

TV Server and HD Encoder appliances

Installation and Setup Guide

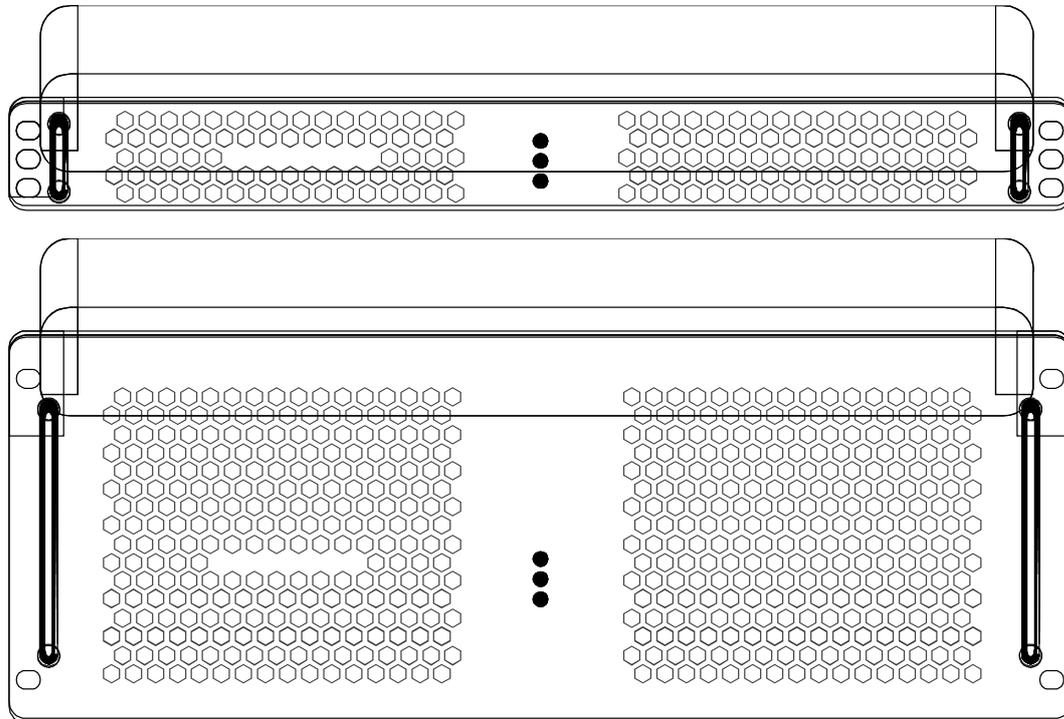


Table of Contents

Welcome	5
Introducing TV Server	5
Compatibility	5
About Encoded Media	6
Contact details	6
Getting Started	7
Broadcast Sources	7
Console Access	7
Activation	7
What you'll need for initial setup	8
Important Notes	8
Turning on your new TV Server	9
Quickstart Console Configuration	10
Accessing the CCI	10
Logging in	11
Installation Wizard	12
Quickstart Web Configuration	13
Accessing the WCI	13
Logging in	13
Television channel configuration (DVB-T, DVB-S)	14
Encoder Configuration (HD, SD)	15
Quickstart Recording	16
Recording a program	16
Managing your Recording Rules	17
Quickstart Web Viewer	18
Accessing the Web Viewer	18

Using the Web Viewer	19
Quickstart IPTV Receiver 110 Configuration	20
Configuring your IPTV Receiver 110	20
Connecting An IPTV Receiver 110 to your TV Server	21
Quickstart IPTV Receiver 250m Configuration	22
Configuring your IPTV Receiver 250m	22
Connecting An IPTV Receiver 250/250m to your TV Server	23
Console Reference.....	24
Configuration Menu	24
Network SubMenu	25
Status Menu	26
Control Menu	27
Maintenance Menu	28
Advanced Submenu	29
Web Reference.....	30
Commands & Status	30
Channels & Tuning	31
Guide	32
Recording Rules	33
Configuration & Multicast	34
Server Stacking	35
Logs & Transcode Logs	36
Users.....	37
Links	38
Appendix I	39
Configuring Windows Firewall.....	39
Appendix II	40

Configuring a standalone NETGEAR FSM7328s / FSM7352s.....	40
Appendix III	41
Remote Control of your TV Server via HTTP	41
Making a Direct Http Connection	43
Status.....	43
Parameter overview	44
Examples	47

Welcome

Encoded Media TV Server is a new way of making live television and recorded programs available throughout an organisation.

INTRODUCING TV SERVER

TV Server can also be used as a network video recorder, its full featured Electronic Program Guide (EPG) allowing users to pick and choose exactly what they want to record from anywhere on the network.

Live and recorded TV can be seen in full DVD quality on any PC, projector, or television screen with access to the network.

Administrator users have access to usage statistics together with complete control over which channels are available.

COMPATIBILITY

TV Server supports computers running Microsoft® Windows® and Apple® Mac® OS X, making it a powerful, unified solution bringing television to screens, signage and to all the desktops in your business.

About Encoded Media

Encoded Media Ltd produces market leading software applications and tools in the fields of IPTV and content distribution.

The company's TV Server product is designed and built in the UK.

CONTACT DETAILS

Email support@encodedmedia.com or visit www.encodedmedia.com

Getting Started

TV Server is a 19-inch rack mountable hardware appliance requiring mains power and an Ethernet network connection, together with one or more broadcast sources.

BROADCAST SOURCES

Depending on the exact configuration of your TV Server model, broadcast sources can be one (or more or a mixture of) the following feeds:

DVB-T	Terrestrial TV, a feed from your digital aerial
DVB-S	Satellite TV, a feed from your satellite dish
HD	HDMI, SDI or DVI video
SD	Composite video

CONSOLE ACCESS

The initial setup of your TV Server is done through a text based, menu driven interface known as the *Console*. This interface gives you direct access to change the system's underlying configuration.

ACTIVATION

Before using your new TV Server, it must first be activated through the Console with a sequence of letters and numbers which form an *Activation Key*. Your reseller will provide you with your unique Key.

NOTE Your TV Server appliance is likely to have been supplied in a pre-activated state and in which case you do not need to activate again prior to using it.

What you'll need for initial setup

You will need all of the following:

- ✓ A mains power cable.
- ✓ A 100 Mbps to 1000 Mbps (Gigabit Ethernet) wired connection.
- ✓ Console access.

NOTE For Console access, you will need a standard PS2/USB keyboard together with a standard monitor with 15-pin VGA connector.

- ✓ A suitable location.

NOTE Your TV Server should ideally be rack mounted. It is of a standard 4U design suitable for all 19-inch racks and can optionally be supplied with rails.

- ✓ One or more broadcast sources.

IMPORTANT NOTES

The appliance requires adequate ventilation to ensure it does not get too hot.

- ✗ Do not locate the TV Server in an unventilated space.
- ✗ Do not block the front and back panels or restrict the flow of air to them.
- ✗ Do not allow the server location to get too hot. The maximum environmental temperature for the TV Server appliance is 30°C.

Turning on your new TV Server

- ✓ **Plug in.**
Connect one end of your mains power cable into the server's power receptacle on its rear, and the other end into an electrical outlet.
- ✓ **Get on the network.**
Plug in one end of the network cable to the server and the other end to an available port on your switch.
- ✓ **Prepare for broadcasting.**
Hook up all your TV, satellite and analogue broadcast sources.
- ✓ **Get ready to watch television.**
Open your web browser (optionally, connect one or more Encoded Media IPTV Receivers to existing TVs or displays).
- ✓ **Power on.**
Press the Power button on the front of the server (on IPC models, the button is located underneath a secure metal flap).

The server will take between 60 and 90 seconds to start up.

NOTE Once the appliance has been powered on, do not add or remove new USB devices or broadcast sources without first powering the appliance off again. To do this, see the section entitled *Control Menu*.

Quickstart Console Configuration

The Console Configuration Interface or CCI is a text based display that allows administrators to view and modify low level aspects of their TV Server appliance.

Tasks here include:

- ✓ Setting a static IP or DHCP address for your TV Server
- ✓ Configuring network details, including DNS, DHCP and routing
- ✓ Detailed system administrator functions
- ✓ Shell interface
- ✓ Shutting down and restarting the appliance

ACCESSING THE CCI

The CCI can be accessed locally, with a keyboard and monitor, or remotely by using Telnet or SSH to connect to the TV Server's IP address.

NOTE When carrying out the initial configuration of your server, you are strongly advised to do so locally by connecting a keyboard and monitor.

Once your TV Server has been powered on and has started, you will see a login prompt screen similar to the one in the image below:

```
Encoded Media TV Server 2.8.3-14
LAN 1: 192.168.10.203
LAN 2: 192.168.125.10
www.encodedmedia.com
Login - for control panel, log in as tvserveradmin
login:
```

LOGGING IN

To access the CCI, provide the following user details:

For appliances with platform version 3 and later

login: admin
password: admin

For earlier appliances with platform version 2 and earlier

login: tvserveradmin
password: tvserver

```
Encoded Media TV Server 2.8.3-14

Main Menu
  1. Installation Wizard
  2. Configuration
  3. Status
  4. Control
  5. Maintenance

L. Log out <press L>

Follow this wizard to get the server up-and-running

Web interface at http://192.168.10.204/
TV Server not activated
```

When accessing configuration menus and settings, use the following keys to navigate the input fields:



Navigate between fields of the Installation Wizard



Make a selection



Abort

INSTALLATION WIZARD

Main Menu > Installation Wizard

Once you have logged in as the admin user, you will be shown the Main Menu.

The Main Menu is your starting point for all TV Server appliance configuration issues, such as networking and activation, as well as more control oriented tasks such as shutting the server down.

```
Encoded Media TV Server 2.8.3-14
Configure LAN 1
[ ] Disable this card
[ ] Obtain IP address automatically <DHCP>
[o] Use the following IP address:
    IP Address:      192.168.10.204
    Netmask:         255.255.255.0
    Gateway:         192.168.10.1
[ ] Obtain DNS server automatically <DHCP>
[o] Use the following DNS servers:
    DNS Server 1:   192.168.10.1
    DNS Server 2:
[ < Back ]      [ Next > ]      [ Cancel ]
```

If this is the first time your TV Server appliance has been powered on, and you wish to configure the system, select **Installation Wizard**.

This wizard will allow you to:

- ✓ Configure static or dynamic IP addresses for the two network ports
- ✓ Provide details of your proxy server (where applicable)
- ✓ Run network tests
- ✓ Activate your TV Server

NOTE Certain models have a single LAN port and only one configured IP address.

 For more details, see *Network Submenu*.

Quickstart Web Configuration

The Web Configuration Interface or WCI is a browser based display that allows users to view and modify high level aspects of their TV Server appliance.

Tasks include:

- ✓ Scanning for new channels
- ✓ Selecting which channels are to be broadcast, and how
- ✓ Creating and managing a list of recording rules
- ✓ Viewing server logs

ACCESSING THE WCI

Once your TV Server has been installed and activated, and broadcast sources have been connected to the rear of the appliance, access the Web Configuration Interface by typing the following URL into the address bar of your browser:

`http://your.tv.server.ip/admin/` 

Substituting `your.tv.server.ip` for the IP address of your TV Server appliance.

NOTE You must change your TV Server's IP address using the Console Configuration Interface. It cannot be changed using the Web interface.

Once the page has loaded, you will then be challenged to login:



The image shows a web browser window titled "TV Server Login". It contains two input fields: "Username:" with the text "admin" and "Password:" with five dots. Below the fields is a "Login" button.

LOGGING IN

To access the WCI, provide the following user details:

login: admin
password: admin

TELEVISION CHANNEL CONFIGURATION (DVB-T, DVB-S)

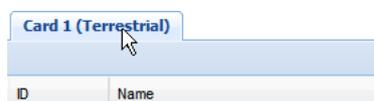
Once the Web interface has displayed, click Re-scan in the bottom toolbar of the Status page as below:



This initiates a tuning process which identifies all the channels that are available from connected broadcast sources.

Tuning and Transponders

Once the re-scan process has finished, click the *Cards* link in the left hand Navigation pane to choose which channels your TV Server will broadcast. Select the first available source by clicking its corresponding tab:



Now click the *Click to select a channel group* button on the right.

The pop-up *Select Channel Group* window will open, allowing you to tune the card to a given transponder. You can also search for a channel by typing the channel's name or part of the name into the field at the top.



NOTE A *transponder* is the technical term for a predefined tuning range that encompasses one or more channels together as a group.

Building your channel list

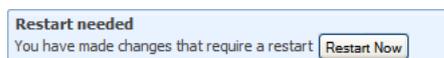
Once you've found and selected a transponder, its channels will be displayed in the main list area of the *Channels & Tuning* pane.

Card 5 (Terrestrial)					
Enable All Disable All Disable this card Selected Channel Group: London, 506.000MHz					
Name	Original Name	Type	Enable	Destination address	
BBC NEWS	BBC:BBC NEWS	TV	<input type="checkbox"/>	Dynamic unicast only	
BBC ONE	BBC:BBC ONE	TV	<input checked="" type="checkbox"/>	Dynamic unicast only	
BBC Red Button	BBC:BBC Red Button	TV	<input type="checkbox"/>	Dynamic unicast only	
BBC THREE	BBC:BBC THREE	TV	<input type="checkbox"/>	Dynamic unicast only	
BBC TWO	BBC:BBC TWO	TV	<input checked="" type="checkbox"/>	Dynamic unicast only	
CBBC Channel	CBB:CBBC Channel	TV	<input type="checkbox"/>	Dynamic unicast only	

To select a particular channel for broadcast, click the corresponding checkbox in the *Enable* column. To deselect a channel, simply click again.

NOTE You can also select all channels in the chosen transponder by clicking the *Enable All* button in the top toolbar. You can deselect them by clicking *Disable All*.

Whenever you make changes to the channel list, click the *Save* button at the bottom of the screen to store your changes to the system's configuration. You will then be prompted to restart the TV Server to effect those changes:



Until you click the *Restart* button, your channels will not be visible to viewers.

NOTE Restarting in this does not power cycle the TV Server appliance.

ENCODER CONFIGURATION (HD, SD)

Once the Web interface has displayed, click the *Cards* link in the left hand Navigation pane to configure your HD or SD input card.

Enabling the Encoder

Put a check in the *Enable* column to activate the designated encoder card and choose the source from the *Video Input* drop-down box beneath it.

Renaming the Encoder

By default, an encoder's channel name is AUX 1. This name used when connecting to the RTSP stream in a third party media player, with the following format:

```
rtsp://your.tv.server.ip/live/channel-name
```

Quickstart Recording

RECORDING A PROGRAM

Once your TV Server has restarted, the EPG will begin to populate with information. The guide is presented in a time-based magazine format on the *Guide* page of the web interface.

If you want to record a show, simply navigate to its entry in the Guide using the time controls in the lower right of the screen. Click on the program name to create a new recording rule specific to it. The add New Recording wizard will pop up:



The first step of the wizard is to specify the show you wish to record.

NOTE In this example, because you selected it from the EPG the channel and program name will be filled out for you.

Should you wish to record all subsequent programs appearing on the same channel and with the same name, put a tick in the checkbox underneath.

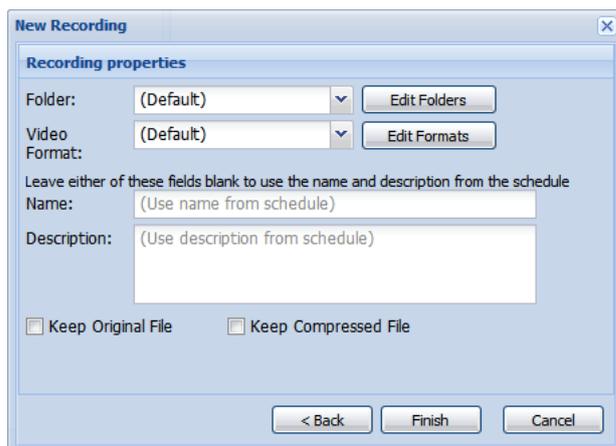
Now click the *Next* button to move to the next page.

The second step of the wizard is to determine when you want the program to be recorded. When choosing from the guide, you would typically want to record the instance of the show once and hence this option is already selected for you:



Padding is the amount of time recorded either side of the program to allow for variations in showing times and overruns. Now click the *Next* button.

The final stage of the wizard allows you to select which folder the recording will be stored in, and in what format. Leaving these at their default values means the show will be saved to a folder of the same name as the channel and in Microsoft's Windows Media format:



Click *Finish* to close the wizard and create a new recording rule.

MANAGING YOUR RECORDING RULES

When returning to the *Guide* screen, you should now see that the program you selected earlier now has a small recording symbol in the top corner. Clicking the same program again allows you to remove it from the recording schedule.

NOTE To edit a schedule, open the *Recording Rules* screen.

Quickstart Web Viewer

The Web Viewer is a web based viewing portal for TV Server. It allows computer users on the network to preview, select and watch channels inside their browser.

Tasks include:

- ✓ View live program thumbnails of all TV Server channels
- ✓ Watch channels windowed or full screen on your PC or Mac desktop
- ✓ Compatible with most browsers
- ✓ Easy links to the Web Configuration Interface

ACCESSING THE WEB VIEWER

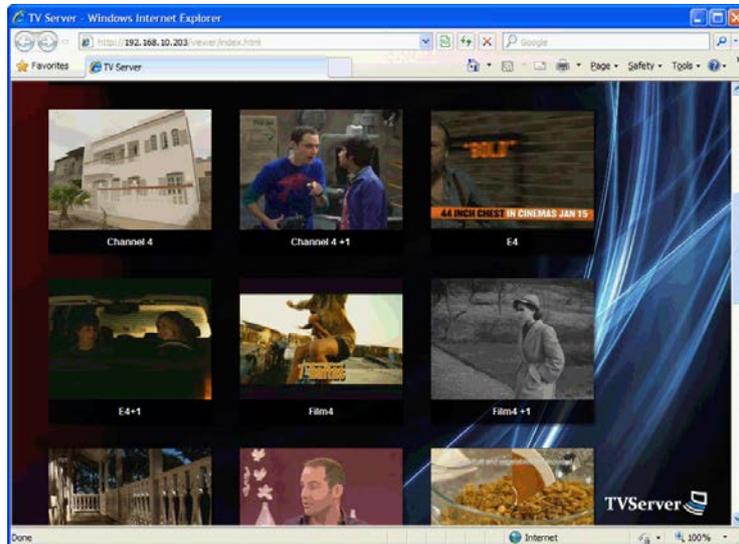
You can access your TV Server's Web Viewer simply by typing the following URL into the address bar of your browser:

`http://your.tv.server.ip` 

Substituting `your.tv.server.ip` for the IP address of your TV Server appliance.

USING THE WEB VIEWER

The Web Viewer is displayed in your PC or Mac browser.



To watch a channel, you can:

- ✓ Scroll through the thumbnails and left click one to select it, or
- ✓ Choose a channel name from the drop-down list in the top right.

NOTE To return to browsing thumbnails after watching a channel, click the Home icon in the top left.

Quickstart IPTV Receiver 110 Configuration

The Encoded Media IPTV Receiver 110 is a set-top network appliance that allows you to connect a TV screen to your network and watch programs from the server.

Tasks include:

- ✓ Receive the channels broadcast by your TV Server
- ✓ Get live channel information on-screen from the EPG
- ✓ Browse live thumbnails

CONFIGURING YOUR IPTV RECEIVER 110

Your IPTV Receiver 110 is supplied with a mains adapter, remote control and video cable for connection to any display. The rear of the box is shown below:



- 1 Power In
- 2 Network
- 3 *Not used*
- 4 Digital Out
- 5 Audio Visual Out
- 6, 7 *Not used*

Hook up the supplied video cable to your display and to the connection marked *Audio Visual Out* on the rear of the IPTV Receiver box.

Run a network cable from a switch on your LAN to the connection marked *Network*.

NOTE Unless you wish to individually configure each IPTV Receiver you connect, ensure your TV Server has its internal DHCP Server running.

Finally, plug in the power cable from the mains adapter.

CONNECTING AN IPTV RECEIVER 110 TO YOUR TV SERVER

Once the box has power, a red LED will illuminate on the front. You should also see coloured activity LEDs blinking alongside the network connection on the rear.

Now switch on your display and wait for the box to finish its boot sequence.

NOTE The IPTV Receiver 110 boot sequence can take 60 seconds or more. Once initialised, and assuming your TV Server is running with broadcast sources connected, you should see information on the currently playing TV channel.

The remote control has a broadly standard layout as follows:

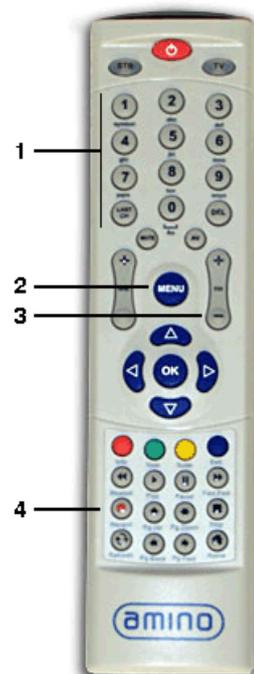
- 1 Direct channel selection buttons
- 2 Set-top options menu
- 3 Channel rocker button
- 4 Record button

To select a particular channel, either:

Move up and down through the TV Server channel list by pressing the rocker button, or

Jump directly to the channel you wish to view by tapping out its number using the direct channel selection buttons.

For more details, see IPTV Receiver 110 Reference.



Quickstart IPTV Receiver 250m Configuration

The Encoded Media IPTV Receiver 250 and IPTV Receiver 250m are state of the art a set-top network appliances that allow you to connect a TV screen to your network and watch programs from you TV Server.

Tasks include:

- ✓ Receive all the channels broadcast by your TV Server
- ✓ Get live channel information on-screen from the EPG
- ✓ Browse recordings *-requires TV Server version 3 or later*

CONFIGURING YOUR IPTV RECEIVER 250M

Your IPTV Receiver 250 is supplied with a mains adapter, IR remote control and batteries. The rear of the box is shown below:



Rear connections, from left to right:

- 1 USB
- 2 *Not used*
- 3 Network
- 4 HDMI out
- 5 S/PDIF Optical
- 6 *AV out -requires breakout cable*
- 7 Power

Hook an HDMI cable to your display and to the connection marked HDMI on the rear of the IPTV Receiver box.

Run a network cable from a switch on your network to the connector marked LAN.

Finally, plug in the power cable from the mains adapter.

CONNECTING AN IPTV RECEIVER 250/250M TO YOUR TV SERVER

Once the box has power, a blue LED will illuminate on the front. You should also see coloured activity LEDs blinking alongside the network connection on the rear.

Now switch on your display and wait for the box to finish its boot sequence.

NOTE The IPTV Receiver 250 and 250m show a Connecting screen prior to interfacing with your TV Server. This screen allows you to see the TV Servers configured on your network, and to view key configuration information such as the receiver's location, IP and MAC address, resolution and more.

The remote control has a broadly standard layout as follows:

- 1 Direct channel selection buttons
- 2 Set-top options menu
- 3 Channel rocker button

To select a particular channel, either:

Move up and down through the TV Server channel list by pressing the rocker button, or

Jump directly to the channel you wish to view by tapping out its number using the direct channel selection buttons, or

Press the Menu button and choose Video Wall (or press the shortcut for Video Wall, the Yellow button).



Console Reference

CONFIGURATION MENU

Main Menu > Configuration

The Configuration menu deals with key hardware settings for your TV Server, such as its network setup, TV receiver cards and activation.

```
Encoded Media TV Server 2.8.3-14

Main Menu > Configuration
  1. Network
  2. TV Cards
  3. Activation

      0. Back up to [Main Menu]

Web interface at http://192.168.10.204/
TV Server not activated
```

Network allows you to change your TV Server's network setup, including its IP address, DHCP configuration and proxy server details.

☞ For more details, see Network Submenu.

TV Cards initiates a scan of all inserted receiver cards for available channels.

Activation unlocks your TV Server system.

NETWORK SUBMENU

Main Menu > Configuration > Network

The Network submenu gives you access to the IP, DHCP and proxy server settings for your TV Server.

```
Encoded Media TV Server 2.8.3-14

Main Menu > Configuration > Network
1. LAN 1: 192.168.10.204 <static> 1Gb/s
2. LAN 2: 10.123.12.100 <static>
3. DHCP Server Configuration
4. Routing and Multicast
5. Proxy Settings

0. Back up to [Configuration]
Configure LAN card 1

Web interface at http://192.168.10.204/
TV Server not activated
```

LAN 1 and **LAN 2** allows you to set the IP and DNS addresses for the two network ports on your TV Server, either automatically using DHCP or manually.

NOTE Certain models have a single LAN port and only one configured IP address.

DHCP Server Configuration relates to running your TV Server as a DHCP server.

NOTE If you are connecting IPTV Receiver boxes to your network, you should enable TV Server's internal DHCP Server so that they are each provided with an IP address automatically. The internal DHCP server only affects IPTV Receiver boxes and does not affect other network users or network equipment.

Routing and Multicast configures which port should receive multicast data for broadcast to the network, and which port is the default route.

Change Proxy Settings if your network uses a proxy server.

STATUS MENU

Main Menu > Status

The Status menu allows users to monitor and test various aspects of the TV Server installation. You can also view your Encoded Media product licence on this screen.

```
Encoded Media TV Server 2.8.3-14

Main Menu > Status
  1. Network
  2. View license

      0. Back up to [Main Menu]

Web interface at http://192.168.10.204/
TU Server not activated
```

Network gives access to a series of network-related status pages and tests. There is also advanced information to aid network administrators in troubleshooting.

View Licence displays the Encoded Media End User Licence Agreement (EULA).

CONTROL MENU

Main Menu > Control

You can start, stop and restart the TV Server process from the Control Menu, and also reboot and shut down the TV Server appliance.

```
Encoded Media TV Server 2.8.3-14

Main Menu > Control
  1. TV Server Control
  2. Shutdown/Reboot System

      0. Back up to [Main Menu]

Web interface at http://192.168.10.204/
TU Server not activated
```

TV Server Control allows administrators to start, stop and restart the TV Server, but without changing the powered on/off status of the underlying appliance.

Shutdown/Reboot System allows you to choose between shutting down and rebooting the TV Server appliance. You should shut down your appliance each time you need to reconfigure it - for example, when connecting a new broadcast source - and also when you are leaving it unused for a prolonged period of time.

MAINTENANCE MENU

Main Menu > Maintenance

The System Maintenance menu allows you to set the access password, view logs, backup and restore, and gain access to other advanced system features.

```
Encoded Media TV Server 2.8.3-14

Main Menu > Maintenance
1. Change Administrator Password
2. View Logs
3. Backup/Restore
4. Advanced

0. Back up to [Main Menu]

Web interface at http://192.168.10.204/
TV Server not activated
```

Change Administrator Password allows you to set the password which gives users access to the engineer setup menus.

NOTE You will need to supply the existing password.

View Logs shows a log of TV Server system activity.

Backup/Restore allows engineers and administrators access to backup the TV Server database and to restore the system to its factory default state.

Advanced gives access to Internet updates and gives console access, among other restricted administrator functions.

☞ For more details, see Advanced Submenu.

ADVANCED SUBMENU

Main Menu > Maintenance > Advanced

The Advanced menu allows access to admin functions, such as updating your server, editing its core configuration and launching a command shell.

```
Encoded Media TV Server 2.8.3-14

Main Menu > Maintenance > Advanced
1. Update system software
2. Edit etvd.conf
3. Launch Command Shell
4. Upgrade from downloaded packages

0. Back up to [Maintenance]

Web interface at http://192.168.10.204/
TV Server not activated
```

Update system software connects to the Encoded Media package download server and upgrades your server to the latest version.

NOTE If a patch is available, your server will be upgraded and a restart will be required for the update to be correctly applied.

Edit etvd.conf opens a text editor with the TV Server configuration file open.

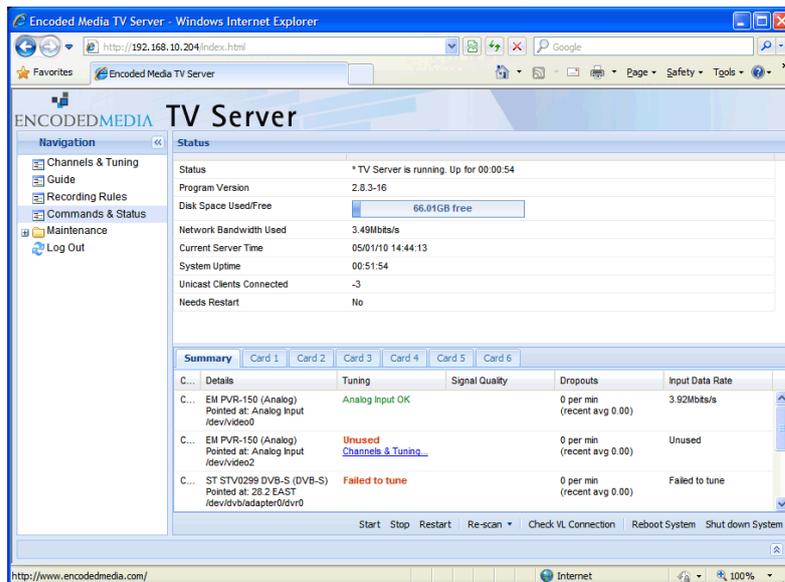
Launch Command Shell gives access to the TV Server operating system.

Upgrade from downloaded packages *Advanced engineer option.*

Web Reference

COMMANDS & STATUS

Initial screen providing an overview of your server and access to TV tuning functions.



Status

Displays how long TV Server has been running and also includes information on disk space.

Network Bandwidth Used

Shows how much traffic is making its way onto the network.

Tabbed area

Shows the status of installed interface cards. The information tells you how your cards are tuned.

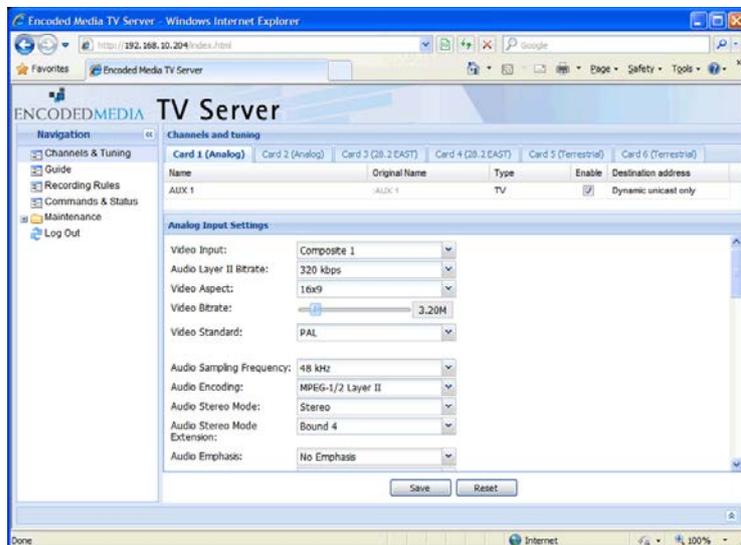
Toolbar

Advanced Users Only. To start and stop the server, click the Start, Stop and Restart buttons on the lower toolbar. To initialise your TV interface cards, click Rescan.

NOTE To restart or power down the TV Server appliance, click the *Reboot System* or *Shut down System* button.

CHANNELS & TUNING

Displays your TV Server's interface cards and the channels to which they are tuned.



Interface card tabs

Select a particular broadcast source by clicking the appropriate tab.

Tuning your cards

For non-analog broadcast sources, click the *Select Channel Group* button to display a window showing all channels available on the selected source. Channels will be grouped into transponders. Each DVB card is able to tune to a group of channels contained within a single transponder.

For analog sources, you are able to modify an exhaustive list of source input settings, such as video aspect, video standard and so on.

Selecting channels

For non-analog broadcast sources, pick the channels you want TV Server to serve by putting a check in one or more boxes in the *Enable* column.

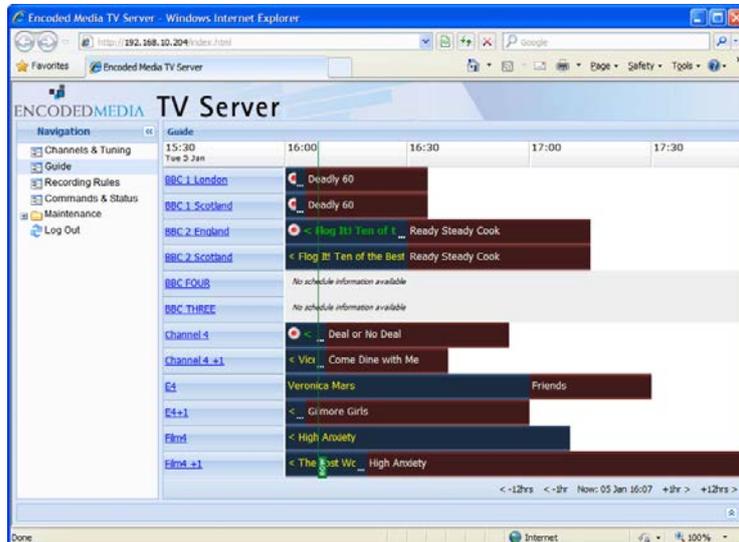
NOTE You can rename channels by clicking the relevant entry in the *Name* column. By also prefixing your names with an identifying number, a parenthesis and a space, TV Server will sort your list of channels numerically. For example:

4) Channel 4

Once finished, click *Save* to store your changes or *Reset* to discard them.

GUIDE

Displays TV Server's built-in Electronic Programme Guide or EPG.



Channel listing

The left column shows the channels that TV Server is currently broadcasting. Click a channel name to preview it in the default handler for broadcast streams.

Magazine

Blocks represent past and upcoming shows (the blocks are coloured different to help you see the breaks between programs and for no other reason). A recording symbol in the corner denotes whether the show is also being recorded.

NOTE You can click a magazine block with your mouse to add, remove and modify a recording rule.

'Now' divider bar

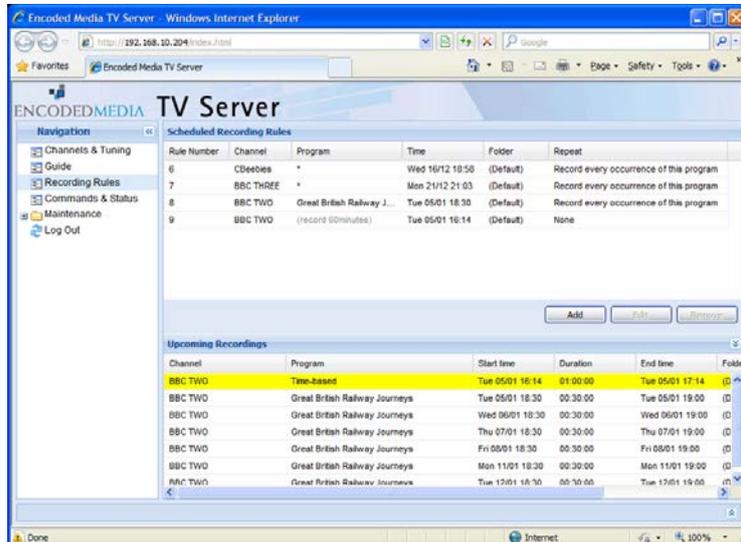
The vertical green line is a visual representation of the current time.

Time Shuttle Toolbar

Click the buttons on the toolbar to go forward and backwards along the EPG timeline. The time covered by the guide is shown in the middle.

RECORDING RULES

The Recording Rules page shows programs scheduled to be recorded.



Recording rules

Rules determine what the TV Server records. Each rule is tied to one channel, but a rule can be written to record anything from a single instance of a particular programme to every programme output by the channel. Rules can be limited to particular days or all the time, and they be configured to put recordings into folders, ensuring that whatever you record it is stored in a logical fashion.

Edit Toolbar

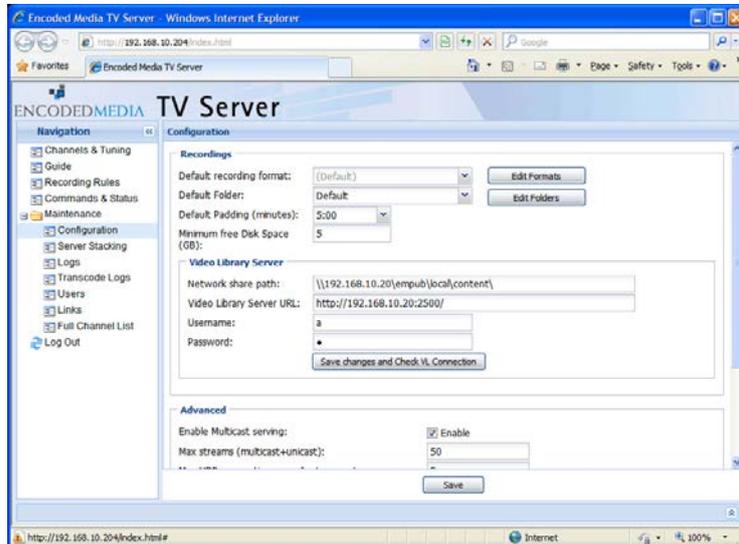
Click the *Add* button to create a new rule. Highlight an existing rule in the list and click *Edit* to change its properties, or *Remove* to delete it.

Upcoming recordings

The list at the bottom of the screen shows TV Server's behaviour as governed by the rules defined above. Highlighted entries depict programmes that are being actively recorded, with other entries showing forthcoming recording activity.

CONFIGURATION & MULTICAST

Allows you to change a number of basic configuration options of your TV Server.



Default recording format

Select a default format or click *Edit Formats* to manage them.

Default folder

Select a default folder into which new recordings will be saved, or click *Edit Folders* to manage your server's folder structure.

Default padding (in minutes)

The amount of time added to the beginning and end of new recordings.

Minimum free disk space (in gigabytes)

How much space should be available before TV Server disables recording functions.

Encoded Media Video Library Server

Admin Users Only. The address of a Video Library Server on your network.

Advanced

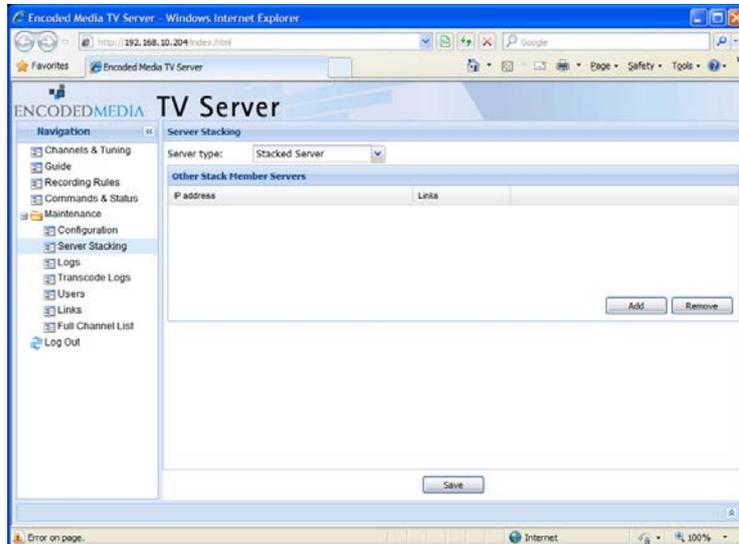
Admin Users Only. Configure your server for serving multicast.

Time and Date

Set your TV Server's internal clock.

SERVER STACKING

Create a broadcasting network by linking multiple TV Servers together.



Server Type

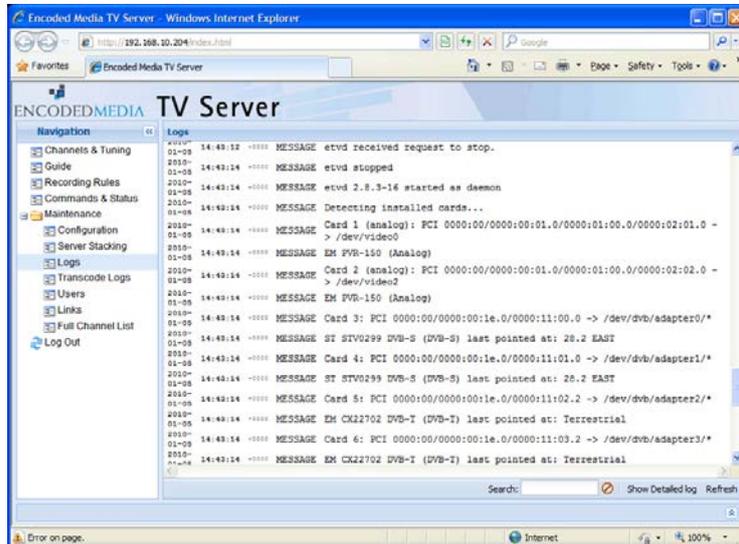
Choose whether your appliance should act in Standalone mode (the default) or in a stack of other TV Server systems.

Other Stacked Members

Add and Remove other TV Server systems by their IP address.

LOGS & TRANSCODE LOGS

Displays the log entries created by various TV Server operations.



Main log view

The log view shows date, time, log message type and actual log messages.

Log search

Admin users only. You can search the log by entering a query in the *Search* field. The view will be updated as you type. Your query can be removed by clicking the clear button.

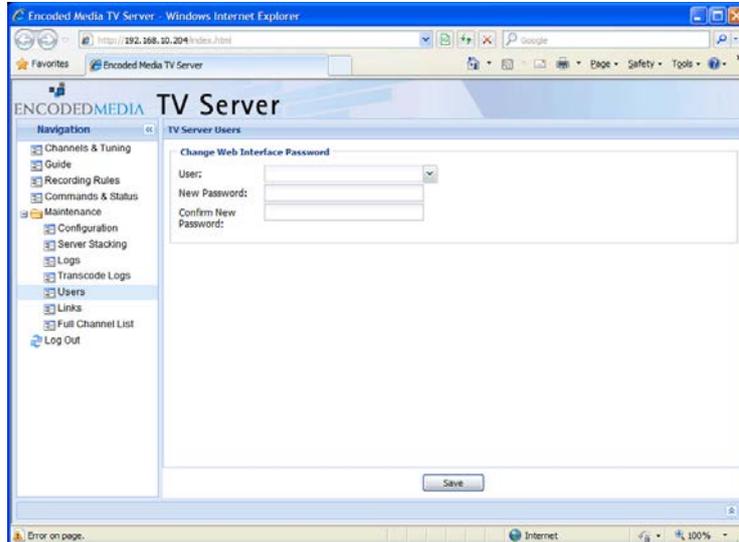
Log options

Admin users only. Click the *Show Detailed log* button to increase the level of reporting shown in the log. This can be useful for troubleshooting.

Click *Refresh* to update the log view.

USERS

Manage users able to access the TV Server web interface.



Change web interface password

Select the user whose login details you wish to amend from the drop-down list. Provide the new password in both boxes for confirmation.

If you are an administrator, you will not be able to view the login details of other users but you will be able to assign new passwords.

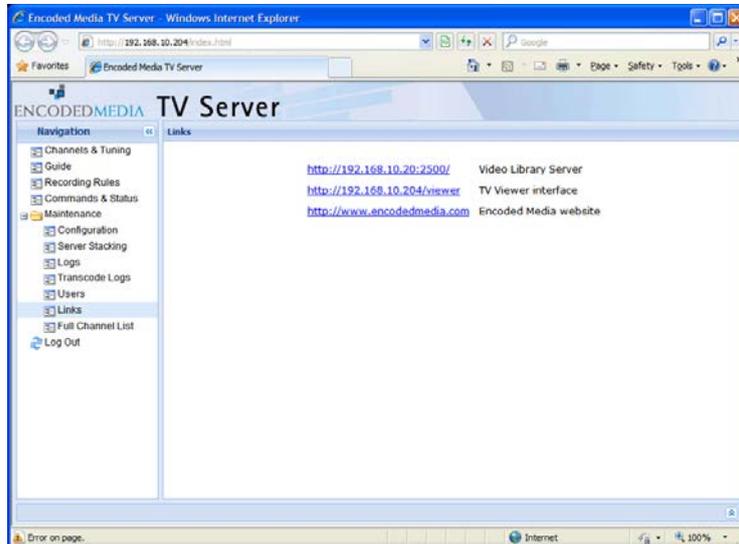
Save button

Press the Save button in the bottom toolbar to store any login detail changes permanently.

NOTE If you are changing the password for the administrator's account, you must provide the existing account password before clicking Save.

LINKS

Provides easy access to related web links.



Encoded Media Video Library Server

Links to the web interface of the Video Library Server as defined in *Configuration*.

TV Server web viewer interface

You can watch TV Server channels using a standard web browser such as Internet Explorer or Firefox.

Encoded Media web site

The main home page of Encoded Media.

Appendix I

CONFIGURING WINDOWS FIREWALL

For TV Server to be able to connect to a Network Share Path on a server running Microsoft Windows, you will need to configure the Windows firewall accordingly.

The following ports when opened allow two-way communication with the TV Server:

137	TCP	NETBIOS Name Service
138	TCP	NETBIOS Datagram Service
139	TCP	NETBIOS session service
389	TCP	LDAP Active Directory Mode (where applicable)
445	TCP	Microsoft Active Directory (where applicable)

Appendix II

CONFIGURING A STANDALONE NETGEAR FSM7328S / FSM7352S

Telnet to switch and connect with the following credentials:

login: admin
password: (blank)

NOTE The default IP for the switch without DHCP is 169.254.100.100

Enter administrator mode:

```
enable
```

Set the IP address of the switch:

```
network parms 10.123.23.1 255.255.255.0
```

Switch on IGMP snooping:

```
config
  ip igmpsnooping
  ip igmpsnooping interfacemode
  ip igmpsnooping unknown-multicast filter
exit
```

Enable VLAN:

```
vlan database
  ip igmp 1
  ip igmpsnooping querier 1
exit
```

Set the switch as an IGMP query:

```
config
  ip igmpsnooping querier ip-address 10.123.23.1
exit
```

Save your settings and reboot:

```
save
reload
```

Appendix III

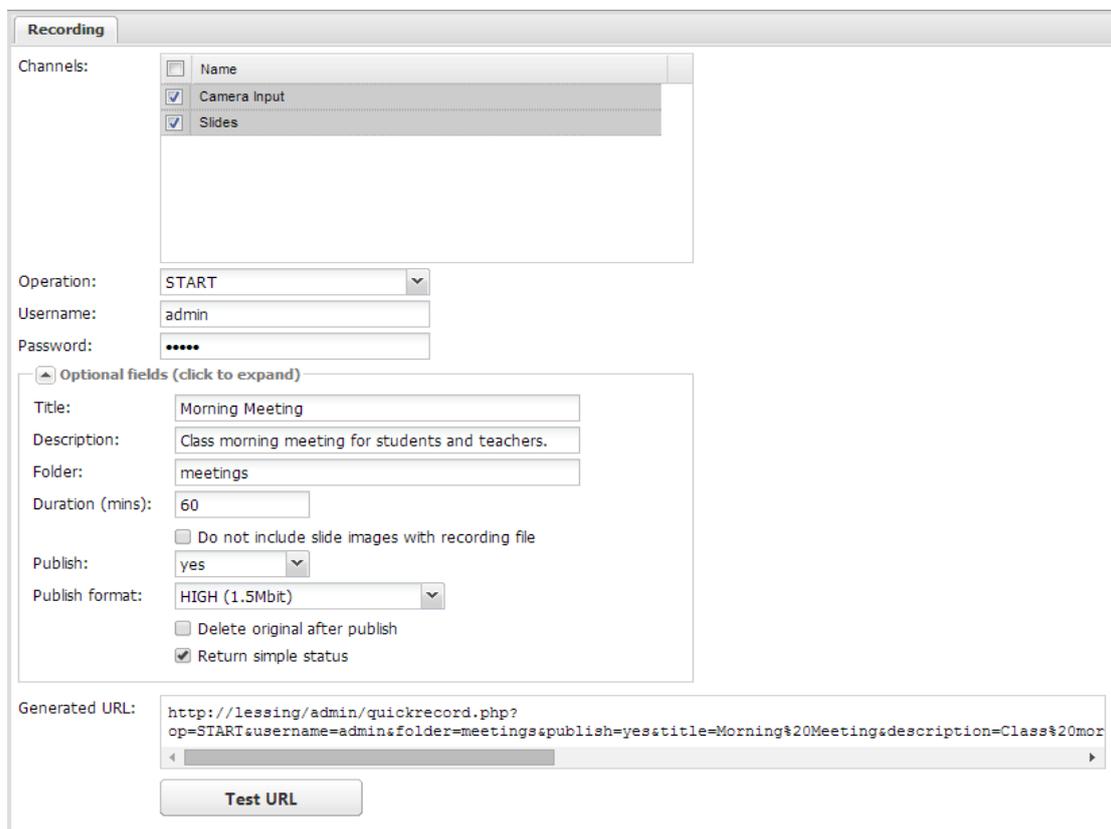
REMOTE CONTROL OF YOUR TV SERVER VIA HTTP

You are able to control the starting and stopping your TV Server recordings, and can query the appliance's status, by calling a web URL.

NOTE The HTTP remote control feature is available in TV Server 3 and later.

You can create the URLs necessary to control your server by visiting the Automation URL builder in the Web Configuration Interface.

To access the Web Configuration Interface, expand the **Options** node in the navigation pane and select **Automation URL** from the menu beneath.



Recording

Channels:

- Name
- Camera Input
- Slides

Operation:

Username:

Password:

Optional fields (click to expand)

Title:

Description:

Folder:

Duration (mins):

Do not include slide images with recording file

Publish:

Publish format:

Delete original after publish

Return simple status

Generated URL:

The image shown above is taken from an Encoded Media HD Encoder 2/HDMI with two inputs named *Camera Input* and *Slides*.

Channels

Lists all available inputs on your TV Server appliance. Select one or more channels that you wish to control by URL.

Operation

Select whether you wish to *START*, *STOP*, or report back *STATUS* on recording by choosing the appropriate entry from the drop-down list.

Username and Password

Provide the credentials of a user that has access to the Web Configuration Interface.

Title†*

Provide the title of the new recording.

Description†*

Provide the description.

Folder†*

Provide the destination directory.

Do not include slide images with recording file†*

Omit captured image files from the final recording.

Duration (mins)†*

Provide the maximum length in minutes.

Publish†*

Set either to *default*, *yes* or *no*, this drop-down option determines whether the recording will be published after it is completed.

Publish format†*

Choose a quality setting for the published file.

Delete original after publish†*

When checked, the original recording is deleted once it has been published.

*Return simple status**

When checked, status information is always returned in a simplified CSV format.

The Generated URL field shows a dynamically updating address that will automate the appliance using the parameters you set. You can copy the URL or click the 'Test URL' button to open a new web page and initiate the automated commands.

* optional parameter † applicable only where Operation is START

MAKING A DIRECT HTTP CONNECTION

To make a direct HTTP connection with the appliance, take the following steps:

1. Make a TCP connection to the server on port 80.
2. Send your commands in the following format:

```
GET /< path > HTTP/1.0\n\n
```

Where *path* has either been created using the Automation URL builder, or constructed in code using the parameters specified later this section.

3. Disconnect.

STATUS

When the Operation is STATUS, and wherever a START or a STOP has been specified, the appliance will return status in a comma separated format.

An example of the appliance status is shown below:

```
Slides,1,00:20:28  
Camera Input,1,00:20:28
```

The first field is the name of the channel. The second field denotes whether the channel is actively recording, and the third shows the duration of that recording.

PARAMETER OVERVIEW

If you are building the URLs programmatically, the following parameters can be used to provide data values.

NOTE The strings you build must be URL encoded. You can do this in code or by using a free online service such as www.url-encode-decode.com.

id

The source for the operation. This is in the format:

```
id=< name >
```

Where *name* is a string matching the name of the channel in question. Example:

```
id=Camera
```

op

The operation to execute. This can be one of three string values:

```
op=< START|STOP|STATUS >
```

Where *START* begins recording, *STOP* ends it, and *STATUS* retrieves information on the status of recording. Example:

```
op=STATUS
```

format

How the status response text should be formatted.

```
format=< csv|json >
```

This is a string value determining either comma separated (CSV) or JSON. Example:

```
format=csv
```

username

The account of the user who will execute the operation.

```
username=< string >
```

This is a string value of the username in question. Example:

```
username=admin
```

password

An MD5 hash.

```
password=< string >
```

This is the string hash of the password associated with username. Example:

```
password=8409eb933e9f364ce2a7dbad59201f2f
```

NOTE You can either hash the password programmatically, or use a free online service such as www.md5hashgenerator.com

folder

The name of the folder in which to store the new recording.

```
folder=< string >
```

A string value of the subdirectory in question. Example:

```
folder=Content+Folder
```

title

The title of the recording.

```
title=< string >
```

A string value representing the new recording's title. Example:

```
title=Sales+Department+Meeting
```

description

The description of the recording:

```
description=< string >
```

A string value representing the new recording's description. Example:

```
description=Monday+morning+sales+team+meeting
```

duration

The maximum length for the recording.

```
duration=< integer >
```

The length is expressed in minutes. Example:

```
duration=60
```

noslides

Include or omit captured images with the recording.

```
noslides=< Boolean >
```

To omit slides use a value of *1*, and to include them a value of *0*. Example:

```
noslides=1
```

publish

Determined whether the recording should be published.

```
publish=< Boolean >
```

To publish use a value of *1*, and to not publish a value of *0*. Example:

```
publish=0
```

transspec

The name of the transcoding profile for publishing:

```
transspec=< string >
```

The string representing the profile name. Example:

```
transspec=HIGH+(1.5Mbit)
```

EXAMPLES

Below are some examples of common automation URLs.

Start making a new recording entitled “My Recording” from source “Camera”:

```
http://<server-ip>/admin/quickrecord.php?  
op=START&id=Camera&title=My+Recording&format=csv
```

Start recording on all channels, using default settings:

```
http://<server-ip>/admin/quickrecord.php?  
op=START
```

Stop all recordings:

```
http:// <server-ip>/admin/quickrecord.php?  
op=STOP
```

Here, user ‘admin’ will start a recording from the source card “Slides” entitled “Morning Meeting” with a description of “Class morning meeting for students and teachers” and a maximum duration of 60 minutes. It will be stored in a folder “meetings” and will not include slides. It will be published using a 1.5Mbit transcoding profile, and status from the server will be returned in a comma-separated format.

```
http:// <server-ip>/admin/quickrecord.php?  
op=START&username=admin&folder=meetings&publish=1&  
title=Morning+Meeting&description=Class+morning  
+meeting+for+students+and+teachers&duration=60&  
noslides=1&transspec=HIGH+(1.5Mbit)&format=csv&  
password=21232f297a57a5a743894a0e4a801fc3&  
id=Slides
```

The status returned from the above URL will be as follows:

```
Slides,0,  
Camera Input,1,00:00:00
```

This indicates that the channel defined as Camera Input has begun recording, whereas the channel defined as Slides remains idle.

A later status:

```
http:// <server-ip>/admin/quickrecord.php?  
op=STATUS&format=csv
```

This indicates that the channel defined as Camera Input has begun recording, whereas the channel defined as Slides remains idle.

A status request made a short time later shows:

```
Slides,0,  
Camera Input,1,00:02:09
```

The channel defined as Camera Input has been recording for 2 minutes 9 seconds and the other channel defined as Slides remains idle.