

HotelTV

Remote Interface Document

REV A0.4

2014 October

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Vestek Elektronik Ar-Ge A.Ş.
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1. Revision History

Date	Owner	Version	Reason & Change
11 Mar. 2013	Berkay IŞIK	A0.1	Initial Creation
26 Nov. 2013	Bora Tunçer	A0.2	Naming change
10 July 2014	Görkem Giray	A0.3	Command revision and edition
8 October 2014	Jale Demir	A0.4	Revision

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4. Introduction

4.1. Purpose

This document describes to remote TV Interface control for MB70 and MB90 TV's. Remote TV Interface is an interface for managing TV and set some internal TV settings based on web server serving the simple http requests over a network.

When you select “Remote TV Interface” link from a main page, web server active script “remoteinterface.cgi” generates dynamically inside web browser a web page retrieving by remote interface managed TV settings current values as a respond to application initially sent http request

4.2. Scope

This document explains Vestel SDK which is for building applications by using SDK to Vestel connected TVs. If you miss any functionalities described in the document please ask for an update of the firmware.

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

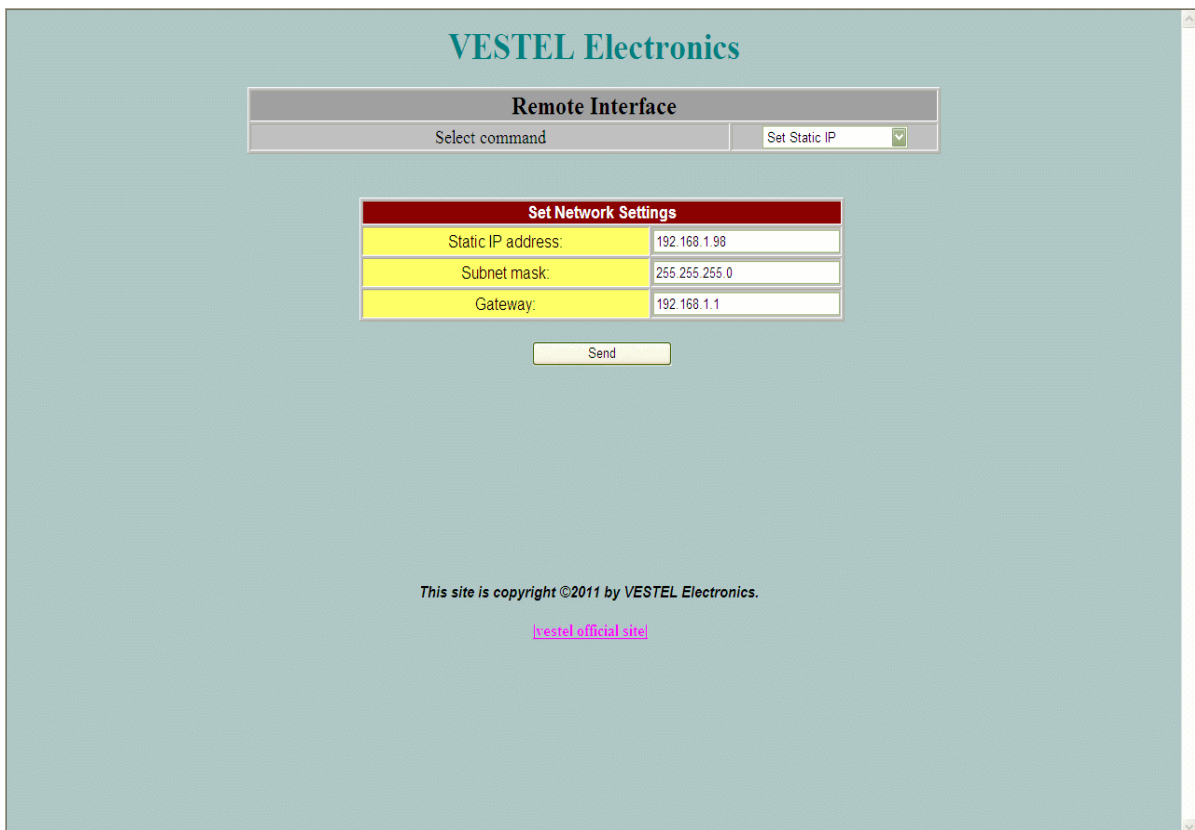
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5. Remote TV Interface

Remote TV Interface is an interface for managing TV and set some internal TV settings based on web server serving the simple http requests over a network.

When you select “Remote TV Interface” link from a main page, web server active script “remoteinterface.cgi” generates dynamically inside web browser a web page retrieving by remote interface managed TV settings current values as a respond to application initially sent http request.



Set Network Settings	
Static IP address:	192.168.1.98
Subnet mask:	255.255.255.0
Gateway:	192.168.1.1

Send

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Figure 1: Sample Remote Cgi

5.1. Remote TV Commands Group

Remote TV commands are the commands that can be executed by the TV system. The command interface is accessible through any web browser by entering the IP address of the

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TV set. Below are the commands group supported by the TV set. There are various group that accomplishes a specific task.

Table 1: Commands Group

Sound Group	Feature Group	System Group
Set & Get Volume	Language	Switch off/on
Max Volume Level		Program
Speaker Control		Sound Mute
		Picture Mute
		SW Verision Info
		Eeprom Access
		Low Battery RC
		Get Signal Status

5.1.1. Sound Group

Sound group is combine of commands that related to TV sound. Such as volume level and speaker control.

- Set & get Volume
- Max volume level
- Speaker control

5.1.2. Feature Group

Feature group is combine of commands that related to TV features. Such as TV language.

- Language

5.1.3. System Group

System group is combine of commands that related to TV system. Such as power on/off, sound mute and file system access.

- Switch off/on
- Program (tunes program in tuner source)
- Sound mute
- Picture mute
- SW version info display
- Eeprom access (filesystem access, file read write, variable read write)
- Low battery RC (Phase 2)
- Get status (signal, volume etc)

5.2. Commands & Parameters

The above table shows all commands and their parameters for controlling remote TV interface. While some commands take one or more parameters, others take no parameter.

The following commands can be used :

Commands	Definition	Parameters
TOF	Turn OFF TV	No parameters
TOT	Turn ON TV	txtTOTVolume
STV	Set TV Volume	txtSTVVolume
SMV	Set Maximum Volume	txtSMVVolume
STL	Set TV Language	cbmSTLLanguage
TVSC	TV Source Change	cbmTVSource
SWH	Set Working Hours	txtSWHEnableTime txtSWHDisableTime
SSI	Set Static IPs	txtSSIIP txtSSISubnetMask txtSSIGateway
SMA	Set Mac Address	txtSMAMac
CTZ	Change Time Zone	cbmCTZTimezone
RST	Restart TV	No parameters
UNP	User Notification Popup Message	txtUNPmessage
FSU	Force Software Update	No parameters
UCL	Update Channel List	No parameters
SURL	Set TV Portal Url	txtSURLAddress
SNTIP	Set NTP Server IP	txtSNTIPAddress
SCURL	Set Channel List Url	txtSCURLAddress
GTSURL	Get TV Portal Url	No parameters
GTNTP	Get NTP Server Ip	No parameters
GTCURL	Get Channel List Url	No parameters
UPF	Update Profile Files	txtUPFLocation
TN	Trigger Notificatio	cmbTNKey
HPV	Set Headphone Volume	txtHeadphoneVolume
SRC	Set Remote Control Code	cmbSRCCode

Table 2: TV Commands & Parameters

After selecting command from drop-down list as a result of that appropriate table is displayed with fields populated with current values gathered from application– if there are any command entry fields.

5.3. Examples

5.3.1. Turn OFF TV : TOF

TV is switched off to (software – easy) standby mode with this command.

Parameters (and values):

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- cmbCommand = “TOF”
- btnSend = “Send”

<http://10.0.0.2/cgi-bin/remoteinterface.cgi?cmbCommand=TOF&btnSend=Send>

5.3.2. Turn ON TV : TOT

TV is switched on if its in standby mode and its volume is set. Volume should be between 0-63.

Parameters (and values):

- cmbCommand = “TOT”
- btnSend = “Send”
- txtTOTVolume = Volume value. Entered volume value must be within [0 – 63] interval (Note: there is an entry check for validation of every entered parameter value, including the volume). If value is 0, TV is muted too.

Parameter	Values
txtTOTVolume	[0-63]

Table 3: TV Turn ON Value

5.3.3. Set TV Volume : STV

Volume is set if TV is not in standby mode. Volume should be between 0-63.

Parameters (and values):

- cmbCommand = “STV”
- btnSend = “Send”
- txtSTVVolume Volume value. Entered volume value must be within [0 – 63] interval (Note: there is an entry check for validation of every entered parameter value, including the volume). If value is 0, TV is muted too.

Parameter	Values
txtSTVVolume	[0-63]

Table 4: TV Set Volume

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`http://10.0.0.2/cgi-bin/remotefinterface.cgi?cmbCommand=STV& btnSend=Send& txtSTVVolume=20`

5.3.4. Set Maximum Volume : SMV

Maximum volume of TV can be set with this command. User cannot adjust volume with remote control higher than the value provided with this command. Volume should be within [0 – 63] interval.

Parameters (and values):

- cmbCommand “SMV”
- btnSend “Send”
- txtSMVVolume Volume value. Entered volume value must be within [0 – 63] interval (Note: there is an entry check for validation of every entered parameter value, including the volume). If value is 0, TV is muted too.

Parameter	Values
txtSMVVolume	[0-63]

Table 5: TV Maximum Value

`http://10.0.0.2/cgi-bin/remotefinterface.cgi?cmbCommand=SMV&btnSend=Send &txtSMVVolume=20`

5.3.5. Set TV Language : STL

TV menu (system) language is set with this command.

Parameters (and predefined values):

- cmbCommand = “STL”
- btnSend = “Send”

cmbSTLLanguage 2 letter language identifier.

`http://10.0.0.2/cgi-bin/remotefinterface.cgi? cmbCommand=STL&btnSend=Send&cmbSTLLanguage=tr`

5.3.6. TV Source Change : TVSC

TV source is changed with this command.

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Table 6 : TV Language Codes

Language	Code
Turkish	tr
English	en
German	de
French	fr
Spanish	es
Italian	it
Dannish	da
Finnish	fi
Swedish	sw
Greek	el
Norwegian	no
Dutch	nl
Portuguese	pt
Polish	pl
Russiann	ru
Bulgarian	bg

Parameters (and predefined values) :

- cmbCommand = “TVSC”
- btnSend = “Send”
- cmbTVSCSource TV source*.

`http://10.0.0.2/cgi-bin/remoteinterface.cgi?cmbCommand=TVSC&bttnSend=Send
&cmbTVSCSource=module`

5.3.7. Set Working Hours: SWH

TV can be enabled/disabled between specific hours with this command. If TV is disabled, user cannot take TV out of standby mode. If user switches on the TV, it switches back to standby mode. TV is not disabled at any time if enable and disable times are set equal or invalid.

Parameters (and predefined values):

- cmbCommand = “SWH”
- btnSend = “Send”
- txtSWHEnableTime Enable time of TV (HH:MM)
- txtSWHDisableTime Disable time of TV (HH:MM)

`http://10.0.0.2/cgi-bin/remoteinterface.cgi? cmbCommand=SWH& btnSend=Send&
txtSWHEnableTime=17:00&txtSWHDisableTime=23:00`

5.3.8. Set Network Settings (Set Static IPs) : SSI

IP, subnet mask and gateway addresses are set with this command.

Parameters (and predefined values):

- cmbCommand = “SSI”
- btnSend = “Send”
- txtSSIIP A valid decimal IP address.
- txtSSISubnetMask A valid decimal IP address.
- txtSSIGateway A valid decimal IP address.

`http://10.0.0.2/cgi-bin/remoteinterface.cgi?cmbCommand=SSI&btnSend=Send&
txtSSIIP=10.0.0.2&txtSSISubnetMask=255.255.255.0&txtSSIGateway=10.0.0.1`

5.3.9. Set Mac Address: SMA

MAC address of TV is set with this command.

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Table 7:TV Source

TV Sources	Code
SCART 1/EXT1	Scart1
EXT1-S	Scart1_s
SCART 2	Scart2
SCART 3	Scart3
HDMI 1	Hdmi1
HDMI 2	Hdmi2
HDMI 3	Hdmi3
FAV	Fav
PC	pc
Analog TV	tuner
IPTV	module

Parameters (and predefined values):

- cmbCommand = “SMA”
- btnSend = “Send”
- txtSMAMac MAC address.

`http://10.0.0.2/cgi-bin/remoteinterface.cgi?cmbCommand=SMA&btnSend=Send&txtSMAMac=AA:0C:D1:89:14:B7`

5.3.10. Change Time Zone : CTZ

Time zone of TV is set with this command. Values of time zone are between GMT-14 and GMT+12. “+” character should be properly escaped in URL as “%2b”.

Parameters (and predefined values):

- CmbCommand = “CTZ”
- btnSend = “Send”
- cmbCTZTimezone Timezone value between GMT-14/GMT+12.

Parameter	Values
cmbCTZTimezone	GMT-14/GMT+12

Table 8: TV Time Zones

`http://10.0.0.2/cgi-bin/remoteinterface.cgi?cmbCommand=CTZ&btnSend=Send&cmbCTZTimezone=GMT%2b2`

5.3.11. Restart TV : RST

TV can be restarted with this command.

Parameters (and predefined values):

- cmbCommand “RST”
- btnSend “Send”

`http://10.0.0.2/cgi-bin/remoteinterface.cgi?cmbCommand=RST&btnSend=Send`

5.3.12. User Notification Popup Message : UNP

User notification popup message can be sent with this command.

Parameters (and predefined values):

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- cmbCommand “UNP”
- btnSend “Send”
- txtUNPmessage Message that will be sent to user.

`http://10.0.0.2/cgi-bin/remoteinterface.cgi?cmbCommand=UNP&btnSend=Send`

5.3.13. Force Software Update : FSU

Software update can be forced with this command.

Parameters (and predefined values):

- cmbCommand “UNP”
- btnSend “Send”

`http://10.0.0.2/cgi-bin/remoteinterface.cgi?cmbCommand=FSU&btnSend=Send`

5.3.14. Update Channel List: UCL

Channel list update can be forced with this command.

Parameters (and predefined values):

- cmbCommand “UNP”
- btnSend “Send”

`http://10.0.0.2/cgi-bin/remoteinterface.cgi?cmbCommand=UCL&btnSend=Send`

5.3.15. Set TV Portal Url : SURL

This command will set custom URL to be used for portal page instead of URL from DHCP options. If “auto” is sent as new URL, URL from DHCP options will again be used.

Parameters (and predefined values):

- cmbCommand “SURL”
- btnSend “Send”
- txtSURLAddress New URL (or “auto”) that will be sent.

`http://10.0.0.2/cgi-bin/remoteinterface.cgi?cmbCommand=SURL&txtSURLAddress=auto&btnSend=Send`

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5.3.16. Set NTP Server Address: SNTP

This command will set custom NTP server IP to be used for updating TV time instead of DHCP server IP. If “auto” is sent as new IP, DHCP server IP will be used (case when DHCP server has also NTP server running on it).

Parameters (and predefined values):

- cmbCommand “SNTP”
- btnSend “Send”
- txtSNTPAddress New IP (or “auto”) that will be sent.

```
http://10.0.0.2/cgi-bin/remoteinterface.cgi?cmbCommand=SNTP&txtSNTPAddress  
= auto&btnSend=Send
```

5.3.17. Set Channel List Url: SCURL

This command changes channel list URL. If “auto” is sent as new URL, URL will be dynamically parsed using TV Portal URL with addition of static string. For example, if TV Portal URL is:

- <http://10.0.0.249/hoteltv>
- <http://10.0.0.249/hoteltv/index.html>

Dynamic channel list URL will be:

- <http://10.0.0.249/hoteltv/tvpage/ChannelListXMLGenerator.aspx>

Parameters (and predefined values):

- cmbCommand “SCURL”
- btnSend “Send”
- txtSCURLAddress New URL that will be sent.

```
http://10.0.0.2/cgi-bin/remoteinterface.cgi? cmbCommand=SCURL&txtSCURLAdd  
ress=http://test.com/ channelList.aspx&btnSend=Send
```

5.3.18. Get TV Portal Url : GTSURL

This command gets portal (startup) url.

Parameters (and predefined values):

- cmbCommand “GTSURL”
- btnSend “Send”

```
http://10.0.0.2/cgi-bin/remoteinterface.cgi?cmbCommand=GTSURL&btnSend=Send
```

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5.3.19. Get NTP Server Ip: GTNTP

This command gets NTP server IP..

Parameters (and predefined values):

- cmbCommand “GTNTP”
- btnSend “Send”

```
http://10.0.0.2/cgi-bin/remoteinterface.cgi?cmbCommand=GTNTP&
btnSend=Send
```

5.3.20. Get Channel List Url: GTCURL

This command gets channel list url which is stored in config_atrium.xml.

Parameters (and predefined values):

- cmbCommand “GTCURL”
- btnSend “Send”

```
http://10.0.0.2/cgi-bin/remoteinterface.cgi?cmbCommand=GTCURL&btnSend=Send
```

5.3.21. Update Profile Files: UPF

This command will update TV’s profile files (toros_hwprofile.bin, toros_swprofile.bin and toros_langprofile.bin). Parameter is directory on server where profile files are located. If “auto” is sent as parameter, Portal URL will be used with addition of static string. For example, if Portal URL is:

- <http://10.0.0.249/hoteltv>
- <http://10.0.0.249/hoteltv/index.html>

Dynamic location of profile files will be:

- <http://10.0.0.249/hoteltv/profiles/>

Parameters (and predefined values):

- cmbCommand “UPF”
- btnSend “Send”
- txtUPFLocation Directory URL (or “auto”) that will be sent.

```
http://10.0.0.2/cgi-bin/remoteinterface.cgi?cmbCommand=UPF&txtUPFLocation=
auto&btnSend=Send
```

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5.3.22. *Trigger : TN*

This command will trigger notification which provides TV sending user defined keys to browser side. This can be used for different purposes on server side.

Parameters (and predefined values):

- cmbCommand = “TN”
- btnSend = “Send”
- cmbTNKey = Key value between 900/904

```
http://10.0.0.2/cgi-bin/remoteinterface.cgi? cmbCommand=TN& btnSend=Send& cmbTNKey=900
```

5.3.23. *Set HeadPhone Volume: HPV*

This command sets headphone volume.

Parameters (and predefined values):

- cmbCommand = “HPV”
- btnSend = “Send”
- txtHeadphoneVolume = Headphone volume value. Entered volume value must be within [0 – 63] interval (Note: There is an entry check for validation).

```
http://10.0.0.2/cgi-bin/remoteinterface.cgi?cmbCommand=HPV&btnSend=Send& txtHeadphoneVolume=20
```

5.3.24. *Set Remote Control Code: SRC*

Multi IR RC code can be set by using this command.

Parameters (and predefined values):

- cmbCommand = “SRC”
- btnSend = “Send”
- cmbSRCCode = RC code value between 1-4.

```
http://10.0.0.2/cgi-in/remoteinterface.cgi? cmbCommand=SRC&btnSend=Send&cmbSRCCode=2
```


6. Example Code Application

This code describes sample posting **Turn OFF** commands to remote interface of MB70.

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
using System.Net;
using System.IO;
using System.Web;
using System.Net.Configuration;
using System.Threading;

namespace ConsoleApplication2
{
    class Program
    {
        static void Main(string[] args)
        {
            string ip="192.168.10.110";
            Console.WriteLine("Trying " + ip);
            try
            {
                // Create a request using a URL that can receive a
                post.
                WebRequest request = WebRequest.Create("http://" + ip
+ "/cgi-bin/remoteinterface.cgi");
                // Set the Method property of the request to POST.
                request.Method = "POST";
                // Create POST data and convert it to a byte array.
                string postData = "cmbCommand=TOF&btnSend=Send";
                byte[] byteArray = Encoding.UTF8.GetBytes(postData);
                // Set the ContentType property of the WebRequest.
                request.ContentType = "application/x-www-form-
urlencoded";

                // Set the ContentLength property of the WebRequest.
                request.ContentLength = byteArray.Length;
                // Get the request stream.
                Stream dataStream = request.GetRequestStream();
                // Write the data to the request stream.
                dataStream.Write(byteArray, 0, byteArray.Length);
                // Close the Stream object.
                dataStream.Close();
                // Get the response.
                WebResponse response = request.GetResponse();
                // Display the status.

                /Console.WriteLine(((HttpWebResponse)response).StatusDescription);
                // Get the stream containing content returned by the
                server.
```

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```
        dataStream = response.GetResponseStream();
        // Open the stream using a StreamReader for easy
access.
        StreamReader reader = new StreamReader(dataStream);
        // Read the content.
        string responseFromServer = reader.ReadToEnd();
        // Display the content.
        // Console.WriteLine(responseFromServer);
        // Clean up the streams.
        reader.Close();
        dataStream.Close();
        response.Close();
        Console.WriteLine("Başarılı " + ip);
    }

    catch
    {
        Console.WriteLine("Başarısız " + ip);
    }

    Console.ReadKey();

}
}
```

Table 9:Example Code Application