MediaMax™
Software Development Kit (SDK)

- **Basic Application Programming Interface**
- **IR/Ethernet Remote Control Codes**
- **TV Graphical User Interface (GUI)**
- **"How To Create Custom TV GUIs"**

Axonix® Corporation 10/21/2005

Table of Contents

1. Introduction

This document describes the most important details you need to understand how the components of the MediaMax™ (MM) MediaServer™ Server and MediaDeck™ Player work together to generate the TV Graphical User Interface (GUI) and how to create your own GUIs that are displayed on the attached ("TV") display. It also covers the "Basic Application Programming Interface" (Basic API") which are InfraRed (IR) and Ethernet commands supported by the MediaMax by the standard IR Remote Control included with the MediaDeck and optionally by other compatible remote controls.

The primary use of this document is to assist software developers to develop their own customized GUI and a "**Basic** " one-way remote control system of the MediaMax system.

Advanced Remote Control GUIs – Not Supported in this Document

This SDK describes how to modify the existing TV GUI or create your own TV GUI and **does not** address creating a custom Advanced two-way Remote Control GUI.

You may optionally create an "**Advanced**" Remote Control Interface that supports two-way retrieval of media lists from the MediaServer along with all of the Basic control functions. In addition an Advanced Remote Control Interface may include your own GUI that is displayed on a Remote Controller (i.e.: Crestron, AMX others). To create your own Advanced Remote Controller GUI you will need to create an Interface Module (IM) that allows the Remote Controller to support the commands that are provided in the Axonix "Advanced Application Programming Interface" ("Advanced API") which is provided in a separate document. Contact Axonix if you are unable to locate the Advanced API which is available on the Dealers HIP port Technical Updates section.

MediaServer and MediaDeck

The MediaMax consists of both a MediaServer and one or more of the MediaDeck(s).

The MediaDeck's job is to connect to the MediaServer where the media (movies, music etc.) content and the GUI metadata is stored and play the selected media onto the attached video ("TV") display and audio components. Besides optional IR commands from a remote controller, all communication between the MediaServer and the MediaDeck(s) occurs over an Ethernet Local Area Network.

This Software Development Kit (SDK) includes information on how to create your own TV GUI that is displayed on the attached MediaDeck display by creating new HTML code or modifying the existing HTML code that exists on the MediaServer.

Example Code

Some GUI examples are also available that you can store into the DocRoot of the MediaServer in the following factory default location. (Note: The TV_GUI_Example folder is available from the Axonix HIPPORT Technical Support Web Site.)

C:/Program Files/Pinnacle/Showcenter/DocRoot

Replace the "index.html" file to browse it with your MediaDeck to view and test it. Add the other Files and Folders to your existing installation. You don't need to replace other files, other than the first "index.html".

Take a look at the HTML Source code to get a better understanding how the MediaMax's specialized functions work.

Overview

The Software for the MediaMax can be separated into the following logical areas.

MD = MediaDeck; MS = MediaServer

[MD – Set Top "Player" Hardware with firmware]
|
| use HTTP (Port 8000) protocol from the MD to the MS-Server
| also use uPnP (Port 1900) for automatic MD Player detection
|
[MD - Streaming Server] (with PHP based HTML generation)
|
| use COM interfaces
|
[MS - MediaServer] ... [The "MediaManager" Application is used to manage media files]
(not described in this SDK).

The firmware of the MD Player contains a small HTTP browser with special (proprietary) tags to handle the video/audio and photo streaming. The actual streaming is based on an HTTP protocol.

The MS - Streaming Server (SS) is a small HTTP server with some special extensions. Here is a list of extensions.

-**Parental Control**: the SS checks with the MediaServer's MediaManager application to verify if the client has the right to access the requested data.

-**Photo handling**: instead of sending the original (large) photo, the SS sends a rotated, downscaled, filtered and color corrected copy of the original image to the MD-Player.

-**Timeshift Playback**: the SS detects "currently growing" files like from a running PCTV recording and updates the size in the MD-Player. Currently the PCTV utility is not supported on the MediaMax. Another utility called "BeYondTV" is included that supports advanced Personal Video Recorder functions.

-**New Media Detection**: if anything new is imported into the MediaServer database the SS blinks the "New Media" light on the MD-Player for about 10 seconds.

-**The MediaManager Application** is the basic media content management software module on the MediaServer.

It handles for example "Watched Folders" (automatioally updates the TV GUI's directory of Media Play Lists and provides the interfaces to access the MediaServer Database.

Release Notes on this Document

06/01/2005 - Added features of software version 2.0
- Support for MediaDeck 2
- New skin handling
- Updated Server-Commands and Remote Codes over Ethernet
11/29/2004 – Added features of software version 1.7
            - IR codes for new remote
            - New skin handling
            - pod handling for additional information while music playback
            - Positioning of progressbar while music playback
            - m3u playlists for music - Switching repeat mode

2. Browser

2.1 Navigation Specials

The Box is running a web browser which is able to display simple HTML 4.01 sites. There is no support for Java, Javascript, Flash or other multimedia Plugins. The used protocol is TCP/IP.
The Box-UI is a set of HTML Sites created by a php enabled webserver running on PC´s side.
This Server asks the media database for the needed content and generates the UI Output.
To guarantee a simple to use UI the browser has some non HTML 4.01 conform functions.
These functions are like a very simple set of helpful Javascript like Tag Attributes:

2.1.1 OnFocusSrc

Load alternative image when receive focus
<A HREF="foo.htm">
<IMG SRC="image1.jpg" ONFOCUSSRC="image2.jpg"></A>"
NOTE: For "image2.jpg" don't use transparency. Otherwise "image1.jpg" would not be covered completely!

2.1.2 OnFocusSet ... (Focus)

Jump to other link with specified name when receive focus
<A HREF="foo.htm" onFocusSet="example"></A>"
<A HREF="fighters.htm" name="example"></A>"

2.1.3 onLoadSet ... (Focus)

Set focus to defined item on load page.
<BODY onLoadSet="MyFocus">
<A HREF="fighters.htm" name="MyFocus"></A>"

2.1.4 onFocusLoad ...

Load any URL on focus set.
<A HREF="any link" onFocusLoad="MyUrl.php?Param=1"></A>"

2.2 Special Meta tags

The second type of these helpful tag attributes is some functions to specify PiP handling and some form specials, placed in the header of the HTML code:

2.2.1 meta myibox-pip

Positioning the PiP window
<meta myibox-pip="64,64,320,240,1">

Where

64: offset x from screen 64: offset y from screen 320: width of the window 240: height of the window (Please noted that all the value MUST BE quantum of 16) 0/1: Start play in fullscreen / PiP mode

2.2.2 meta SYABAS-FULLSCREEN

Hide Syabas bottom menu
<meta SYABAS-FULLSCREEN>

2.2.3 meta SYABAS-AUTOSUBMIT

By enable this, it will submit the form automatically when user input character in the input field. This feature will be turn off automatically when browser didn't see <meta SYABAS-

AUTOSUBMIT> in HTML.
<meta SYABAS-AUTOSUBMIT>

2.3.4 meta SYABAS-KEYOPTION

Tag to set caps lock, num lock and lower case for input field.
<meta SYABAS-KEYOPTION="num">
<meta SYABAS-KEYOPTION="caps">
<meta SYABAS-KEYOPTION="lowercase">

2.2.5 meta IRKEY

Tag to map IR-Remote keys to other keys

<meta IRKEY="9,132">

This example maps the "A" key to "Home" key.

This is used on the "AllMedia" page.

2.2.6 meta BACKGROUND

Tag to set a jpg background image in fullscreen. In this case, the background image is not a conventional browser background. It is shown by the video engine and is able to display true-colour. Note: If you use this meta tag the PiP mode (see meta myibox-pip) is no longer available.

<meta SYABAS-BACKGROUND="PATH_TO_BG_IMAGE">

2.3 Useful Tag extensions
Another useful tag attribute is one to define the extension of a link high-lite:

2.3.1 Highlight link extension

Specify highlight extension for link tags.
<a href="" STYLE="WIDTH:200">

2.3.2 Customize Hi-Lite colour
<BODY FOCUSCOLOR="#FF0000" FOCUSTEXT="#FFFFFF">
This will change the highlight colour to RED colour with WHITE text.

2.3.3 TVID

This feature provides an easier user navigation on the browser. User can interact with the browser through remote control with minimum key strokes.
Example:
<A HREF="http://example.com" TVID="X">
Where "X": A value between 1 – 999 or one of the following special remote button names:
PGUP, PGDN, key_a, key_b, key_c, help, music, movie, photo, home, backspace
This attribute is supported in links only.
Defaults of A,B and C buttons:
A = Serverselect Startpage
B = Box Firmware Settingspage
C = Enter URL

2.3.4 "FURL" (FocusURL)

FURL is a none standard browser extension to get the current focus position (highlight) as a parameter to the next page request of the browser. It is only supported together with the following "TVID" values: key_a, key_b, key_c.

Example:
// your html page

...
<A HREF="WhereIsTheFocus.php" TVID="key_a">

...
<A HREF="HereIsMyFocus.php?MyParam=AnyParam">

...
When the user navigate to the "HereIsMyFocus.php" link and press "A" on the remote the browser start to load the link
"WhereIsTheFocus.php?FURL=HereIsMyFocus.php%3FMyParam%3DAnyParam".

2.4 Playlists and Playback

Supported Video Formats:

- MPEG 1 VCD format (1150Kbps CBR) (.mpg,.mpeg, .dat)

- MPEG 2 up to 9.5Mbps (.mpg, .mpe, .mpeg, .dat, .m2v, .vob)

- MPEG 4 (DivX4/5, XviD, RMP4) (.avi, .divx, .xvid) AVI audio codec: MP3, AC3, PCM, Ogg

Additional for MediaDeck 2:

- Windows Media Video 9 (WMV) (.wmv) up to 1080i (High Definition)

- MPEG 2 HD (.mpg, .mpe, .mpeg, .dat, .m2v, .vob) up to 1080i

- MPEG 4 HD (DivX, XviD) (.avi, .divx, .xvid) up to 1080i

NOTE: for the complete list of supported media formats take a look at chapter 5.3
Like the specials for navigation there are some similar ones to handle the playback behaviour of the box:

2.4.1 Movie Playlists - VOD Browser Tag

2.4.1.1 VOD - Playback

Sample Movie

Play sample.mpg to the end.

2.4.1.2 VOD - Playlist

Sample Playlist

Play sample.txt playlist.

sample.txt format:

"Movie Title","reserved","reserved","Movie URL",

Example:

Star-Shrek,0,0, http://sample-domain/star-shrek.mpg , Troys Story,0,0, http://sample-domain/troys_story.mpg,

The above playlist will play 2 movies from begin to end. The two "reserved" entries have be set to "0".

2.4.1.3 VOD - PCTV

Growing Movie Sample

Playlist with Growing Movie Samples

These vod tags work like the previous ones but it is possible to tell the browser a new size for the currently loaded file (see pctv_update.cgi).

2.4.2 Music Playlists - AOD Browser Tag

Supported Audio Formats:

- MPEG I Layer 2 (MP2) (.mp2)

- MPEG I Layer 3 (MP3) (.mp3)

- Ogg Vorbis (OGG) (.ogg)

- AC3 5.1 (AC3) (.ac3)

- Microsoft PCM Wave (WAV) (.wav)

Additional for MediaDeck 2:

- Windows Media Audio (WMA) (.wma)

NOTE: for the complete list of supported media formats take a look at chapter 5.3

2.4.2.1 AOD - Playback

Sample MP3

Play sample.mp3 to the end.

2.4.2.2 AOD - Playlist

Sample Playlist

Play sample.txt playlist.

sample.txt format (same syntax as movie playlists):

"Song Title","reserved","reserved","Song URL",

Example:

Unknown Artist - music,0,0, http://sample-domain/music.mp3 , Any title for the song,0,0, http://sample-domain/more music.mp3,

"Song Title" is the text that is shown in the OSD. The "reserved" fields must set to "0".

2.4.2.4 AOD – m3u Playlist

With Firmware - Version 08-26 … for MediaDeck Player, m3u Playlists are supported for Music Playback.
#EXTM3U
#EXTINF:1,Title of Playlist Entry 1
http://ServerIP:8000/path/to/File/on/the/Server/sample.mp3
#EXTINF:2,Title of Playlist Entry 2
http:// ……..

NOTE: m3u playlists are not working on MediaDeck 2 at this time!

2.4.3 Photo Slideshows - POD Browser Tag

Supported Photo Formats:

- JPEG

NOTE: for the complete list of supported media formats take a look at chapter 5.3

2.4.3.1 POD - Playback

Use the tag `<a href= "MUTE" pod="Reserved, Start Picture, URL">My Photos</a>` to show a photo slideshow without music.

Example:

`<a href= "MUTE" pod="1,0,http://sample-domain/sample.txt">Slide Show without music</a>`

"Reserved" must be set to "1".

"Start Picture" is the index into the slideshow (playlist) where to start display ("0" start with the first picture in the list).

sample.txt format:

"time","transition","title","URL",

Example:

3,0,My Garden, http://sample-domain/DSC_1234.jpg , 5,4,My House, http://sample-domain/DSC_1235.jpg,

"time" defines how long the photo will be displayed. It is an approximate value in seconds. "transition" defines the selected transition (see list below).

"title" is the text for the photo displayed in the OSD.

"URL" is the complete path to the .jpg photo

The preferred size for the photos in the slideshow is 720 x 576 pixel for PAL video modes and 720 x 480 pixel for NTSC.

Transition effects available for slideshows:

Effect	Number
Random	0
Wipe Down	1
Wipe Up	2
Open Vertical	3
Close Vertical	4
Split Vertical 1	5
Split Vertical 2	6
Interlace	7
Fade to Black	8

2.4.3.2 POD - Playlist

To add a music playlist to the photo slideshow please replace the keyword "MUTE"

with the url of a music playlist (see section Music Playlists).

Example:

Slide Show with music

2.4.3.3 POD - CoverArt

To display ID3 tag CoverArt the MP3 files in the music playlist you have to set the first POD parameter to "2". In this mode the skip function works on the music playlist, not on the photo playlist.

Slide Show with music

2.4.3.4 POD – SlideShow with Music

For a synchronous playback of music- and photo playlists set the first POD parameter to "3". In this mode you have to set the position for the progress bar (see "Set position of Progress Bar"). The skip function now handles both playlists synchronous

Slide Show with music

2.4.4 Firmware Update Browser Tag

ShowCenter Firmware Update

Update Pinnacle ShowCenter.
This maybe useful, to down- upgrade the Box Firmware manually.
The currently loaded firmware version can be extracted from the "User Agent" value.
NOTE: loading old firmware versions can bring the box to an inaccessable state.

3. Settings

3.1 Box CGI´s

To understand, how all parts of MediaMax work together, you have to distinguish between the Box firmware itself and the UI generated by the PHP enabled webserver on your MediaServer.
For example:

The Server-Select page appearing, when turning on the Box, is implemented in firmware. The pages to "ADD", "REMOVE" and "EDIT" servers are as well part of the firmware.
Pressing the "B" button on your remote takes you to the "raw" settings [OPTIONS, IP CONFIG, WIFI SETUP] of the Box. This is a part of the firmware too.

Everything you see after you confirmed to connect to one of the servers listed on the Server-Select-Page, is generated by the MediaServer's server.

To guarantee a constant "workflow" there are settings pages in the UI, to change the most important firmware options and some others, which just affect the UI generation.

To establish a way of communication between the Box (settings pages) and the Http-server running on your PC, there is another little Http-server running on the Box at port 2020. This server

can be connected by any other client in the network to get and set some Box-parameter like "screen saver time".

 Here is a simple example:

http://BoxIP:2020/preferences_cgi.c_gi?scr_saver_time=20

 Calling this link would set the screen saver delay to 20 minutes.

  The "" is required for the box to accept that changes.

  NOTE: => HEX code value 0x7F or 127 decimal.

 You although can change more than one setting with one call:

 http://BoxIP:2020/preferences_cgi.cgi?scr_saver_time=20_&display_option=05&

 This additionally would set the video output to "Component PAL". For the other video options, take a look below.

 On the following pages you get the complete set of options that can be changed with this mechanism.

3.1.1 Preferences CGI

Parameter	Description	Value Range
scr_saver_time	Time before screen saver kicks in	1 to 60
display_option	Video Setting	01 : S-Video NTSC 02 : Component NTSC 03 : Scart NTSC 04 : S-Video PAL 05 : Component PAL 06 : SCART PAL 07 : HDTV Component 480P 08 : HDTV Compoentn 720P 09 : HDTV Component 1080i 10 : VGA 1024 x 768 19: Component PAL Progressive
videozoom_option	Video Zoom	00 : Fit To Screen 01 : Full Screen 02 : Actual Size 03 : 4:3 Letterbox 04 : 4:3 Pan And Scan 05 : 16:9 Widescreen
type_snd	Typing Sound	include "type_snd" in parameter will turn ON typing sound and vice versa
nav_snd	Navigation Sound	include "nav_snd" in parameter will turn ON navigation sound and vice versa
alert_snd	System Alert Sound	include "alert_snd" in parameter will turn ON systerm alert sound and vice versa
avi_subtitle	Subtitle Language	-1 : Subtitle OFF 0 : English 1 : Chinese [GB2312] 2 : Japan [EUC] 3 : Japan [Shift JIS] 4 : Japan [JIS]
hd_browser_mode *	Support HD/SD browser mode	hd_browser_mode = enable sd_browser_mode = disable
server_opt_mode *	To show or NOT show WMC in login page	ON : DON´T show WMC OFF: Show WMC

 *(feature of MediaDeck 2)

Example call:
   http://BoxIP:2020/preferences_cgi.cgi?scr_saver_time=20&display_option=05&____type_snd&
alert_snd
(c) 2004 - 2005 by Pinnacle Systems Inc. - Portions (c) 2004 - 2005 by Syabas Technology Sdn.
Bhd. All rights reserved. 13

3.1.2 Restore to Factory Settings

If there is a need to restore all settings to factory default, use this call:
http://BoxIP:2020/restore_pref.cgi?
After the Box rebooted, all settings have been restored.
NOTE: Even the WEP key and IP-config will be restored!!

3.1.3 New Media LED

At the front of the Box you see the "New Media LED" blinking, if new media was imported into
the database.
To get this LED working use the following example:
  http://BoxIP:2020/LED_indicate.cgi?StatusLED=ON
This call will turn the LED on to a constant shining.
Use "StatusLED=OFF" to turn it off again and with "StatusLED=BLINK" you turn it to blinking.

3.1.4 File Size Update

This command only make sense together with the vod="pctv" and vod="pctvpl" attribute for urls.
htt_p://BoxIP:2020/pctv_update.cgi?filesize=42000
This call will tell the box browser, that the size of the currently loaded file has been increased to
42000 byte. You can call this cgi from time to time to keep the box streaming a currently growing
file (used for timeshift playback).

3.1.5 Browser Refresh

You are able to refresh the Box-Browser by sending the following to the box:
http://BoxIP:2020/refresh_browser.cgi

3.1.6 Set Playlists Repeat Mode

With this link you will be able to set the repeat mode of playlists/files to off, single file repeat, list
repeat
http://BoxIP:2020/has_set_playlist_mode=VOD_REPEAT_OFF
http://BoxIP:2020/has_set_playlist_mode=VOD_REPEAT_ONE
http://BoxIP:2020/has_set_playlist_mode=VOD_REPEAT_ALL

3.1.7 Set position of Progress Bar

If the POD=3 is set, the position of the progress bar could be set with:
http://BoxIP:2020/pod_audio_info.cgi?x=250?y=200

3.1.8 Direkt Acces to Box Settings

To access the Box firmware Settings direct from the Box UI, call the following from the Box
browser:
file://syabas18.htm/
to go back to Server-Selection page (Add Server, Edit Server, Delete Server)
file://syabas11.htm/
to get access to the Box firmware settings page (Options, IP-Config, WiFi-Setup)

3.1.9 Remote Control over Ethernet

Since firmware version 08-26… the Box can be controlled over ethernet by sending commands to
"Ethernet_rc.cgi". These commands are similar to the buttons on the IR-Remote Control.

Example:
http://BoxIP:2020/ethernet_rc.cgi?%7Fsim_key=KEY_ENTER
will cause the same action as "OK" on the "Hardware" remote control.
For general usage replace "KEY_ENTER" by one of the following options:

MediaDeck 1 (SC 1000 / 1000 G)	MediaDeck 2 (SC 200)
- KEY_MUTE	- KEY_MUTE
- KEY_RESET	- KEY_RESET
- KEY_MOVIE (TVID_MOVIE)	- KEY_MOVIE (TVID_MOVIE)
- KEY_MUSIC (TVID_MUSIC)	- KEY_MUSIC (TVID_MUSIC)
- KEY_PHOTO (TVID_PHOTO)	- KEY_PHOTO (TVID_PHOTO)
- KEY_HOME_PAGE (TVID_HOME)	- KEY_HOME_PAGE (TVID_HOME)
- KEY_WIN	- KEY_WIN
- KEY_USER (TVID_A)	- KEY_USER (TVID_A moved to KEY_ZOOM)
- KEY_SETUP (TVID_B)	- KEY_SETUP (TVID_B moved to KEY_VOCAL)
- KEY_GOTO (TVID_C)	- KEY_GOTO (TVID_C)
- KEY_TV_MODE (TVID_VOUT)	- KEY_TV_MODE (TV_VOUT)
- KEY_HELP (TVID_HELP)	- KEY_HELP (TVID_HELP)
- KEY_TAB	- KEY_TAB (TVID_TAB)
- KEY_PAGE_UP	- KEY_PAGE_UP (TVID_PGUP)
- KEY_PAGE_DOWN	- KEY_PAGE_DOWN (TVID_PGDN)
- KEY_ENTER (TVID_OK)	- KEY_ENTER (TVID_OK)
- KEY_UP	- KEY_UP
- KEY_DOWN	- KEY_DOWN
- KEY_LEFT	- KEY_LEFT
- KEY_RIGHT	- KEY_RIGHT
- KEY_FAST_REWIND	- KEY_FAST_REWIND
- KEY_FAST_FORWARD	- KEY_FAST_FORWARD
- KEY_PLAYPAUSE	- KEY_PLAYPAUSE
- KEY_ESCAPE	- KEY_ESCAPE
- KEY_PREVIOUS_TRACK	- KEY_PREVIOUS_TRACK
- KEY_NEXT_TRACK	- KEY_NEXT_TRACK
- KEY_PLUS_10	- KEY_PLUS_10
- KEY_BACKSPACE (TVID_BACKSPACE)	- KEY_BACKSPACE (TVID_BACKSPACE)
- KEY_0_RC	- KEY_0_RC
- KEY_1_RC	- KEY_1_RC
- KEY_2_RC	- KEY_2_RC
- KEY_3_RC	- KEY_3_RC
- KEY_4_RC	- KEY_4_RC
- KEY_5_RC	- KEY_5_RC
- KEY_6_RC	- KEY_6_RC
- KEY_7_RC	- KEY_7_RC
- KEY_8_RC	- KEY_8_RC
- KEY_9_RC	- KEY_9_RC
- KEY_DUMMY (Virtual Key)	- KEY_DUMMY (Virtual Key)
	- KEY_ZOOM (TVID_A)
	- KEY_VOCAL (TVID_B)
	- KEY_PANEL
	- KEY_REFRESH (TVID_RL)
	- KEY_REPEAT
	- KEY_INTERNET
	- KEY_TELETEXT (TVID_TELETEXT)
	- KEY_EPG (TVID_EPG)
	- KEY_REC (TVID_REC)

Note:
The virtual Key "KEY_DUMMY" does not exist on the "real" Remote Control!
Take a look at the file "IR-Codes.xls" for more details

4. TV-UI Structure

4.1 Skins

The TV-UI of the MediaMax is designed to be skinable. That means you will be able to create own skins, like the new ones since software version 1.5 RC1 Beta, that have to follow some simple guidelines.
If you take a look in your MediaServer's (Pinnacle MediaManager software) installation path, you will see the two folders "DocPath" and "DocRoot".

The DocRoot contains all files a browser will see if it´s pointed to the servers address, like "http://localhost:8000" for example.
DocPath contains all configuration files, in the form "example.inc.php", that are needed by the PHP-Scripts.

One of the subfolders in DocPath is the "Skin"-Folder, with further subfolders, including the Skin-Files. These files consist of one PHP-file called "Name.inc.php" and the graphics for the UI.
Since version 2.0 and Hardware Version 2.0 [MediaDeck 2] the UI can be displayed in High-

Definition. So we differentiate the SD browser mode for PAL and NTSC and the HD browser mode for High-Definition modes 480p, 720p and 1080i. If you turn your box to HD browser mode, the resolution changes to 1280x720 for the background graphic and about 1080x680 for the browser itself.

Furthermore we changed the background image creation. All background images can keep blank, without any bars and lines. The lines you see in the final displayed background is mapped on it by a php function. The background and the horizontal bar are stored in the "_Common" folder.

You will be able to create own bars and other "patches" that will be mapped onto the background on the fly. Therefore you can create your own "PatchworkFunc", using the default one at the bottom of "/DocPath/Classes/Skin.inc.php" file.

The search sequence for graphics is "Skin/Skinname/" folder first and if no matching file is found, the script looks in the "Skin/_Common" folder.
Global used files have to be placed in the "Skin/_Common" folder, special ones in each separate Skin folder.

NOTE 1: If you do some tests, don´t forget to delete the files in the "/DocRoot/ShowCenter/Temp" folder and reboot the box, to delete its internal caches. Otherwise the testing results may not be correct. For the daily operating this is not recommend.

NOTE 2: Skin folder names should only contain letters and numbers.

NOTE 3: The SDK includes some simple examples which can be copied into the existing setup for testing. Please backup the existing "index.html" in "DocRoot" before you replace it. All other subfolders coming with this SDK can be added to the existing setup.
Follow the folder structure of the "example" folder coming with this SDK to see, where to place each sample folder.

4.1.1 UI "Name.inc.php"

"$g_SkinName" sets the name for the skin, which is shown in the skin selection screen of the TVUI. This can be similar to the folder name in which the skin-files are stored, but that is not recommend.

"$g_SkinAlpha" set to "1" there will be used 50% transparent graphics for the content table cells on the right side instead of a html background color [case "0"].
If set to "1" the background image will be included by a special Meta-Tag which is described in 4.1.3.

There will no background be included in the html <body> tag.
The "g_UIColor"

This array contains all UI Colors, that are part of the HTML page.
"g_UIBtnFontName"

It sets the Windows TT font, which is mapped onto the buttons.
"g_DynTableAlign"

This sets the alignment of the content table (right area of the TV-UI).
"g_DynTableW_HD", "g_DynTableW_PAL", "g_DynTableW_NTSC"

This defines the width of each column of the content table in HD browser-mode.
In this example that means the following:
- left border = 30px
- left static menu = 225px
- spacer one = 30px
- spacer two = 30px
- content column = 735px
- right border = 50px

30px	225px	30px	30px	735px	50px

Left Menu	Right Content Menu

With this table construction you are able to choose the weight between static left menu and the dynamic, content menu. Make sure, that the sum over all is not bigger than 586px, otherwise the table would "bounce" on the screen while navigating on the UI.

Standard sets are the following:
HD : 30,180,31,32,750,40
PAL : 30,152,1 ,32,332,40
NTSC : 30,152,1 ,32,332,40
"g_DynTableH_HD", "g_DynTableH_PAL", "g_DynTableH_NTSC"
- Top = Border to top edge of the screen
- Data = Logo and section area info
- LeftBtn = defines the height of each left navigation buttons
- RightBtn = defines the height of each right side content item
Standard sets are the following:
HD : 'Top'=>10,'Data'=>100,'LeftBtn'=>33, 'RightBtn'=>33
PAL : 'Top'=>4 ,'Data'=>80 ,'LeftBtn'=>33, 'RightBtn'=>33
NTSC : 'Top'=>0 ,'Data'=>68 ,'LeftBtn'=>33, 'RightBtn'=>33
"g_xLatImgNameEx"

Is an array to overwrite the default filename for any graphic in the UI. In this example (*IMG_MAIN_BGR=>"Sunset.jpg")* the filename for the background is set to the file "Sunset.jpg". The complete list of used images can be found in the file ../DocPath/classes/main.inc.php (see define ("IMG_MAIN_BGR", 9000); ff).
 "$g_xLatImgExt"
 … sets the filetype of the output graphic. For background graphics "jpg" is recommend.
 "$g_PatchworkFunc"

To prevent errors by mapping the graphic patches on to the background, the mapping function gets its own name, which is defined here.
If you want to use default positions for the mapped patches you don´t need to change anything. Just place in you own background image and adjust it´s name.

But if you want to use different positions for the logo, the bar or the "now playing" info boxes you can copy the original patchwork function from line 439 of the "DocPath/Classes/Skin.inc.php" file to the bottom of your skin "Name.inc.php" file, rename the function from "GetDefaultPatchwork" to "GetMyPatchwork" for example and place your own positions.

NOTE: If you want to create more than one own skin with own patchwork mapping function take care that every renamed "GetDefaultPatchwork" function get´s it´s unique name.
Please take a look into the SDK skin sample files to learn how this mechanism works.

4.1.2 UI Graphics for classic style Skins

All included button graphics are PNG8 compressed with 216 Colours and one index-transparent colour.

The Box supports JPEG compressed graphics (16 Million Colours) as well, but this is not recommend to use for html background definition, because it would decrease the UI-performance.
 Since version 1.7 we use separate images for PAL and NTSC.
 Further we reduced the amount of files in the skin folders by placing all standard files into the "_Common" skin folder since version 2.0. All old style Skins where deleted.
 As a result of this you just need to place files into your skin folder, that are different to the standard files from the "_Common" folder. For example the three background files.

4.1.3 UI Graphics for new Style Skins

 Since version 1.7 the MediaDeck supports another special tag to show full sized background JPEG images.

To use it you have to place a call like this:
          <meta SYABAS-BACKGROUND="path.to.bgImage.jpg">
 Into the HEAD of each site which should show this kind of background.
 With the skins since version 1.7 we support background images for the right UI menu as well.
Therefore we added the following 8-bit png-images to the new style skins:
                    - pxaud.png -> Music
                    - pxpho.png -> Photos
                    - pxset.png -> Settings
                    - pxtv.png -> PCTV
                    - pxvid.png -> Video

 The $g_SkinAlpha value has to be "1" the get this graphics instead of massive background color.

4.2 Languages

The second important part of the TV-UI is the language localization. In the "DocPath" folder of the MediaMax (MediaManager) installation, you will find a "Lang" folder which contains the language specific subfolders.

All language subfolders contain the complete set of files that are needed for the TV-UI.
 If you want to replace the default text by alternatives take a look into these files and you will find each section by its name.

You are welcome to create translations for languages we do not support right now.

NOTE: There is no unlimited space for the text menu items you define in the language files. So you have to shorten a little bit, if some text becomes to long.
 For the menu title on the right side, you can use a double-backslash "\\" to provoke a line break.

5. Appendix

5.1 Control Codes for the original MediaMax MediaDeck 1 remote control

Remote Control v1		Function		TVID TVID tag		
Symbol		**Logical code**	**Physical code**			
0xD2		0xD2			power on/standby	
Home	0xD0	0xD1		go to iHome home page	yes	HOME
A	0xDD	0xD0		go to iHome login page	yes	A
C	0x99	0x99		show URL bar	yes	C
C/N	0xFC	0xFC				input field caps/num/off
1.:	0xF2	0xF2 1.:\				yes 1
2abc	0xF3	0xF3 2abc				yes 2
3def	0xF4	0xF4 3def				yes 3
4ghi	0xF5	0xF5 4ghi				yes 4
5jkl	0xF6	0xF6 5jkl				yes 5
6mno	0xF7	0xF7 6mno				yes 6
7pqrs	0xF8	0xF8 7pqrs				yes 7
8tuv	0xF9	0xF9 8tuv				yes 8
9wxyz	0xFA	0xFA 9wxyz				yes 9
0xF1		0xF1 0		space		yes 0

0x09	0x09	move to next link or frame	yes	TAB
0x9E	0x9E page		up	yes PGUP

0x9F	0x9F page		down		yes PGDN
OK	0x0D	0x0D Enter			yes OK
0x08	0x08		page back input field delete	yes	BACKSPACE
DEL	0x08	0x0A	page back input field delete	yes	DEL
0xAA	0xAA				move highlight left transport goto (back)
0xA8	0xA8				move highlight up transport skip back
0xAB	0xAB				move highlight right transport goto (forward)
0xA9	0xA9				move highlight down transport skip forward
Video Out	0x80	0x80	switch video outputs transport audio mono/stereo	yes	VOUT
0xB7	0xB7				transport PIP on/off
0xD3	0xD3				transport pause/play
0xD4	0xD4				transport stop

			transport fast forward
0xD6	0xD6		transport fast forward

0xD5	0xD5				transport fast reverse
0xDC	0xDC				transport skip forward
0xDB	0xDB				transport skip back
Music	0xDF	0xDF music		menu	yes MUSIC
Movies	0xDE	0xDE movies		menu	yes MOVIE
Photo	0xE0	0xE0 photo		menu	yes PHOTO
0xE1	0xE1				Mute
B	0x8C	0x8C	go to settings page	yes	B
?	0x88	0x88 Help			yes HELP

5.2 Control Codes for the PMC remote

(compatible with MediaDeck)

Remote Control v2		Function	TVID TVID tag		
Symbol	Logical code	Physical code			
VOL UP	0x9E	0x2D volume	up	yes	PGUP
VOL DOWN	0x9F	0x1E volume	down	yes	PGDN
0x18			Teletext	yes	TT
TV 0x80	0x26		TV	yes	VOUT
EPG 0x3D			EPG	yes	EPG
0x84	0x07		reload current page transport repeat one/all/off	yes	RL
0x29			Record	yes	REC
0xD3	0x2E		transport pause/play		
0xD2	0xD2		power on/standby		
0xD0	0xD1		go to iHome home page	yes	HOME
A 0xDD	0xD0		go to iHome login page	yes	A
C 0x99	0x99		show URL bar	yes	C
C/N	0xFC	0xFC			input field caps/num/off
1.:\	0xF2	0xF2	1.:\	yes	1

2abc	0xF3	0xF3		2abc	yes	2
3def	0xF4	0xF4		3def	yes	3
4ghi	0xF5	0xF5		4ghi	yes	4
5jkl	0xF6	0xF6		5jkl	yes	5
6mno	0xF7	0xF7		6mno	yes	6
7pqrs	0xF8	0xF8		7pqrs	yes	7
8tuv	0xF9	0xF9		8tuv	yes	8
9wxyz	0xFA	0xFA		9wxyz	yes	9
0xF1	0xF1			0 space	yes	0
0x09	0x09			move to next link or frame	yes	TAB
0x9E	0x9E			page up	yes	PGUP
0x9F	0x9F			page down	yes	PGDN
OK	0x0D	0x0D		Enter	yes	OK
0x08	0x08			page back input field delete	yes	DEL
DEL	0x08	0x0A		page back input field delete	yes	DEL

0xAA	0xAA		move highlight left transport goto (back)

0xA8		0xA8			move highlight up transport skip back
0xAB		0xAB			move highlight right transport goto (forward)
0xA9		0xA9			move highlight down transport skip forward
VIDEO OUT	0x80	0x80	switch video outputs transport audio mono/stereo	yes	VOUT
0xB7		0xB7			transport PIP on/off
0xD3		0xD3			transport pause/play
0xD4		0xD4			transport stop
0xD6		0xD6			transport fast forward
0xD5		0xD5			transport fast reverse
0xDC		0xDC			transport skip forward

5.3 Supported media file formats

Music
MP3
MPEG1 layer 2 (MPA)
PCM WAV
WMA
WMA with Microsoft DRM protection
Movies (3)
MPEG1
MPEG2
MPEG2 VOB
MPEG4 AVI
WMV9
WMV9 with Microsoft DRM protection
MPEG2 HD up to 1080i (1)
MPEG4 HD AVI up to 720p
WMV9 HD up to 1080i (1)
WMV9 HD up to 1080i with Microsoft DRM protection (1)
Photos (2)
JPG
BMP (4)
GIF
PNG
NOTES:
(1) The maximum Wi-Fi transfer rate is 12Mbit/sec (under ideal conditions!). This means that MPEG2 HD will generally not work; thus this format requires a wired Ethernet connection. WMV9 HD 1080i may also be problematic (that depends on the data rate of the specific file), but WMV9 HD 720p will generally work over Wi-Fi.
(2) Photos are NOT limited to 1920x1080 resolution, they can be much larger. We scale them automatically to whatever is best for the selected display mode.
(3) Movie files must also contain audio. Supported audio track formats are MPEG1 layer 2, MP3, PCM, Dolby® Digital and DTS®. Movies with DTS® audio must also have a Dolby® Digital audio track. Dolby® Digital downmix to analog outputs requires paid activation. DTS® audio can only be output digitally.
(4) BMP RLE8 is not supported.

End Of Document