

HotelTV1

Client Software Update

REV A0.6

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1. Revision History

Date	Owner	Version	Reason & Change
11 Oct 2011	Bora Tunçer	A0.1	Initial creation
24 Jan 2012	Bora Tunçer	A0.2	Adding bootloader update via console
22 Mar 2012	Erdoğan Bulut	A0.3	Structure Changed
29 Mar 2012	Görkem Giray	A0.4	Structure Changed
24 Oct 2013	Bora Tunçer	A0.5	Naming changed
8 October 2014	Jale Demir	A0.6	Revision

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4. Introduction

4.1. Purpose

This document describes the client software update process of MB33 and MB36 model TVs which are used in HotelTV and Phantom projects.

The following sections describe the environment usage model:

- “4 – Introduction” describes the goal and the scope of this document
- “5 – Structure” gives basic info about system
- “6 – Analog Software Update” describes main steps of analog software update process
- “7 – IP Software Update” describes main steps of IP software update process

4.2. Scope

This document intends to be a reference manual for installation of HotelTV / Phantom client releases and explains each step of HotelTV client release setup process with examples. This document is shared and applicable for the development all VESTEL sites.

4.3. Abbreviations

- **STB** Set top box
- **IIS** Internet Information Services
- **NFS** Network File System
- **ISO** International Organization for Standardization
- **PMS** Property Management System
- **SQL** Structured Query Language
- **IPTV** Internet Protocol Television
- **DVB** Digital Video Broadcasting
- **VOD** Video On Demand
- **CI** Common Interface

5. Structure

In this document we will focus on TVs and detail update procedures for analog software and IPTV software. MB36 and MB33 TVs contain two different cards, one for analog operations and one for IPTV operation. So we will explain how to update both cards.

6. Analog Software Update

Before starting software update operation it is mandatory to get correct configuration parameters of TV. Each version of firmware for analog card must be released according to panel type and panel size of TV because of the timings of LCD panel. So you should first enter into “Service Settings” menu by pressing “Menu + 4725” on remote keyboard and select “Product Info” from the menu.

The data written is “Pcf” variable defines the firmware type of analog card. You should request correct firmware according to this variable.

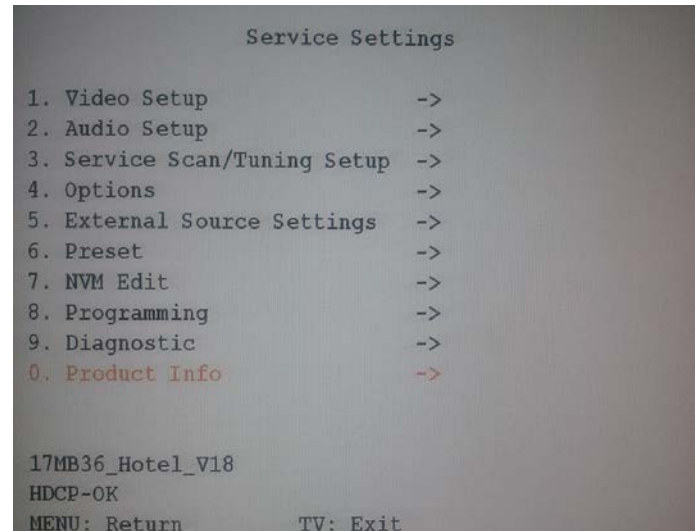


Figure 6-1: Service Settings Menu

Update procedure must be with extreme caution, only correct firmware which will be specially designed to work with TV (for given PCF data) must be written to analog card. The LVDS timings are different for different panel sizes and panel types.

!!! Writing different firmware may cause unwanted effects and may brick your TV !!!

This part of document describes the usage of third party software which does not belong to VESTEL. Every step must be performed with high caution. VESTEL, ZORLU shall have no liability for the accuracy or correctness of the content of this document and any damages caused in any way to your computer systems or target TVs.

6.1. Connections

The programming tool contains 3 parts, DB07 card, USB cable for connecting programmer card to PC and special SCART cable for connecting programmer card to TV. Connect USB cable to PC and SCART cable to SCART1 interface of TV.

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6.2. Update Details

Figure 5.2 displays programmer software interface. We will first press “Connect” button for establishing connection between PC and TV. If you receive “Can’t find device type” message, you should control connections and cables. (Also restarting TV may help). You’ll receive a popup window displaying device type upon successful connection.

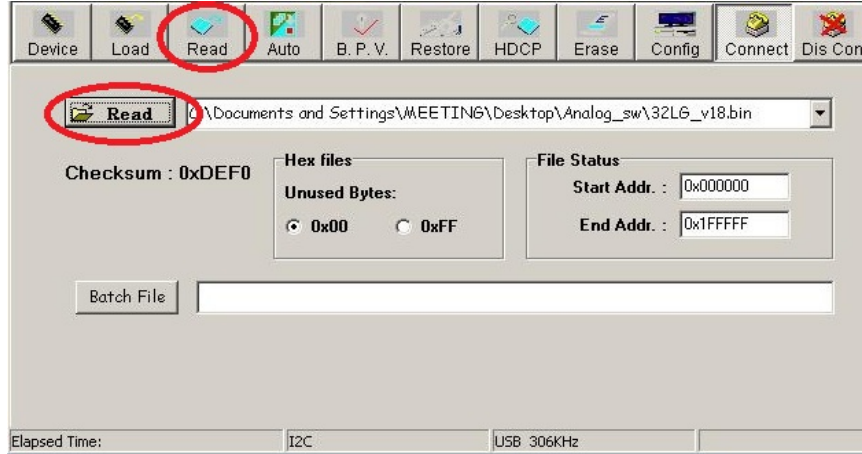


Figure 6-2 : Programming Tool

First step is to read the firmware image so we will press “Read” button on top menu and select the necessary firmware as shown in Figure 5.2. Next step we will choose basic configuration parameters for analog software update procedure so we press “Auto” button and open configuration menu. Then we will unselect following items in menu;

- Re-Connect
- Blank
- Verify

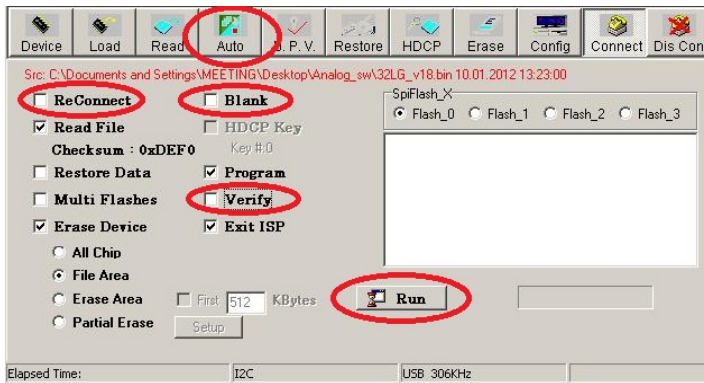


Figure 6-3 : Update Operation

Now we are ready to perform update operation, we will press “Run” button and the update operation will start. During update operation you’ll see current progress on the bar and after seeing “Pass” message on window, press “Disconnect” button and restart the TV.

7. IP Software Update

There are two different client releases for TV and STB hardware and all of them named as “version_X.YY.Z.zip”, major release numbers represented by X and minor release numbers represented by Y.

Following sections describes how to setup HotelTV client releases on TVs/STBs by using USB update or Ethernet update.

7.1. USB Update

This section explains how to perform update operation by using USB which is very easy to perform and highly recommended to recover problematic situations. Basically system has two stages, writing “USB update images” to and USB stick (min. 512MB) and rebooting TVs / STBs with using this USB stick. The USB update image is designed specifically to perform update operation and contains actual release images in side.

The USB update image is in EXT3 format, so we should not format USB disk by windows formats such as FAT32, NTFS, etc.

There are two different ways to prepare USB update image based on your operating system; using windows tools or using Linux. You are free to choose one of them.

Writing Images Using Linux

Naturally preparing an USB is easy in Linux by using its own console tools. You can follow listed steps bellow;

1. Extract “version_X.YY.Z.zip” file and get “version_X.YY.Z.ext3” file.
2. Plug USB stick to your host PC and learn its mount point (as an example /dev/sdb1)
3. Write image to USB by using a simple “cat” command shown bellow

```
root@bora-laptop:/USBUPGRADE# cat version_1.10.0.ext3 > /dev/sdb1
```

Figure 7-1: Image writing command in Linux

Writing Images Using Windows

In order to prepare “Update USB” under Windows we need to use “ImageWriter” application. You can download this application from our FTP servers and perform following steps to prepare update USB.

1. Download the latest version of ImageWriter and run ImageWriter.exe
2. Select “version_X.YY.Z.zip” or “version_X.YY.Z.ext3” file.
3. Select USB Device drive
4. Start writing update image to USB stick

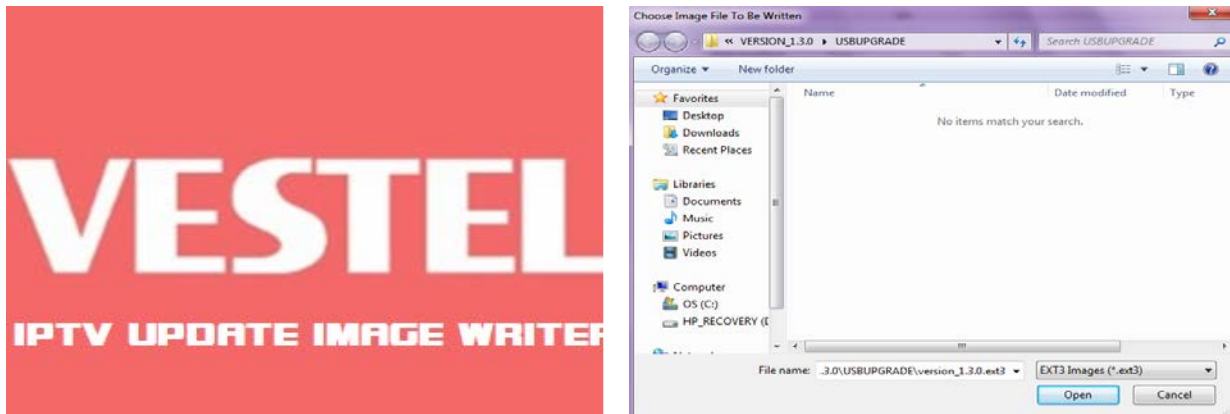


Figure 7-2: Image writer for windows

Compatible Operating Systems: ImageWriter executable is compatible with the following operation systems

- Windows Server 2003 & Windows Server 2008
- Windows XP SP1, SP2, SP3
- Windows 7

Updating TVs/STBs

Update operation is simple task that consist of two steps, plugging update USB into TV/STB and restarting it. During update operation, an image will be displayed on TV screen which will show the progress and the notification image at the end of update. (Figure 7-3) Basically you can follow following stages;

- Plugging Update USB
- Update Operation
- Removing USB Disk and restarting TV/STB

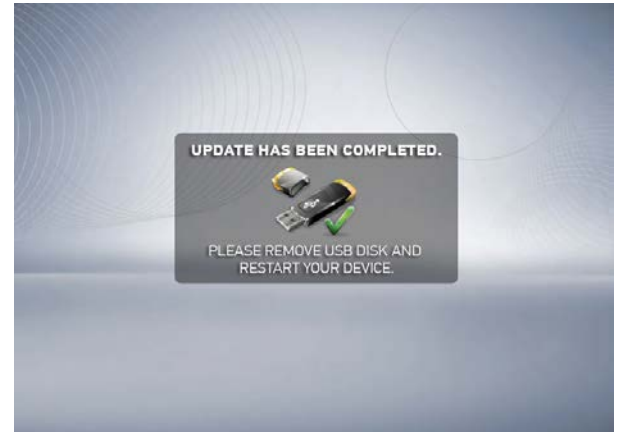


Figure 7-3: Update images

7.2. Ethernet Update

Log in to “HotelTV Admin Tool” and choose “Administration” menu, you will see the list of TVs which are free to invoke several operations. Choose the TV(s) that you want to update and press next button, then you’ll get the flowing screen (figure 7.4). This page allows you to operate different instructions on TV(s).

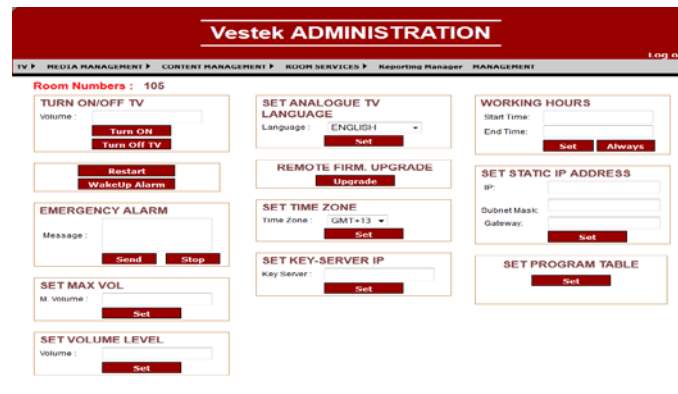


Figure 7-4: TV Management screen on Administration menu

7.3. Console Update

We expect USB update or Ethernet update will work without any error but sometimes there may be situations that these updates may fail. This section describes how to perform software update over console using serial cables. HotelTV1 works with MB33 and MB36 series TVs and each model has different hardware connection for serial cabling. We can understand TV model by looking the location of the Ethernet port; on MB33 model TVs Ethernet port is located on side and on MB36 model TVs Ethernet port located on back of TV.

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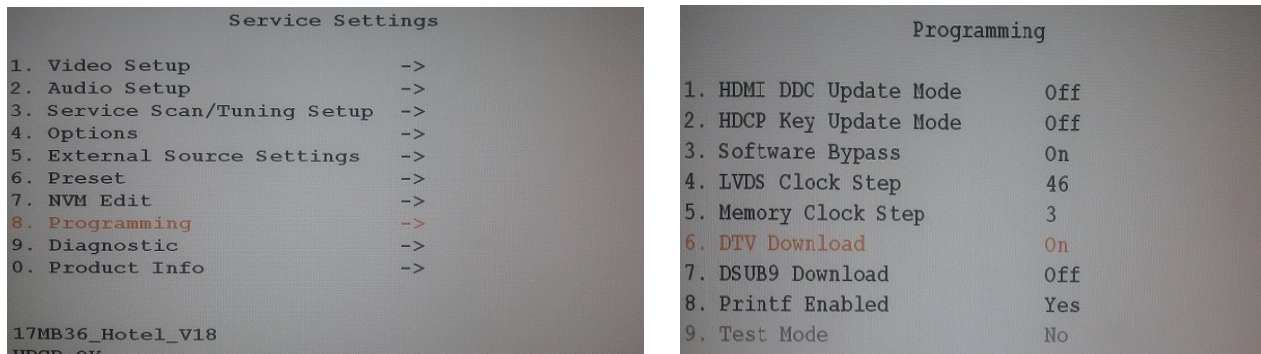


Figure 7-5: Secret service menu

By default console output will be closed for debugging, we will have no output even if we connect serial cable to TV. So we have to enter service menu and open console output for debugging. As seen in Figure 7.5 you should first enter in service menu and select “8. Programming” then under this menu you should select “6. DTV Download” and set “On”.

Now TV is ready to debug over serial cable, we will open a terminal program on PC and connect with following settings. (You can use your favorite program, Kermit, Putty, Teraterm, etc ...)



Figure 7-6: Terminal settings

When we establish connection to TV then we will get lots of debug logs, the key is to catch boot sequence in bootloader stage in order to write different banks of flash memory through bootloader console. So we will keep terminal program open and restart the TV, quickly press menu+4725, then 8-6 and set open. And press any key on terminal program in PC. This combination will bring us in following bootloader console:



Figure 7-7: Bootloader console

Next thing is to give “loadb” command on bootloader console and send the kernel image through your favorite terminal program using Kermit protocol. At the end on console it will display the location of kernel image in memory banks. We will use this address while copying kernel image from ram to flash.

The source address of “cp.b” command which is highlighted with red color in figure below indicates the start address of the kernel image in memory which we transmitted through terminal program using Kermit protocol.

```
Vestel> loadb

## Send the image file “vmlinux.ub” file for kernel via terminal program

Vestel> protect off 1:10-60
Vestel> erase 1:10-60
Vestel> cp.b 0x84000000 0xa0040000 $filesize
Vestel> protect on 1:10-60
```

Figure 7-8: Kernel update commands on bootloader

Appendix A: Known Installation Problems

“Can’t find device type” message during analog SW update

There could be several reasons for this error. Best solution is to control the connections and cable to see if they are connected correctly and working. Then TV restart will solve the problem.