 115200 8-N-1 SCROLL CAPS NUM Capture Print echo
```

Capture of End of The Sending Process

11. For sending second program file, the Software Updating Procedure must be repeated from the step X. Select the “Filename **xxxx_slot2.img**” using “Browse”.

12. After sending the second program file, the Software Updating Procedure will be succesful.

Note: After the File Sending Process,

1. Upgrade Application with FUM
2. Upgrade Application with Xmodem, options must be seen.

```
cheertek - HyperTerminal
File Edit View Call Transfer Help
erase sector 0x00250000...success
erase sector 0x00260000...success
erase sector 0x00270000...success
erase sector 0x00280000...success
erase sector 0x00290000...success
erase sector 0x002a0000...success
erase sector 0x002b0000...success
erase sector 0x002c0000...success
erase sector 0x002d0000...success
erase sector 0x002e0000...success
erase sector 0x002f0000...success
erase sector 0x00300000...success
erase sector 0x00310000...success
erase sector 0x00320000...success

Start to write to flash...

Write to flash finished

Please reboot the system!!

1. Upgrade Application with FUM
2. Upgrade Application with Xmodem

Connected 00:09:28 ANSIW 115200 8-N-1 SCROLL CAPS NUM Capture Print echo
```

End of The Sending Process

Checking Of The New Software

1. Turn off and on the TV.
2. Enter the "Setup" submenu in the "DTV Menu".
3. Choose the "Configuration" option.
4. For controlling new software, check the "Receiver Upgrade" option.

16.4 17MB37 Digital Software Update From USB

Software upgrade is possible via USB disk by following the steps below.

1. Copy the bin file, including higher version than the software loaded in flash, into the USB flash memory root directory. This file should be named up.bin.
2. Insert the USB disk.
3. Digital module performs version and CRC check. If version and CRC check is successful, then a message prompt appears to notify user about new version. If the user confirms loading of new version, upgrade.bin file is written into flash unused slot.
4. Digital module disables the previous software in the flash and then a system reset is performed.
5. After the reset, digital module starts with new software.

Revert operation:

With revert operation, it is possible to *downgrade* the software.

Revert operation is very similar to upgrade process. In the revert operation, file name should be f_up.bin. Also user confirmation is not asked.

1. Copy the bin file into the USB flash memory root directory. This file should be named force_upgrade.bin.
 2. Insert the USB disk.
 3. A lower version than the software in flash can be loaded with revert operation. Digital module performs only CRC check. If CRC check is successful, then force_upgrade.bin file is written into flash unused slot.
 4. Digital module disables the previous software in the flash.
 5. A message prompt is displayed to notify user about end of revert process.
 6. Power off/on is required to start digital module with the new software.
- For controlling new software, check the "Receiver Upgrade" option.