

OMP500 OTT/IPTV Encoding/Transcoding Platform User Manual



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Overview

This user manual describes the installation, deployment and operation steps of OMP500 from Wellav Technologies Ltd (hereinafter referred to as Wellav).

Specific products of OMP500 include:

Product model/name (Categories)	Product description			
OMP500	Any-service Real-time Encoding/Transcoding System			
WMS	Real-time Encoding/Transcoding web-based			
VVIVIS	management tool			

For the convenience of easy installation and debugging OMP500, the manual will show the stepby-step installation guide and debugging instruction for you. Wellav will also solve all around the various problems encountered in the process of using such products by means of on-site & remote training, product technical support, and so forth.

1. Access to OMP system

OMP500 system performs its management and operation through Wellav Management System (hereinafter refer to as WMS). The WMS is already embedded into the OMP system before leaving the factory if you purchase the all-in-one machine, or we will send the installation package of software to you separately if you have your own server which is capable . The realization of operation and setting of OMP system are all required through WMS.

Important notes:

• If you have multiple OMP500 and want to install them in the same network, please pay special attention to the network configuration and avoid any IP address conflict. How to change network setting will be described in detail as follows.

1.1 Access to WMS

When OMP system is installed for the first time, user can log in WMS by its default IP address:

Important note:

• User needs to confirm that management workstation (PC) must be in the same network as OMP.

• User needs to confirm that the default IP address of OMP can be access to (can be

confirmed by ping way).

WMS default IP setting:

ETH0:

IP address: 192.168.254.1

Subnet mask: 255.255.255.0

Default gateway: 192.168.254.255

ETH1:

IP address: 192.168.253.1

Subnet mask: 255.255.255.0

Default gateway: 192.168.253.255

When <u>http://192.168.254.1</u> or <u>http://192.168.253.1</u> inputted in the URL address in the browser, user can see WMS login page interface.

2. WMS Description

2.1 Management workstation (PC) configuration

2.1.1 Start web browser

Management workstation must install a Web browser. It is recommended to use Microsoft Internet Explorer 8.0 (or higher), Firefox3.0 (or higher). JavaScript function of the browser need to be enabled. The steps of enabling JavaScript function are shown below:

• Internet Explorer Setting:

Go to Internet explorer Menu, select "Tools \rightarrow Internet option \rightarrow Security \rightarrow Custom level \rightarrow Security setting interface \rightarrow Scroll down to pull down slider \rightarrow To "script" \rightarrow Active scripting \rightarrow Select "enable"

General Security Privacy Context Connections Programs Advanced Select a zone to view or change security settings. Image: Security security settings.	Internet Options	Security Settings - Internet Zone
Security level for this zone Custom Custom settings. • To change the settings, dick Custom level. • To use the recommended settings, dick Default level. © Enable Protected Mode (requires restarting Internet Explorer) Custom level Default level Reset all zones to default level OK Cancel	General Security Privacy Content Connections Programs Advanced Select a zone to view or change security settings. Image: Content Connections Sole Sole Internet Local intranet Trusted sites Restricted sites Internet Local intranet Trusted sites Security Internet Local intranet Trusted sites Sites Internet Society of this zone Sites Security level for this zone Security level for this zone Sites Custom settings. - To change the settings, dick Custom level, - To use the recommended settings, dick Default level. Image: Protected Mode (requires restarting Internet Explorer) Custom level Default level Reset all zones to default level Reset all zones to default level Security level	Settings Websites in less privileged web content zone can navigate in Disable Prompt Scripting Active scripting Prable Prable Prompt Z Allow Programmatic dipboard access Disable Prompt Z Allow status bar updates via script © Disable Prompt Z Allow status bar updates via script © Disable Prable Prompt Z Allow status bar updates via script © Disable Prable Wedum-high (default) Reset custom settings Reset to: Medum-high (default) Reset

Figure 1: Enable JavaScript function in the Internet explorer

• Firefox Setting:

Go to menu: "Tools \rightarrow Option \rightarrow Content \rightarrow Tick to "Enable JavaScript".

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Main	Tabs	Content	Feeds	Privacy	Security	Advanced
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Contr 2	Colors					
Default	font: 1	'imes New Ro	oman	~	Size: 18	Advanced <u>Colors</u>
File Type	əs —					
Configur	e how Fi	refox handles	certain t	ypes of file	s	Manage
				_		
				ОК		ncel Help

Figure 2: Enable JavaScript function of Firefox

Or you can input "about:config" in the address bar \rightarrow Search "javascript.enabled" to check whether your Firefox browser enable the java script if your Firefox's version is relatively newer

In addition, if you need to turn off the password memory function to prevent unauthorized login, please execute the following operations:

• Internet Explorer Setting:

Go to menu: Tools \rightarrow Internet Option \rightarrow Content \rightarrow Automatically complete \rightarrow Settings \rightarrow All options are canceled

Internet Options	AutoComplete Settings
General Security Privacy Content Connections Programs Advanced	AutoComplete lists possible matches from entries you've typed or visited before. Use AutoComplete for
Control the Internet content that can Be viewed.	Address bar Browsing history
Certificates	Favorites
Use certificates for encrypted connections and identification.	- Feeds
Clear <u>S</u> L state <u>C</u> ertificates Pu <u>b</u> lishers	Use <u>W</u> indows Search for better results Suggesting <u>U</u> RLs
AutoComplete	Eorms
AutoComplete stores previous entries Settings on webpages and suggests matches for you.	Ask me before saving passwords
Feeds and Web Slices	
Feeds and Web Slices provide updated Settings content from websites that can be read in Internet Explorer and other programs.	OK Cancel
OK Cancel Apply	

Figure 3: Turn off password automatic memory function in Internet Explorer

• Firefox Setting:

Go to menu: "Tools \rightarrow Option \rightarrow Security \rightarrow Password \rightarrow Cancel tick before the option of "Remember website password"

1	(B			æ	0	Sand
T		-	\mathbf{D}			2000
Main	Tabs	Content	Feeds	Privacy	Security	Advanced
Var <u>V</u> ar	m me whe me if the Check usi	en sites try t site I'm visit	o install ac ing is a su aded list c	ld-ons spected fo	rgery ad sites	Exceptions
õ	Check by	sekina Go	oola 🔽	boute	ach cito I vie	:it
<u>U</u> se	a master	password			Change	Bhow Passwords.
Warning	g Messages	5				
Choose the wel	which wai b	rning messaç	jes you w	ant to see	while brow	sing <u>S</u> ettings
				<u></u>	-	

Figure 4: Turn off password automatic memory function in Firefox

Or if your Firefox's version is relatively newer, you can go to: Option \rightarrow Privacy & Security \rightarrow Login and Passwords \rightarrow Cancel tick the option of "Ask to save logins and passwords for websites"

2.1.2 Login WMS

Input default IP address in the browser, and enter into WMS login window. The default login administrator's name and password are both "**admin**".

WELLAV Encoding/	ce Real-time Franscoding System	中文
Login	User Name: admin Password: ••••• Login	Cancel

Figure 5: Login WMS interface

2.1.3 Introduction to interface layout:

Picture below shows the main interface after login WMS, which is divided into five parts:

- 1. The first part shows the company's logo and product name;
- 2. The second part consists of the interface of switching languages, and the "About" to get software version information, the "Help" to get support and the "Log Out" button to exit the system;
- 3. The third part of the system is status bar, displays the current login account, whether the system running has the Alarm and the current time of the system;
- 4. The fourth part is the main menu window;
- 5. The fifth part includes storage space management and system status.

Competitive Status Program Stream Output Destination Video Marcal 224 Dispest Config Imput Imput Upr/229 192 0.2011000 efft Upr/229 192 1.201000 12004b 1284b 1 Program Config Imput Imput Output Upr/229 192 0.20110000 efft Upr/229 192 1.201000 12004b 1284b 1 Program Config Imput Imput Upr/229 192 0.20110000 efft Upr/229 192 1.201000 12004b 1284b 1 Program Config Imput Imput Upr/229 192 0.20110000 efft Upr/229 192 1.201000 12004b 1284b 1 Program Config Imput Imput Upr/229 192 0.20110000 efft Upr/229 192 0.201000 12004b 1284b 1 Program Config Imput Upr/229 192 0.201000 efft Upr/229 192 0.201000 12004b 1284b 1 System Config Imput Upr/229 192 0.201000 efft Upr/229 192 0.20600 12004b 1284b 1 System Config Imput Output Upr/229 192 0.20600 efft 12004b0 1284b	p 😡 Log Out
Overlay Log Channel # Encoder Channels Backup Video Dutput Mode: IPTV Backup Video Imput Output Output Dutput Mode: IPTV Imming Task Imput Output Output Output Output Dutput Output UDP //239 192 0.20110000 ethi UDP //239 192 0.2016000 120000b 12000b	50
P. Resource Output Mode: Provide: > Logo Graphic Sackup Volao Output Mode: Provide:	
Doug Graphic Output Mode: IPTV Backup Video Status Program Stream Ingest Config Output Destination Nideo Bitrate Prog # Manual Task Overlay Log 1 Imput Output UDP//229 192 0.20110000 ethi UDP//229 192 1.2016001 1220x1800 1228/b 1 Immed Task Imput Output UDP//229 192 0.20110000 ethi UDP//229 192 0.201600 1200x80 128/b 1 Immed Task Imput Output UDP//229 192 0.20110000 ethi UDP//229 192 0.20000 1200x80 128/b 1 Impect Config Imput Output UDP//229 192 0.2010000 ethi UDP//229 192 0.200 t000 1200x80 128/b 1 Config Chashis Imput Output UDP//229 192 0.201000 ethi UDP//229 192 0.200 t000 1200x8b 128/b 1 Config Chashis Imput Output UDP//229 192 0.201000 ethi UDP//229 192 0.201000 1200x8b 128/b 1 Status Kondard Imput Output UDP//229 192 0.201000 ethi UDP//229 192 0.206 1200x8b 128/b 1 Status Revolution Imput </td <td></td>	
Backup Voleo Import Output Unprogram Ingest Config Output Destination Video Bitrate Bitrate Program Import Size Import Import Output UDP//229 192.0.20110000 eth UDP//229 192.1.2018001 1200480 120840 1 Import Config Import Import Output UDP//229 192.0.20110000 eth UDP//229 192.1.2018001 1200480 120840 1 Program Config Import Output UDP//229 192.0.20310000 eth UDP//229 192.1.202 6002 1200480 120840 120840 1 Configuration Import Output UDP//229 192.0.20310000 eth UDP//229 192.1.202 6002 1200480 120840 12846 1 Program Config Import Output UDP//229 192.0.20410000 eth UDP//229 192.1.205 6000 1200480 120840 12846 1 System Config Import Output UDP//229 192.0.20410000 eth UDP//229 192.1.205 6000 1200480 12846 1 System Restart Import Output UDP//229 192.0.2061000 eth UDP//229 192.1.206 6000 1200480 1200480 120846 1<	
Channel # Enable Status Program Stream Configuration Ingest Config Output Destination Wideo Resolution Autual Bitrate Prog # Bitrate 1 Imput Output UDP/I239 192.0.201:1000.001 UDP/I239 192.0.201:000.001 1200:100 120	
Overlay Log Imput Output UOP/J239 192 0.201:1000.001 UDP/J229 192 1.201.600 1200:100 1200:00 <td>Program Name</td>	Program Name
□ngest Config 2 2 1 0 <t< td=""><td>Wellav service</td></t<>	Wellav service
Single Dearling 3 2 Imput Output UDP/I239.192.0.204.10000.etml UDP/I229.192.1.203.6003 1920.1080 1200kb 128kb 1 Percoram Config 4 2 Imput Output UDP/I239.192.0.204.10000.etml UDP/I239.192.0.206.1000.etml UDP/I239.192.0.206.100	N/A
4 3 Imput Output UDP/I239 192 0.265 10000 ethi UDP/I229 192 1.204 6004 1920x1080 1280xb 1280xb 1280xb 1280xb 1280xb 1 > Config Details 5 3 Imput Output UDP/I239 192 0.265 10000 ethi UDP/I239 192 0.266 10000 ethi	N/A
Source State Imput Output UDP/I239.192.0.268.10000.eth UDP/I229.192.1.205.6005 1920x1080 1200xbb 120bb 1 ©system Restart 6 2 Imput Output UDP/I239.192.0.268.10000.eth UDP/I239.192.0.266.0000.eth UDP/I239.192.0.206.10000.eth UDP/I239.192.0.206.10000.eth 1200xbb 1200xbb 120bb 1 > Network 7 2 Imput Output UDP/I239.192.0.206.10000.eth UDP/I239.192.0.206.10000.eth UDP/I239.192.0.206.0000.eth 1200xbb 1200xbb 128bb 1 > SMNP Narager 3 2 Imput Output UDP/I239.192.0.206.10000.eth UDP/I229.192.1.206.6000 1200xbb 128bb 1 > System Restart 5 Imput Output UDP/I239.192.0.206.10000.eth UDP/I229.192.1.206.6000 1200xbb 128bb 1	N/A
Osystem Config 6 2 Imput Output UDP#/239 192 0.207 10000 eth1 UDP#/229 192 1.206 6006 1920+1080 1280kb 1280kb 1280kb 1 > Network: 7 2 Imput Output UDP#/239 192 0.206 10000 eth1 UDP#/229 192 1.207 6007 1220k180 1280kb 1280kb 1 > SNMP Nanager 8 2 Imput UDP#/239 192 0.206 10000 eth1 UDP#/229 192 1.206 6006 1920+1080 1280kb 1 > System Restart	N/A
Network: 7 Imput Output UDP://239.192.0.208.10000 eth1 UDP://239.192.0.208.0000 eth1 UDP	N/A
S SyMuP Manager 8 Input Output UDP://239.192.0.269.10000 eth1 UDP://229.192.1.208.6008 1920x1060 1200x10 128ib 1 > System Restart > System Restart > System Restart >	N/A
	N/A
P remeate cyglade	
Passor	
> System Time	
Config Backup	

Figure 6: WMS Home page in OMP

2.1.4 Use correct login password

The factory setting account, password and username are the same "**admin**". So it is recommended that the user modifies firstly the password for his own account after first login.

2.2 Change system language

WMS supports in both Chinese and English languages, after the user connects to WMS, before or after his landing can change the language type of the system.

Before the user logs in WMS, please click "Chinese" or "English" in the login Window to change the corresponding language type.

After the user logs in, please click and select "Chinese" or "English" at the upper right corner of WMS, and then click "OK" or "Confirm" button in the pop-up window, it just becomes the appropriate language type as shown in following diagram.



Figure 7: Language window in changing interface

2.3 Modify login password

Click the "Password" submenu in "System Config" menu on the left side of the page, and enter to modifying the System Password window as shown in following diagram. In this window, first enter the current password, then enter the new password and confirm it again, click "Set Password", you can complete the password modification.

	a Deal time Encoding Transcoding System	
WELLAV	e Real-time Encoding/Transcoding System	Log Out
Logged In: admin	Nomat 23:30:26	
Media Manager	Password	
Program Config	(minimum 5 characters, maximum 12 characters, and no	
System Config	(manual or characters, maximum re characters, and no space allowed)	
Network		
SNMP Manager	User Name: admin	
System Restart	Enter Current Password:	
Firmware Upgrade	Enter New Password	
System Resources		
≱ Password	Re-enter New Password:	
System Time	Set Password	
Config Backup		
System Logs		
Advanced Config		



3. WMS management

3.1 Network Configuration

Network Configuration is the first step in the system management, only system network is configured properly then can the user operate the OMP system by system management Interface. The user can land WMS system management interface in accordance with the factory default IP setting provided by the System Specification, after your correct landing system, click "System Config" menu in the menu on the left side, and then select the "Network", you can carry out the Network Configuration.

This network Configuration refers to configuration for the IP address of the OMP system itself. Please note that there are several different IP addresses in the parameter configuration process of the OMP system as shown in following diagram:



Figure 9: IP address explanation

3.1.1 Configuration of dual network ports (option)

The user can customize the operating mode of the dual network ports, i.e. two network ports are all working port. The specific location of the network port is different with different hardware platforms. From one side of the OMP system away from the power supply, two physical network ports are classified a group in the left ---- NIC1, as well as the two physical network ports are classified a group in its right side ---- NIC2.

Click on the network configuration submenu, it will appear in the two parts of the network configuration, and the input and output network interfaces on the right side. The user can configuration one of parts as the input port, and the other is an output Port to distinguish the input / output data stream areas, and the input / output ports can be set as different network segments, to facilitate the user's work in different Network Segments. NIC1 and NIC2 can all become the login IP address of WMS (as shown in following diagram).

User can reset the IP address, subnet mask and default gateway through the network configuration page, and then click setting finish, click Submit button, as a result the new setting is completed. After submission is successful, the system will automatically reboot, please follow the new IP address to access the device management interface after rebooting.

• Important note: once the IP address is changed successfully, user can use the new IP address to access WMS.

User can now modify the network configuration of management workstation, and reconnect the OMP system to verify whether the new configuration takes effect.

Loggd In admin Mormal 22551265 Mddia Manager Metwork Settings Ingest Config Ingest Config System Config Ingest Config System Config Ingest Config System Restart Ingest Config System Restart Retwork Settings Provide Namager Ingest Config System Resources Protomot Digado Password One on one one one one one one one one on	WELLAV	a rour time Endouring Hunsbouring Oystem				-	🚩 🧿 中文 🕡 About 🕜 Help 🔞 Log O
Media Manager Ingest Config Program Config System Restart System Restart System Resources System Time Config Backup System Logs Advanced Config IP Address IP Address Config Backup System Logs Advanced Config	Logged In: admin						Normal 23:51:30
Ingest Confg System Confg System Confg I/P Address1 System Confg System Confg System Confg System Restart Definition Restart System Restart System Restart Image: Restart Restart System Restart Definition Restart System Time Image: Restart Restart System Logs Advanced Config Image: Rest Submit Rest	Media Manager	S Network Settings					
Program Config Network Sattings System Config IP Address1 192 168 254 1 SNMP Manager System Restart Image: Config: IP Address1 Image: Config: IP Address2 Image: Config: IP Address2 <td< td=""><td>Ingest Config</td><td></td><td></td><td></td><td></td><td></td><td></td></td<>	Ingest Config						
System Config IP Address1 192 168 254 1 SNMP Manager System Restart 255 255 0<	Program Config	Network Settings					
Plankovic 100 100 100 100 > SNMP Manager Confina Pladdress 1 1 1 > System Restart Sateway 1 255 255 0 > System Resources Preferred DNS 0 0 0 > Password System Time 0 0 0 0 > System Logs IP Address2 102 168 253 1 > System Logs Nemask 2 255 255 0 0 > Advanced Config Config Config 168 254 255	- System Config	IP åddrass1	192	168	254	1	
> SNMP Manager Netmask 1 255 255 0 > System Restart Gateway 1 102 168 254 255 > System Resources Prefored Config 0 0 0 0 > System Tome IP Address2 102 168 253 1 > Config Backup Confirm IP Address2 102 168 253 1 > System Logs Netmask 2 255 255 0 0 0 0 > Advanced Config Cateway 2 - - - - -	Network	Confirm IP Address	102	100	2.04		
> System Restart Gateway 1 192 168 254 255 > Firmware Upgrade Preferred DNS Sever 0 0 0 0 > System Resources Atternate DNS Sever 0 0 0 0 > System Time IP Address 192 168 253 1 > Config Backup Confirm IP Address 192 168 255 0 > System Logs Netmask 2 255 255 0 0 > Advanced Config Gateway 2 - - - -	SNMP Manager	Netmask 1	255	255	255	0	
Firmware Upgrade Preferred DNS 0 0 0 > System Resources Alternate DNS 0 0 0 > Password Server 0 0 0 0 > System Time IP Address 2 192 168 253 1 > Config Backup Config IP Address 2 192 168 255 255 > System Logs Netmask 2 255 255 0 > Advanced Config Gateway 2 Image: Config Reset	System Restart	Gateway 1	192	168	254	255	
> System Resources Server 0 0 > Password Alternate DNS 0 0 > System Time IP Address2 102 168 253 > Confing Backup Confine IP Address2 102 168 1 > System Logs Netmask 2 255 255 0 > Advanced Config Gateway 2 Image: Confine IP Address2 Image: Confine IP Address2	Firmware Upgrade	Preferred DNS	0	0	0	0	
Password 0 0 0 0 System Time IP Address2 192 168 253 1 Config Backup System Logs Image: Config IP Address2	System Resources	Server Alternate DNS				1.0	
> System Time IP Address2 192 168 253 1 > Config Backup Confirm IP Address2 192 168 253 1 > System Logs Nemask 2 255 255 0 > Advanced Config Gateway 2 - - -	Password	Server	0	- 0	0	. 0	
Config Backup Config Backup System Logs Config	System Time	ID Address 2	102	160	252	4	
System Logs Continue Pacification Provides and Continue Pacification Provides and Pacification Pacificatio	Config Backup	Confirm ID Address	102	. 100	. 200		
Advanced Config Advanced Config Cateway 2 Submit Reset	System Logs	Notmark 2	255	226	266		
Saleway 2 Submit Reset	Advanced Config	Cotours 2	200	200	200		
Submit Reset		Galeway 2		1-1-			
					Subm	it Reset	
Attantion: The evident will reheat after reconfiguring the network sattings		Attention: The system will report after reconfiguring the network s	ottinge				
Proteinant: The system, and you will need to use the NEW IP ADDRESS to log into WMS again		This will REBOOT the system, and you will need to use the NEW	IP ADDF	RESS to log	into WMS ag	ain	

Figure 10: Network Configuration page

3.1.2 Multi-network port configuration (option)

The user can customize the work mode of multi-network Interface, namely, it contains two or more NICs, and two network interfaces of one NIC are back up for each other as control Port, other NIC ports are used as a video input and output ports. The specific location of the network Port is different with different hardware platforms. Generally from one side of the OMP system away from the power toward the right, they are NIC1, NIC2, NIC3, NIC4, NIC5 and NIC6 by turns.

The system can control network Port binding or non-binding mode through license. Network Port binding mode means that two network interfaces in one of three NICs are backup each other. Network Port non-binding mode has three NICs, six network interfaces, one of which has respective separate IP address for the user option as the input or output port. Click on the Network Configuration submenu, will show the Network Configuration on the right side. The user needs to specify the IP addresses of multi-block NICs, can set different network segments, which is user-friendly in different network segments. Any IP address can be used as the login IP address of WMS as shown in following diagram:

Multi-service Rea	I-time Encoding/Transcoding Syste	m					🗿 中文 🎧 About 💡
Logged In: admin			_	_	_		Alarms[1]
Media Manager							
Ingest Config	Network Settings						
Program Config							
- System Config		IP Address1	192	. 168	. 254	. 1	
Network		Confirm IP Address					
SNMP Manager		Netmask 1	255	255	. 255	. 0	
System Restart		Gateway 1	192	. 168	. 254	. 255	
Firmware Upgrade	P	referred DNS Server		1.		1.	
System Resources	A	Itemate DNS Server		1.			
Password							
System Time		IP Address2	192	. 168	. 253	. 1	
Config Backup		Confirm IP Address					
System Logs		Netmask 2	255	. 255	. 255	- 0	
Advanced Config		Gateway 2		1.			
		IP Address3	192	. 168	. 252	- 1	
		Confirm IP Address					
		Netmask 3	255	255	. 255	- 0	
		Gateway 3					
		IP Address4	192	. 168	- 251	. 1	

Figure 11: Network Configuration page

The user needs to specify the video input network Port in "IP Ingest configuration" page as shown in following diagram:

Logged In: admin												Nor	nai 0:41:07
Media Manager	Configu	iration											
Ingest Config	-											A	
# IP	IP Ingest Col	inguratio	'n									Available Inpl	It Resource: 10
Program Config			Network	NIC 2 1									
System Config	Input		Interface:	UDD H							0.10	000	
			Protocol	UDP IM	iunicast N		004				Port	000	
			Address: Multicast	239	. 192	. U	. 201	Municast	t Source	IP III			
			Source IP:	0	. 0	. 0	. 0						
		Index	Protocol	Ade	dress	Port #	NIC #	P	roa	Prog	Share Count	Reference	
			LIDD	220.44	02.0.204	40000	-41-4		4	Description		Count	
		1	UDP	239.13	92.0.201	10000	ethi	2	2	Wellav Service	1 •		
							Set Share	Jount					
	Input	2 🗸	Network	NIC 2	~								
			Protocol:	UDP M	fulticast N	1					Port 10	000	
			Address:	239	. 192	. 0	. 203	Multicast	t Source	IP 🔲			
			Multicast	0	0	0	0						
			Source IP:	-			-						
						Dura	MIC #			Prog	Change Council	Reference	

Figure 12: IP input Source configuration The user needs to specify which network Port the output video streams through in the output webpage as shown in following diagram:

Wellav Multi-servi	ce Real-time Encoding/Transcoding System	📀 中文 🕧 About 🕜 Help 议 Log Out
Logged In: admin		Normal 0:42:35
Media Manager Ingest Config FIP Program Config Encode Channels Config Details System Config	Channel 1 [Enable] Ingest Stream: udp://239.192.0.201:10000:eth1 Copy Channel Config From: Disable Transport Network Interface: INC 1 ♥ Protocol: UDP ♥ Multicast TTL: 4 (1,255) Destination Address: 229 192.1.201 Destination Port: 6001 (1,65535) Total Bitrate:	

Figure 13: Channel output

3.2 System Upgrade management

• Important note: all the encoding and transcoding tasks should be stopped before upgrading.

System software needs to upgrade from time to time, to restore the loopholes in the system and add new product features. The OMP500 system upgrade is very simple, and all the encoding and transcoding tasks should be stopped before upgrading.

Please refer to the following System Upgrade process:

3.2.1 Quick Upgrade Guide

Download the HW info file from WebGUI \rightarrow Send the HW info file to Wellav's support to get license upgrade file \rightarrow Get the installation package of software from Wellav's support \rightarrow Stop all the encoding and transcoding tasks \rightarrow System firmware upgrade

3.2.2 Upgrade steps

Download the HW info file

Click the "Firmware Upgrade" item on the left menu \rightarrow input the device name \rightarrow click "Download" to get the license configure file

Multi-servi	ce Real-time Encoding/Transcoding System	elp. 🐼 Log Out
a Logged In: admin	Normal 156	25
Media Manager	S Firmware Upgrade	
Ingest Config		
Program Config	Software Upgrade	
System Config		
Network	Upgrade Package (.img): Select File No file Select	
SNMP Manager		
System Restart	License File (license): Select File No file Select	
🛓 Firmware Upgrade		
System Resources	Opgrade	
Password	Interface Security of the International Security of the Internatio	
System Time	Attention. Do not shut down are system write opgrade is in progress.	
Config Backup		
System Logs	Get license file	
Advanced Config	please input your device name : Download	
127- 12	Constant 2 20 Wellay Corporation - Rests Reserved	

Figure 14: Get the HW info file

System firmware upgrade

After get the software installation package and license upgrade file from Wellav, then you can process the firmware upgrade. That means you need to import the right HW info file(license) and upgrade package(.img) at the same time in the page to complete the upgrade.

ogged In: admin	Normal Act	-
Media Manager	Firmware Upgrade	
Ingest Config		
Program Config	Software Upgrade	
System Config		
Network	Upgrade Package (img): Select File image-4.0.0.0-8982-release-rbdb.img	
SNMP Manager		
System Restart	License File (license): Select Sel	
	10/03/02/02/02/01/02/02/02/02/02/02/02/02/02/02/02/02/02/	
System Resources	Upgrade	
Password		
System Time	Attention: Do not shut down the system while upgrade is in progress.	
Config Backup		
System Logs	Get license file	
Advanced Config		
	please input your device name : Download	

Figure 15: Import the upgrade package and HW info file

3.3 Change System Time

OMP system provides the change and automatic correction module of System Time. User can change system time under the "System Config" menu, through manually modification or automatically sync up with Internet time:

Multi-servi	ce Real-time Encoding/Transcoding System	ielp 🔞 Log Out
Logged In: admin	Normal 15x	1:41
Media Manager	System Time	
Ingest Config Program Config	Reset System Time	1
System Config Network ShiAMP Manager ShiAMP Manager System Restart Firmware Upgrade System Resources Password Sostem Trans Config Backup System Logs	Manually Change the System Time Date & Time: 2020-04-15 100 15:01:41 Change TimeZone Server Select TimeZone [GMT+06:00] Beijing Changging Hong Kong Unump Internet Time Apply: Internet Time	-
Advanced Config	Austinated by Synchronization can occur only when the system is network connected to the selected NTP server.	

Figure 16: Modify system Time

3.4 Restart or close the system

Reboot option of the system is under the "System Config" option, the option provides the function of Reboot and system turn-off for the user.

WELLAV	ce Real-time Encoding manscooling System	🗾 🕖 About 🕜 Help 🔞 Log Ou
Logged In: admin		Normal (15:47:54
Media Manager	System Restart	
Ingest Config		
Program Config	Current Encoder Settings (Page viewed at : 15:46:38, 2020/04/15)	
System Config	System Up Time: 41:05:05 (htm:s)	
Network	Pehont System	
SNMP Manager		
p System Restart		
Firmware Upgrade		
System Resources		
Password		
System Time		
Config Backup		
System Logs		
Advanced Config		
	1	

Figure 17: Reboot and turn off the system

Note: Do not cut off the power before the OMP completely turn off. User shall manually cut off the power supply until the OMP fan stops completely (3-5min approximately after clicking the "Turn Off System" button).

3.5 Restore factory settings

If you want to do factory settings for the system, please get support from Wellav, there are no restore menus in the WebGUI, Wellav's technician will support you to finish that via some commands from the background.

After restore factory settings, all configurations are initialized in the OMP system:

- Restore as default Network Configuration for the system --- ETH0: 192.168.254.1, subnet mask: 255.255.255.0, gateway: 192.168.254.255.
- Restore the system default encoding/transcoding scheme
- Empty logs
- Delete import and export packages
- Empty business configuration contents
- Restore default password username "admin" and password "admin"
- Restore default time

3.6 Basic System Configuration information

User can check the product serial number, software/hardware version, and other basic information of the system through "About" button:

Multi-serv	ice Real-time Encoding/Tr	ranscoding System	🧿 中文 🕕 About 🕜 Help 😵 Log Out
Logged In: admin			Normal 1020250
 Media Manager 	About		
Ingest Config		ONDEAD	
Program Config		OWP300	
 System Config 		Serial Number: 06b465bedb509e6b856b952889e10df3	
		Image Name: release	
		Software Version: 4.0.0.0	
		Build Number: 8962	
		Livense no	
	<u> </u>	Copyright @ 2013 Wellav Corporation All Rights Reserved.	



3.7 Read serial number of device

Each OMP system has a unique serial number. The serial number can be checked through 2 ways:

Through the label attached on the machine

• Through "About" menu in WMS

3.8 Read system log

System logs recorded the history of the system, you can clear or save the log via WebGUI

WELLAV Multi-servic	e Real-time Encoding/Transcoding System	📀 中文 🕕 About 🕜 Help 😵 Log Out
Logged In: admin		Normal 16:31:20
Media Manager	System Logs	
 Ingest Config 		
Program Config	System Logs Manageri Clear Save	
System Config Network Network SWMP Manager System Restart System Restart System Resources System Resources System Time Config Backup System Time Advanced Config	Information log: 2020-04-15 16:31:02 [Alarm] Description:Channel[5] Source recovery 2020-04-15 16:31:02 [Alarm] Description:Channel[5] Source recovery 2020-04-15 16:31:02 [Alarm] Description:Stop Channel[5] Source signal that the input signal is lost, Solution:Check the input signal 2020-04-15 16:31:02 [Alarm] Description:Channel[4] Source recovery 2020-04-15 16:30:05 [Alarm] Description:Stop Channel[1] Signal that the encoding channel[4] is stopped, Solution:Notice 2020-04-15 16:30:05 [Alarm] Description:Stop Channel[1] Signal that the encoding channel[4] is stopped, Solution:Notice 2020-04-15 16:32:05 [Alarm] Description:Stop Channel[1] Signal that the encoding channel[4] is stopped, Solution:Notice 2020-04-15 16:32:05 [Alarm] DE:00050003, Description:Stop Channel[1] Signal that the encoding channel[4] is stopped, Solution:Notice 2020-04-15 16:32:16 [Alarm] DE:00050003, Description:Stop Channel[1] Signal that the encoding channel[4] is stopped, Solution:Notice 2020-04-15 16:24:16 [Alarm] DE:00050003, Description:admin User logged out, Solution:Notice 2020-04-15 16:24:46 [Alarm] DE:00050004, Description:Ider logged out, Solution:Notice 2020-04-15 16:24:47 [Alarm] DE:00050004, Description:Ider logged out, Solution:Notice 2020-04-15 16:24:48 [Alarm] DE:00050004, Description:Ider logged out, Solution:Notice 2020-04-15 16:24:48 [Alarm] DE:00050003, Description:NICI Signal that the management NIC is down, Solution:Check the network connectif 2020-04-15 16:24:47 [Alarm] DE:00050003, Description:Stop Channel[5] Source Signal that the input signal is lost, Solution:Check the network connectif 2020-04-15 16:24:27 [Alarm] DE:00050003, Description:Stop Channel[5] Source Signal that the encoding channel[4] is stopped, Solution:Notice 2020-04-15 16:24:27 [Alarm] DE:00050003, Description:Stop Channel[5] Sou	on Y
	Copyright @ 2013 Wellav Corporation All Rights Reserved	

Figure 19: System Logs

Note: the size of the log content is limited, generally it may be kept several months, so it is recommended that the user saves regularly logs in a separate file as a historical record for the query in the future.

3.9 System Alarms

OMP500 once starts, will monitor system hardware's status including the system temperature, fan speed, input signal, and network connection signal, and so on, and input and output of core coding in real-time and uninterrupted. If the system occurs in abnormality, it will issue alarms report. Under the normal circumstance the user sees "normal running" word in green at the upper right of the management system, indicating the system without alarms.

Willi-service Real-time Encoding/Transcoding System									p 👩 Log Out 🛛			
Logged In: admin											Normal 16:45:	76
Media Manager	😋 Encoder	Channels								/		
Ingest Config												
Program Config	Output Mo	te: IPTV										
System Config	tem Config Configuration and the second seco											
	Channel #	Enable	Status	Program Config	n Stream uration	Ingest Config	Output Destination	Video Resolution	Video Bitrate	Audio Bitrate	Prog #	Program Name
	1		•	Input	Output	UDP://239.192.0.201:10000:eth1	UDP://229.192.1.201:6001	1920x1080	12000kb	128kb	1	Wellav service
	2		•	Input	Output	UDP://239.192.0.203:10000:eth1	UDP://229.192.1.202:6002	1920x1080	12000kb	128kb	1	N/A
	3		•	Input	Output	UDP://239.192.0.204:10000:eth1	UDP://229.192.1.203:6003	1920x1080	12000kb	128kb	1	N/A
	4		•	Input	Output	UDP://239.192.0.205:10000:eth1	UDP://229.192.1.204:6004	1920x1080	12000kb	128kb	1	N/A
	5		٠	Input	Output	UDP://239.192.0.206:10000:eth1	UDP://229.192.1.205:6005	1920x1080	12000kb	128kb	1	N/A
	6		•	Input	Output	UDP://239.192.0.207:10000:eth1	UDP://229.192.1.206:6006	1920x1080	12000kb	128kb	1	N/A
	7		•	Input	Output	UDP://239.192.0.208:10000:eth1	UDP://229.192.1.207:6007	1920x1080	12000kb	128kb	1	N/A
	8		•	Input	Output	UDP://239.192.0.209:10000:eth1	UDP://229.192.1.208:6008	1920x1080	12000kb	128kb	1	N/A
				C	opyright © 201	13 Wellav Corporation All Rights Re	served.					

If above word becomes yellow "Alarms", it means that the system met some issues, like the temperature is too high, and signal source is lost, and so on. When the user clicks on the "Alarms", the system will show the details with opening another page:

Wellav Multi-service Real	I-time Enco	ding/Transcoding Sy	rstem			🕑 中文 👔 Abou	ıt 🕜 Help	o 🐼 Log Out
Logged In: admin						AI	arms[3]" <mark>17:4</mark>	19:56
Media Manager	Encoder Channels							
Ingest Config	(-							
Program Config	192.168.25	64.1/alarm_current.php - Google Chr	ome) @ X	
 System Config 	O Not se	cure 192.168.254.1/alarm_cur	rrent.php					
	Current A	Active Alarms	Close Window					
	Index	Object	Alarm Description	Date	Time	Suggested Solution	Ignore	
	1	NIC2	Signal that the ethernet NIC is not connected to any IP n etworks	2020/04/09	17:48:59	Check the NIC cable connectio	Ignore	
	2	NIC3	Signal that the ethernet NIC is not connected to any IP n etworks	2020/04/09	17:48:59	Check the NIC cable connectio n	Ignore	
	3	NIC4	Signal that the ethernet NIC is not connected to any IP n etworks	2020/04/09	17:48:59	Check the NIC cable connectio n	Ignore	

Figure 21: Alarm pop-up window

The user can select system recommended method or other effective methods to release the alarms, also click the Ignore button to ignore the alarms. When the user selects Ignore, the alarms message is ignored, and the system interface displays a normal running state, but the alarm situation still objectively exists.

3.10 Advanced Config

OMP500 system allows the user enable or disable Telnet/SNMP port

Logod In solid Logo	Out
Media Marager Media Marager Model Advanced Config Morana Config Program Config System Config Advanced Config Advanced Config Teinet/Snmpd Port Enable Submit Advanced Config Teinet/Snmpd Port Enable Submit Softem Config Teinet/Snmpd Port Enable Softem Config Softem	
Indext Confg Ingest Confg System Confg System Confg System Restart System Re	
Advanced Config Program Config System Config Teinet/Shmpd Port_Enable System Restart System Restart System Resources System Time System Time Song Backup Song Backup Song Backup	
Prodem Comp System Conf System Conf System Read System Read System Read System Read System Read System Time System Time Sotem Time Sotem Time Sotem Time	
System Time Syste	
 Is SMM Planager System Restart System Restart System Restart System Restart System Time System Time Conto Backup Souther Loss 	
 b) System Restart b) System Resources b) System Time b) Config Backup b) Config Backup 	
 Firmware Ucprode Pystem Resources Password System Time Config Backup Stytem Loss 	
 by System Resources Password System Time Config Backup Souther Jons 	
Password System Time Softmark Backup Softmark Backup	
» System Time » Config Backup Souther Loss	
Config Backup Strategy	
System Loos	
Advanced Config	
	_

Figure 22: Advanced Config

3.11 Monitor through SNMP

Use SNMP monitoring

OMP500 supports SNMP monitoring status, the user can use the SNMP user-end (such as MG-SOFT MIB Browser) to monitor multiple OMP status.

Use OMP MIB

The user can get OMP MIB by technical support or business, save WELLAV-MONITOR-MIB.txt to a local computer folder.

The user can use any MIB browser to view the OMP MIB, wherein we use the MG-SOFT (1) as demonstration.

Download MG-SOFT MIB Browser and install.

Compile MIB

- a. Start →All Programs →MG-SOFT MIB Browser → MIB Compiler
- b. Compile MIB library, file→ compile and select WELLAV-MONITOR-MIB.txt mib file
- c. After compiling, select save all, and then click on "OK"
- d. Close MIB Compiler

View SNMP information

- a. Start → All Programs → MG-SOFT MIB Browser → select MIB Browser
- b. Select WELLAV-MONITOR-MIB and upload in the MIB column
- c. Enter IP address of OMP system in the Query column, can conduct RMON OMP information
- d. Select Action \rightarrow contact and polling Wellav branch under the mib tree, it can be finished



Figure 23: View Wellav information

e. Select action \rightarrow contact and polling the Internet branch under the mib tree, can query NIC Network Information, the host branch can query the storage and hard disk partition information.



Figure 24: View Wellav information

Set the channel state through SNMP

a. Find channel Control branch in a mib tree, there are the channel start channel enabling and the channel stop node respectively.

b. Put mouse on the Channel Start right key, select the Set, Set dialog box can appear just in, the user simply needs to fill out the enabled channel IP in Value To Set column, clicks the Set button, can control the enabling of the channel. The channel IP must correspond to the actual channel starting at 1.

c. Put mouse on the Channel Stop right key, select the Set, Set dialog box can appear just in, the user simply needs to fill out the enabled channel IP in Value To Set column, clicks the Set button, can control the enabling of the channel. The channel IP must correspond to the actual channel starting at 1.

e Edit View SNMP Action Tools Vind	ow Help		
?! @ % @ i @ @ @ ®	6° 4		?
WIB Ping			
mote SNMP agent Sp	a		
2.168.64.226 💌 🎘 🔽	/etical		
B tree	Fi Contact		
MIB Tree	Prompt For OID		
	Multiple Variable Bindings		
🗏 🛄 org	A Furnand		
🖻 🧰 dod	Collanse		
directory		- Cat hutten	
🕀 🧰 mgmt	Get Wext	Set button	
experimental	Get Bulk		
E enterprises	- Set	Sat _ abannalStart 0	
bevuy 🧰 🗐	Table View		
E GingestTable	• • •	- 0 🐑 🤁	
⊕analogingestTabl	1 Info	Remote SNMP agent	
🗉 🛅 hybridingestTabk (Find	192.168.64.226	
Initiation Initiation Initiation Initiation Initiation Initiation Initiation	Copy OID	OID to Set	
E alarmTable	🔸 Toggle Bookmark	1.3.6.1.4.1.37316.1.7.1.0	
🖻 🤛 channelControl	9 Properties	Value to Set	
channelStart			
- 🔄 security		Syntax	
🖲 🧰 snmpV2		Integer32 Timeticks Counter64	
		C Counter32 C DID C Nasaddr	
		C Gauge32 C Octets C Bits	
		COOP SNMPy20 Success	
		Success.	
	<		15

Figure 25: Set the channel state

3.12 System resources

As for offline products, the system provides real-time CPU and memory usage for the user view:

Multi-servic	e Real-time Encoding/Transcoding System	🗿 中文 🕕 About 🕜 Help 😵 Log Out
Logged In: admin		Normal 21:32:33
Media Managor		
Indest Config	V System Resources	
Program Config	View the System Resources	
System Config		
Network	CPU Utilization: 73%	
SNMP Manager	Memory Utilization: 15.2%	
System Restart		
Firmware Upgrade		
≱ System Resources		
Password		
System Time		
Config Backup		
System Logs		
Advanced Config		
	Copyright © 2013 Wellav Corporation All Rights Reserved.	

Figure 26: CPU and memory usage

3.13 Config backup

Superimposed and spots system has specific system backup features. The user can realize the backup or service configuration through the configuration of the import and export functions.

Note: the system will automatically restart after the system restores or reinstalls the import backup.

Wellav Multi-servi	ce Real-time Encoding/Transcoding System	Help 🔞 Log Out
Logged In: admin	Koms 21:	38:15
Media Manager Jagest Config	Config Backup	
Program Config	Backup Information	
Svstem Config	r Backup List-	
▶ Network	Name Size Date Download System Recovery Delete	
SNMP Manager		
System Restart	Backup Information	
Firmware Upgrade	System Configuration 🗹 Backup	
System Resources		
Password		
System Time	Import Configuration: Select File No file Select Recovery	
Config Backup		
System Logs		
Advanced Config		
	1	
	Copyright © 2013 Wellaw Corporation All Rights Reserved.	

Figure 27: System config backup

System backup carries out backup for system presetting, input configuration and coding channel.

Multi-servic	ice Real-time Encoding/Transcoding System	Help 🔞 Log Out
Logged In: admin	Normal 21:	0:18
Media Manager	Config Backup	
Ingest Config	Backup Information	
Program Conlig	- Baylon I ist -	
Network	Name Size Date Download System Recovery Delete	
SNMP Manager	2020_04_15_21_40_17.sys.img 8.9K 2020-04-15 21:40:17 Download Recovery Backup Delete	
System Restart		
Firmware Upgrade	Backup Information	
System Resources	System Configuration Backup	
Password	Barkup successful	
System Time	Recovery Backup -	
Config Backup	Import Configuration: Select File No file Select Recovery	
System Logs		
Advanced Config		
	Copyright © 2013 Wellav Corporation All Rights Reserved.	

Figure 28: Backup system configuration

Operational procedure:

- **Backup**: click on this function key, the user can realize system backup feature and generate backup list;
- **Download**: after configuration is backup, you can download the file to local for save, suffix name of the files is .img, it is user-friendly for reuse;
- **System recovery**: can save some backup in the system, the system will restore itself after click;
- Delete: supports backup deletion, saves resources;
- **Recovery**: after user import the backup file, click this Recovery can recover the configuration as the import file.

4. Encoding/Transcoding system configuration

Encoding/Transcoding configuration is the most basic configuration in the OMP500 system, after the user logs in the system, first needs to configure the input mode, and then enter the program and output encoding/transcoding parameters for the encoding/transcoding channel configuration. Various input and output parameters are only correctly configured, the system correctly transcodes and outputs to the lower end of the device that can be ensured that.

After user administrator logs in WMS, can find two major items of encoding/transcoding scheme in the main menu zone: the Encode Channels and Config Details are shown in the Figure below. The Encode Channels is used mainly in the channel configuration, program select, output audio and video configuration and so on. Config Details is mainly used for the selection and configuration of the input source.



Figure 29: Encode Channels



Figure 30: Config Details

4.1 Ingest Config

This section describes how to configure the IP input for the user.

The number of IP input interfaces of system default is the same as number of channels license allows. Each interface supports input of various protocols such as UDP Unicast, UDP Multicast, RTP Unicast, RTP Multicast, TCP, RTMP,NMS, TS over HTTP, RTSP, FLV over HTTP, HLS. The only mark of each IP address and port is an input interface. The system specifies that the port code must be between 1 and 65535 as shown in the following diagram:

Multi-servic	Real-time Encoding/Transcoding System			中文 🕕 About 🕜 Help 😵 Log Out
Logged In: admin				Normal 22:19:19
Media Manager	Ingest Configuration			
Ingest Config				
≱ IP	IP Ingest Configuration		Availabl	e Input Resource: 10
Program Config				
System Config	Input P Network NIC 2 V			
	Protocol: UDP Multicast	Ŧ	Port: 10000	
	Address: 239 . 192	. 0 . 201 Multica	ast Source IP	
	Index Protocol Address	Port # NIC #	Prog Prog Description Share Count Court	nce ht
	1 UDP 239.192.0.201	10000 eth1 Set Share Count	1 Wellav service 1 •	_
	Input2 Network NIC 2 Protocol: UDP Multicast Address: 239 192	• . 0 . 203 Muttica	Port: 10000	
	Index Protocol Address	Port # NIC #	Prog Prog Share Count Refere	nce
	1 UDP 239.192.0.203	10000 eth1	1 1 •	
		Set Share Count		
				*
	Copyright © 20	3 Wellav Corporation All Rights Reserved	d.	

Figure 31: Ingest Config

After the user has configured the address and the port IP input, needs to tick within the box in front of the input channel to activate the input port. If there is data through the port, then the channel logo is green as shown in above diagram, but if there is no data through the port, then the channel logo is orange. If the video source the system received is multicast, the system supports IGMPv3 protocol, the user can tick the IP address of equipment to input and send video source after the v3 protocol box. The user can send UDP Unicast or Multicast by the owned equipment, after the IP address of the owned equipment is changed, please restart the Host device.

The user needs to configure the RTMP input, can directly enter the server domain name or IP address, FMS path. It also needs to be noted that: when the user needs to enter the server domain name, please firstly in system configuration network configuration fills in the DNS address, restarts the encoding/transcoding system to make the network address take effect, this moment the domain name and address can be used effectively.

			-	-	_		Nomai 2223148
Viedla Manager	S Network Settings						
ngest Config	Protection of the second se						
IP	Network Settings						
Program Config						- 27 M	
System Config		IP Address1	192	168	11	217	
Melwork		Confirm IP Address		-		4	
SNMP Manager		Netmask 1	255	255	. 255	. 0	
System Restart		Gateway 1	192	168	- 11	. 1	
Firmware Upgrade		Preferred DNS Server	0	0	0	0	
System Resources		Alternate DNS Server	0	0	0	0	
Password		and the second second	Print and				
System Time		IP Address2	192	168	253	. 1	
Config Backup		Confirm IP Address		-			
System Logs		Netmask 2	255	255	255	0	
Advanced Config		Gateway 2				·	

Figure 32: DNS Config

In addition, the user can also set the number of input shared channel. If it is not specifically set, this system default value is 1 i.e. the multichannel can use the signal source, but it cannot guarantee that the synchronization of all channel outputs. If the user needs a multichannel synchronous output, then needs to set this value. If the user needs four channels to share the same signal source at the same time, the shared number should be set to 4, because OMP500 supports up to 16 channels, the optional value is 1 - 16. If the user needs multichannel synchronous output, should disable "scene handover detection" and "I frame interval" should be set to the same value. When IP input source is used, the video streaming is in normal input circumstance, the shared channel selection bar can only exist. The shared number is shown in the diagram:



Figure 33: IP Share Count

4.2 Program configuration

After the input configuration of the system is correctly completed, the next step is that the user can click the Encode Channels option on the left-hand column to configure the input and output parameters of the encoding/transcoding system, and have an overview about the input and output by clicking Config Details from left column

4.2.1 Encode Channels

When the user selects and enters the Encode Channels, it will show the running status and basic info of all the channels.

Multi-servic	e Real-time	Encodi	ng/Trans	coding S	System				() 中文 🕧 A	bout 🕜 Hel	p 🐼 Log Out	
Logged In: admin											Normal 23:04:	27	
Media Manager	🗘 Encoder	r Channels											
Ingest Config													
≱ IP	Output Mode: IPTV												
Program Config													
 Funcode Channels Fonfig Details 	Channel #	Enable	Status	Progran Config	n Stream uration	Ingest Config	Output Destination	Video Resolution	Video Bitrate	Audio Bitrate	Prog #	Program Name	
System Config	1	•	•	Input	Output	UDP://239.192.0.201:10000:eth1	UDP://229.192.1.201:6001	1920x1080	12000kb	128kb	1	Wellav service	
	2	4	•	Input	Output	UDP://239.192.0.203:10000:eth1	UDP://229.192.1.202:6002	1920x1080	12000kb	128kb	1	N/A	
	3	4	•	Input	Output	UDP://239.192.0.204:10000:eth1	UDP://229.192.1.203:6003	1920x1080	12000kb	128kb	1	N/A	
	4	s.	•	Input	Output	UDP://239.192.0.205:10000:eth1	UDP://229.192.1.204:6004	1920x1080	12000kb	128kb	1	N/A	
	5	s.	٠	Input	Output	UDP://239.192.0.206:10000:eth1	UDP://229.192.1.205:6005	1920x1080	12000kb	128kb	1	N/A	
	6	st.	•	Input	Output	UDP://239.192.0.207:10000:eth1	UDP://229.192.1.206:6006	1920x1080	12000kb	128kb	1	N/A	
	7	A	•	Input	Output	UDP://239.192.0.208:10000:eth1	UDP://229.192.1.207:6007	1920x1080	12000kb	128kb	1	N/A	
	8		•	Input	Output	UDP://239.192.0.209:10000:eth1	UDP://229.192.1.208:6008	1920x1080	12000kb	128kb	1	N/A	

Figure 34: Encode Channels

The user needs to select a channel for configuration, after relevant input and output parameters are configured; the user needs to tick the enable box to active the channel.

After the channel is started normally, the user can see the green indicator light in the status bar. If the start of channel fails, or the channel occurs in abnormal, the status bar will display orange status light. It issues alarms at the same time, the user needs to remove the fault and restore the encoding/transcoding channel according to the alarms message

4.2.2 Config Details

The system provides the detailed information list of encoding/transcoding channel in the Config Details page. The user can understand the input and output configuration situation and running situation of all channels in current system through the page.

Wellav Multi-servi	ce Real-time	Encod	ling/T	ranscoding Syst	tem							0	中文 🥡	About 🕜 Help 💰
Logged In: admin														Normal 23:13:51
Media Manager	😋 Config De	etails												
Ingest Config														
▶ IP	(Viewed	at 2020-04-	15 23:13:	42)										
Program Config														
Encode Channels							Currer	nt Chan	nel Configuration					
Config Details System Config		Channel #	Enable	Output Destination	Run Time	Video Resolution	Video Bitrate	Audio Bitrate	Ingest Config	Prog #	Prog Content	Program Label	Preview Picture	Detailed Input Config
		1	Enabled	UDP://229.192.1.201:6001	0 days 00:57:27	1920x1080	12000kb	128kb	UDP://239.192.0.201:10000:eth1	1	Wellav service	P1	196	View
		2	Enabled	UDP://229.192.1.202:6002	0 days 01:19:39	1920x1080	12000kb	128kb	UDP://239.192.0.203:10000:eth1	1	N/A	P2	44	View
		3	Enabled	UDP://229.192.1.203:6003	0 days 01:03:41	1920x1080	12000kb	128kb	UDP://239.192.0.204:10000:eth1	1	N/A	P3		View
		4	Enabled	UDP://229.192.1.204:6004	0 days 01:13:56	1920×1080	12000kb	128kb	UDP://239.192.0.205:10000:eth1	1	N/A	P4		View
		5	Enabled	UDP://229.192.1.205:6005	0 days 02:07:14	1920x1080	12000kb	128kb	UDP://239.192.0.206:10000:eth1	1	N/A	P5	. 1	View
		6	Enabled	UDP://229.192.1.206:6006	0 days 03:26:51	1920x1080	12000kb	128kb	UDP://239.192.0.207:10000:eth1	1	N/A	P6	2,1	View
		7	Enabled	UDP://229.192.1.207:6007	0 days 01:59:19	1920×1080	12000kb	128kb	UDP://239.192.0.208:10000:eth1	1	N/A	P7		View
		8	Enabled	UDP://229.192.1.208:6008	0 days 01:02:18	1920x1080	12000kb	128kb	UDP://239.192.0.209:10000:eth1	1	N/A	P8		View
							First	Prev	Next Last					
							View O	utput A	/V Detaild Config					
		Note: 'Proc	aram Lahe	I' field corresponds to the sa	me field in	the 'Available	Programs	table t	elow IN/A1 will be used if no matr	h is four	hd			



And the system provides detailed Audio/Video output info for all channels.

Wellav Multi-servic	Willi-service Real-time Encoding/Transcoding System												Log Out	
Logged In: admin											Norm	al 23:20:11		
★ Media Manager	0	etailed	Output A/V S	ettings									^	
 Ingest Config 	Viewed at	Viewed at 2020-04-15 15:18:36)												
▶ IP														
Program Config Encode Chappele		Current Channel Output A/V Detail Config												
Config Details	Channel # Program Stream							_	Video					
System Config	Channe	# C	onfiguration	Output Destination	Video Codec Type	B frames to Use	Video Resolution	I frame Period	Aspect Ratio	Scene-cut Detection	Video Bitrate	Pre-processing	Rate C	
	1		Output	udp://229.192.1.201:6001	MPEG-2 MP@HL	3	1920x1080(1080i/p)	50	auto	Enable	12000kbps	None	CE	
	2		Output	udp://229.192.1.202:6002	MPEG-2 MP@HL	3	1920x1080(1080i/p)	50	auto	Enable	12000kbps	None	CE	
	3		Output	udp://229.192.1.203:6003	MPEG-2 MP@HL	3	1920x1080(1080i/p)	50	auto	Enable	12000kbps	None	CE	
	4		Output	udp://229.192.1.204:6004	MPEG-2 MP@HL	3	1920x1080(1080i/p)	50	auto	Enable	12000kbps	None	CE	
	5		Output	udp://229.192.1.205:6005	MPEG-2 MP@HL	3	1920x1080(1080i/p)	50	auto	Enable	12000kbps	None	CE	
	6		Output	udp://229.192.1.206:6006	MPEG-2 MP@HL	3	1920x1080(1080i/p)	50	auto	Enable	12000kbps	None	CE	
	7		Output	udp://229.192.1.207:6007	MPEG-2 MP@HL	3	1920x1080(1080i/p)	50	auto	Enable	12000kbps	None	CE	
	8		Output	udp://229.192.1.208:6008	MPEG-2 MP@HL	3	1920x1080(1080i/p)	50	auto	Enable	12000kbps	None	CE	
	9		Output	udp://229.192.1.209:6009	MPEG-2 MP@HL	3	1920x1080(1080i/p)	50	auto	Enable	12000kbps	None	CE	
	10		Output	udp://229.192.1.210:6010	MPEG-2 MP@HL	3	1920x1080(1080i/p)	50	auto	Enable	12000kbps	None	CE	
	11		Output	udp://0.0.0.0:6011	H.264 Main, 3.0	3	auto	50	auto	Enable	1404kbps	None	CE	
	12		Output	udp://0.0.0.0:6012	H.264 Main, 3.0	3	auto	50	auto	Enable	1404kbps	None	CE 🕶	
	4												•	

Figure 36: Output A/V Detail Config

4.2.3 Input program selection

Encode Channels →click "Input" button →Select ingest stream →Apply

WELLAV Multi-servi	ce Real-tir	me Encodi	ing/Transc	oding System						🗿 中文 🕡 Abo	out 🕜 Help	
ogged In: admin										N	ormal 23:26:01	
Media Manager	🔿 Input	t Program Select	ion									
igest Config												_
IP		Channel: [1] Status: [Enabled]										
ogram Config												
Encode Channels				Sele	ct active ingest st (Current (ream: UDP://2	39.192.0.201:10000:eth1])	eth1 🔻				
Config Details						Available Pro	grams					_
ystem Config		Index	Protocol	IP Address	Port #	NIC #	Prog	Prog Description	Scrambled	Backup Video	Select	
		1	UDP	239.192.0.201	10000	eth1	1	Wellav service	no	N/A 🔻	۲	

Figure 37: Input program selection

4.2.4 Output parameter configuration

This section will explain how to set up audio and video encoding/transcoding parameters step by step. Proper setting audio and video parameters will enable you to get the best audio and video effects at lowest bit stream case.

Furthermore, the partial configuration also relates to the network transmission. Because the OMP500 system uses RTP or UDP and so on output code stream, only by appropriate setting transmission target address, can it ensure the normal running of the system.

The user can click the "Output" button or the "Output config" button and then enter the output parameter configuration page. For audio and video encoding/transcoding system, it includes the output protocol, video and audio output configuration parameters as shown in the following diagram:

Copy Channel C	onfig From: Disable	•			
Transport					
Network Interface:	NIC 1 T				
Protocol:	UDP •	Multicast TTL:	4 (1,2	55)	
Destination Address:	229.192.1.201	Destination Port:	6001 (1.6	5535)	
Total Bitrate:	kbps			,	
PAT Interval:	400 (50-400)ms	PMT Interval:	400 (50-40	0)ms	
SDT Interval:	1800 (50-1800)ms				
Edit PSI Table:	Disable V				
Standard Mode:	DVB •				
Edit ATSC Table:	Disable •				
E Video stream Set	tinas				
Codec:	- MPEG-2 MP@HI	 B frames to Use: 	3 🔻		
Resolution:	1920x1080(1080i/n) ▼	I frame Period:	50 (5.2	50)frames	
Transform Mode:	Full Width/Edge Crop V	Vbi Pass Through	Disable V	seyn annoe	
Aspect Ratio:	Auto V	Scene-cut Detection	Enable V		
Bitrate:	12000 kbps	Pre-processing:	None 🔻		
Rate Control:	CBR •	Max Bitrate:	12000 kbp	3	
Interlace:	Auto 🔻	Frame Rate:	60 v fps		
Frame rate mode:	VFR •				
Field Order:	Auto 🔻	Hue:	0 (0,3	60)	
Saturation:	100 (0,100)	Gamma:	1 (0,1	D)	
Brightness:	50 (0,100)	Contrast:	75 (0,1	00)	
Sharp:	Disable •				
Denoise:	Disable 🔻				
Audio stream Set	ungs	Treads 2 Aved	in Track 0	Audia Tarah 4	
Codec:	Audio Track 1 Audio	F V NC			
Bitrate:	128 V kbps 96	▼ kbps 96	* kbps	96 V kbps	
Channels:	Stereo V Stere	eo 🔻 Ste	ereo 🔻	Stereo T	
Sample Rate:	48 v kHz 48	• kHz 48	▼ kHz	48 🔻 kHz	
Input ID:	1: ??	? • 1: '	??? 🔻	1:???	
Volume:	Manual Norn	nalize 🔻 -10	(-30,15)db		
Audio Delay:	0 (0,60000)ms				
E Subtitle Settings					
	Subtitle Track 1 Subtitl	e Track 2 Sub	title Track 3	Subtitle Track 4	
Codec:	None None	e ▼ No	ne 🔻	None T	
Input ID:	1-1 •	v 1-1	Ŧ	1-1 •	
E Logo Pleas	e select .▼				
Lieds					
DeLogo Disat	le 🔻				
Advanced Settings					
A&V Sync Threshold	1000 ms				

Figure 38: Audio/video/subs configuration page

4.2.5 Setting Output

Transport protocol

The OMP system provides UDP, RTP, RTSP, NMS, RTMP, HLS, HSS, DASH and so on transport protocols for output. The user can select in the drop-down menu of the transport protocols.

Wellav Multi-serv	ce Real-time Encoding/Transcoding System	中文 🕧 About 🕜 Help 😵 Log Out 🔹
Logged In: admin		Normal 1:32:35
Media Manager Ingest Config Program Config Config Channels Config Details System Config	Channel 1 [Enable] Ingest Stream: udp://239.192.0.201:10000:eth1 Copy Channel Config From: Disable Transport Network Interface: NIC 1 Protocot UDP Total Bitrate: RTP PAT Interval: MTSP Edit PSI Table: TS over RTP Standard Mode: HCS Edit ATSC Table: HLS DASH Channel 1 [Enable] Ingest Stream: udp://239.192.0.201:10000:eth1 Copy Channel Config From: Disable Multicast TTL: 4 Multicast TTL: 4 Multicas	
	■ Video stream Settings Codec: MPEG-2 MP@HL ■ B frames to Use: 3 Resolution: 1920x1080(1080/p) ▼ I frame Period: 50 (5,250)frames Transform Mode: Full Width/Edge Crop ▼ Voi Pass Through Disable ▼ Aspect Ratio: Auto ▼ Scene-cut Detection: Enable ▼ Bitrate: 12000 kbps Pre-processing: None ▼	

Figure 39: Selection in drop-down menu of transport protocol for output

UDP mode

In this mode, the OMP500 system strings the transport streams into the payload of UDP packet, distinguishes the terminal IP device according to the terminal IP address. This mode supports unicast and multicast video streaming.

WELLAN Multi-service	ce Real-time Encoding/Transcoding System	🗿 中文 🕧 About 🕜 Help 🔞 Log Out 🔹
Logged In: admin		Normal 1:56:41
Media Manager Ingest Config Program Config Config Details Config Details System Config	Channel 1 [Enable] Ingest Stream: udp://239.192.0.201:10000:eth1 Copy Channel Config From: Disable Transport ************************************	
	Convrint & 2012 Wellay Comprision All Rights Reserved	

Figure 40: UDP output

RTP mode

In this mode, the OMP500 system will take advantage of the transport protocol of RTP (Real-time Transport Protocol or abbreviated RTP) to transmit audio and video streaming on the network. Sublayer of the RTP protocol is transported through UDP multicast or unicast.

Wellav Multi-serv	ce Real-time Encoding/Transcoding System	🗿 中文 🕧 About 🕜 Help 驳 Log Out
Logged In: admin		Nonnal 17:15:02
Media Manager Ingest Config Program Config Encode Channels Config Details Config Details System Config	Output AV Configuration Channel 1 [Enable] Ingest Stream: udp://239.192.0.201:10000:eth1 Copy Channel Config From: Disable Transport Network Interface: NIC 1 Protoco: RTP Multicast TTL: 4 (1.255)	
	Destination Address: 0.0.0 Destination Port: 6001 (1,65535) AAC-LATM: Enable ▼	
	Codec: MPEG-2 MP@HL B frames to Use: 3 Resolution: 1920x1080(1080/p) I frame Period: 50 (5.250)frames Transform Mode: Full Width/Edge Crop • Vol Pass Through Disable • Aspect Ratio: Auto • Scene-cut Detection: Enable • Bitrate: 12000 kbps Pre-processing: None • Rate Control: CBR • Max Bitrate: 12000 kbps Interface: Auto • Frame Rate: 60 • fps	

Figure 41: RTP output

RTSP mode

OMP500 system supports RTSP (Real Time Streaming Protocol). RTSP is used to control the audio or video multimedia string streaming protocols, and allows simultaneous multi-string streaming demand control, network communication protocol is not within its defined range, and server-side can choose free to use TCP or UDP to transport the string streaming content in transmission. The user selects the transmission mode, can receive live or on-demand programs through the terminal connection to the server.

WELLAY					
ogged In: admin					Normal 17/10042
Media Manager	Output A/V Configuration				
Ingest Config					
Program Config	Channel 1 [Enable] Ingest Stream: udp://2	239.192.0.201:10000:eth1		
Encode Channels	Copy Channel C	onfig From: Disable			
Config Details	E Transport				
System Config	Network Interface Protocol: Destination Address AAC-LATM: PAT Interval: SDT Interval:	NIC 1 RTSP 0.0.0 Enable 400 (50-400)ms 1800 (50-1800)ms	Destination Port: PMT Interval:	554 (1.65535) 400 (50-400)ms	
	Coder:	MDEC 2 MD/BUI	D framer to Liep	2 .	
	Resolution:	1920v1080(1080/p) •	I frame Period	50 (5.250)framae	
	Transform Mode	Full Width/Edge Crop Y	Vbi Pass Through	Disable *	
	Aspect Ratio:	Auto •	Scene-cut Detection:	Enable T	
	Bitrate:	12000 kbps	Pre-processing:	None •	
	Rate Control:	CBR •	Max Bitrate:	12000 kbps	
	Interlace:	Auto 🔻	Frame Rate:	60 • fps	
	Frame rate mode:	VFR ·			

Figure 42: RTSP output

HTTP (MMS) mode

The OMP500 system supports Microsoft Media Server protocol, compresses the audio and video encoding/transcoding by MMS mode, then uses http mode to transport the user's decoder by MMS protocol. Encoding/Transcoding system provides the preview page, the user can watch the output program in real-time, clicks on the' MMS' link to open the browser interface, can watch the real time output program as shown in the following Figure.

WELLAV Multi-servic	ce Real-time Encoding/Transcoding System	文 🕡 About 🕜 Help 😵 Log Out 🔹
Logged In: admin		Normal 1:44:55
Media Manager Ingest Config Program Config	Output AV Configuration Channel 1 [Enable] Ingest Stream: udp://239.192.0.201:10000:eth1	
Encode Channels Config Details	Copy Channel Config From: Disable	
System Config	Network Interface: NIC 1 Protocol: MMS Destination Address: 0.0.0 Destination Port: 554 (2000,65535) PAT Interval: 400 (50-400)ms PMT Interval: 400 (50-400)ms SDT Interval: 18800 (50-1800)ms PMT Interval: 400 (50-400)ms	
	E Video stream Settings Codee: WMV9 ▼ B frames to Use: Disable ▼ Resolution: 720x576(D1) ▼ I frame Period: 50 (5.250)frames Transform Mode: Full Width/Edge Crop ▼ Vbl Pass Through Disable ▼ Aspect Ratio: Auto ▼ Scene-cut Detection: Enable ▼ Bitrate: 1404 sktps Pre-processing: None ▼ Rate Control: CBR ▼ Frame Rate: 1404 Interface: Disable ▼ Frame Rate: 1400 Frame rate mode: VFR ▼ Frame Rate: Auto ▼ (ps Frame rate mode: VFR ▼ Hue: 0 (0,360)	

Figure 43: HTTP (MMS) output

RTMP mode

OMP500 system supports RTMP (Routing Table Maintenance Protocol), real-time messaging protocol. Real Time Messaging Protocol is developed the private protocol by Adobe Systems Company for audio, video and data transmission between Flash Player and server. It is characterized by clear text protocol working on TCP, uses port 1935. FMS stands for the abbreviation of Flash Media Server, Adobe's FMS is a multimedia application platform, on which you can achieve a variety of applications such as on-demand, live, interactive multimedia of multimedia streaming. Because Adobe Flash Player has extensive network application, FMS becomes the server-side main application platform of many multimedia applications. The user fills in the IP address of the Flash Server in the FMS address of Transfer Protocol through structures FMS, the IP address of the backup FMS (does not fill in that means he does not use it) in the FMS address 2. If output configuration is filled two FMS, encoding/transcoding system will output to two FMS servers. FMS path is composed mainly of application name / instance name / stream name, the default value of the FMS port is generally 1935. After it is submitted successfully and the channel is started, the top of the page provides the fast connection address, in which the user can watch output. The address is FMS1 output address. Click 'RTMP' link to open a browser interface, the user can watch the real-time output program (backup output cannot preview) as shown in the following Figure.

Wellav Multi-serv	rice Real-time Encoding/Transcoding System	🧿 中文 🕕 About 🕜 Help 談 Log O
Logged In: admin		Normal 1:48:11
 Media Manager 	Output AV Configuration	
 Ingest Config 		
Program Config	Channel 1 [Enable] ingest stream: udp://239.192.0.201:10000:etm1	
Encode Channels	Copy Channel Config From: Disable	
Config Details	m Transport	
System Config	Network Interface: NIC 1 CDN: default	
	Protocol: RTMP FMS Path: live/default_1_1	
	FMS address: 0.0.0.0 FMS Port: 1935 (1,65535)	
	AUTH Mode:	
	FMS address2: 0.0.0.0 FMS Port2: 7110 (1,65535)	
	AUTH Mode2:	
	PAT Interval: 400 (50-400)ms PMT Interval: 400 (50-400)ms	
	SDT Interval: (50-1800)ms	
	⊡ Video stream Settings	
	Codec: H.264 High, 4.1 V B frames to Use: 3 V	
	Entropy Coding Mode: cabac V	
	Resolution: 1920x1080(1080i/p) ▼ I frame Period: 50 (5,250)frames	
	Transform Mode: Full Width/Edge Crop V Vbl Pass Through Disable V	
	Aspect Ratio: Auto T Scene-cut Enable T	

Figure 44: RTMP output

HTTP (FLV) mode

The OMP500 system supports FLV format output. FLV is the abbreviation of FLASH VIDEO, the encoding/transcoding system can encapsulate the H.264 encoding/transcoding audio and video program into FLV format, the user side can receive output through Http mode. Encoding and Transcoding system provides preview page, the user directly clicks on the 'FLV', can watch the real time output program.

WELLAN Multi-service	ce Real-time Encoding/Transcoding System	中文 🕧 About 🕜 Help 😵 Log Out 🔹
Logged In: admin		Normal 1:50:28
Media Manager	Output A/V Configuration	
 Ingest Config 		
 Program Config 	Channel 1 [Enable] Ingest Stream: udp://239.192.0.201:10000:eth1	
Encode Channels	Copy Channel Config From: Disable V	
Config Details	Transport	
E) System Config	Network Interface: NIC 1 ♥ Protocot: FLV over HTTP ♥ Destination Address: 0.0.0 Destination Port: 1935 (2000,6535) PAT Interval: 400 (50-400)ms PMT Interval: 400 (50-400)ms SDT Interval: 1800 (50-400)ms PMT Interval: 400 (50-400)ms SDT Interval: 1800 (50-1800)ms PMT Interval: 400 (50-400)ms Codec: H 264 High, 4.1 ♥ B frames to Use: 3 ♥ Entropy Coding Mode: cabac ♥ If frame Period: 50 (5.250)frames Transform Mode: Full Width/Edge Crop ♥ Vol Pass Through Disable ♥ Aspect Ratio: Auto ♥ Delection: Enable ♥ Bitrate: 1404 ktpps Pre-processing: None ♥ Rate Control: CBsable ♥ Max Bitrate: 1404 ktpps Interface: Disable ♥ Max Bitrate: 1404 ktpps Pre-processing: None ♥ Rate Control: CBsable ♥ Frame Rate: 60 ♥ 1ps Frame rate: 60 ♥ 1ps	

Figure 45: FLV over HTTP output

HTTP(TS) mode

The OMP500 system supports HTTP (TS) format output. Trans-coder can encapsulate MPEG2 or H264 encoding/transcoding audio and video programs into ts format, transports the user side by http mode. Trans-coder provides preview page, the user directly clicks 'TS', can watch the real-time output program. The preview relates to compatible player of browser, if it cannot broadcast, please click on the right key 'TS' to copy the url address, and select other player to play.

WELLAV Multi-serv	ice Real-time Encoding/Transcoding System	📀 中文 🕕 About 🕜 Help 😵 Log Out
Logged In: admin		Normal 1:52:07
Media Manager Ingest Config Program Config Encode Channels Config Details System Config	Channel 1 [Enable] Ingest Stream: udp://239.192.0.201:10000:eth1 Copy Channel Config From: Disable Clartansport Network Interface: NIC 1 Protocol: TS over HTTP Destination Address: 0.0.0 Destination Port: 1935 (2000,6535) PAT Interval: 400 (50-400)ms PMT Interval: 400 (50-400)ms SDT Interval: 1800 (50-1800)ms Edit PSI Table: Disable Edit ATSC Table: Disable	
	□ Video stream Settings Codec: H.264 High, 4.1 ▼ B frames to Use: 3 ▼ Entropy Coding Mode: cabac ▼ Resolution: 1920x1080/(1080//p) ▼ I frame Period: 50 (5,250)/rames Transform Mode: Full Width/Edge Crop ▼ Vbi Pass Through Disable ▼ Aspect Ratio: Auto ▼ Detection: Enable ▼ Bitrate: 1404 Pre-processing: None ▼	

Figure 46: TS over HTTP output

TS over RTP mode

The OMP500 system supports TS over RTP format output. Trans-coder encapsulates audio and video programs into ts format, and transmits audio and video streaming in the network by RTP transport protocol. The sub-layer of RTP protocol transports with UDP multicast or unicast.

Multi-service	Real-time Encoding/Transcoding System	🕜 Help 🚫 Log Out
Logged In: admin	Norma	1:59:53
Media Manager Ingest Config Program Config Program Config Config Details Config Details System Config	Channel 1 [Enable] Ingest Stream: udp://239.1920.201:10000:eth1 Copy Channel Config From: Disable Transport Network Interface: NC 1 Protocol: TS over RTP Multicast TTL: 4 (1,255) Destination Address: 0.0.0 Destination Port: 554 (1,85535) Total Bitrate: kops PAT Intervat: 4000 (60-400)ms SDT Intervat: 4000 (60-400)ms SDT Intervat: 108able Standard Mode: DVB Edit ATSC Table: Disable VB Codec: (abac Address 1	
	Transform Mode: [Full Width/Edge Crop V Vol Pass Through Disable V Aspect Ratio: [Auto V] Scene-cut Fnable V	•

Figure 47: TS over RTP output

HSS(IIS smooth stream) mode

The OMP500 systems supports IIS smooth stream output. IIS supports multimedia function (NET SHOW), can use the built-in security of Windows NT Server and NTFS file system to set up the powerful and flexible Internet / Intranet site. Encoding/Transcoding system can push H.264 encoding/transcoding audio and video programs towards IIS, the user side can receive output through Http mode. The server address should be filled in the IP address of IIS, the filled publishing point and target port should be corresponding with the settings on the IIS.

Multi-service F	Real-time Encoding/Transcoding System	🧿 中文 🕕 About 🕜 Help 😵 Log Ou
Logged In: admin		Alarms[1] 2:04:43
Media Manager Ingest Config Program Config Encode Channels Config Details System Config	Output AVC Configuration Channel 1 [Enable] Ingest Stream: udp://239.192.0.201:10000:eth1 Copy Channel Config From: Disable ▼ © Transport Network Interface: NIC 1 ▼ Protocol: HSS ▼ Publishing Point: Iveemooth.isml Destination Address: 0.0.0 Destination Port: 80 (1.65535) PAT Interval: 400 (50-400)ms 9MT Interval: 400 (50-400)ms SDT Interval: 100 (50-1800)ms 9 SDT Interval: 100 (50-1800)ms 9 SDT Interval: 100 (50-1800)ms 9 SDT Interval: 100 (50-1800)ms 1 frame So Use: 3 ▼ Entropy Coding Mode: cabac ▼ 8 Resolution: 1522b11090(1080/p) ▼ 1 frame Period: 50 (5.250)frames Transform Mode: Full Width/Edge Crop ▼ Vol Pass Through Disable ▼ Aspect Ratio: Auto ▼ Scene-ut Delection: Enable ▼ Bitrate: 1404 kbps Pre-processing: None ▼ Rate Controt: CBR ▼ Max Bitrate: 1404 kbps	

Figure 48: HSS output

HLS mode

The OMP500 system supports HLS output mode, the user can choose three kinds of mount protocols: nfs, cifs, local to mount to different web servers, in order to output TS Segmented files or adapt to both requirements of bit rate output. The user needs to fill in correctly the IP address, mount directory, mount username and password of the mount host, to ensure that the web server can be used normally, this channel can enable successful. If the filled information is incorrect, or web server network barriers, when channel is started, it will prompt that: the channel cannot start properly, please check the configuration.

Multi-servic	e Real-time Encoding/Transcoding System	🧿 中文 🕧 About 🕢 Help 🐼 Log Out
Logged In: admin		Normal 2:08:08
Media Manager Ingest Config Program Config	Output AV Configuration Channel 1 [Enable] Ingest Stream: udp://239.192.0.201:10000:eth1	
Encode Channels	Copy Channel Config From: Disable	
Config Details	Transport	
System Config	Network: Interface: NIC 1 ▼ Protocol: HLS ▼ Encryption: Mount protocol: nfs Mount backup: Mount host: nfs Mount directory: Target duration: Local Stiding window: 5 Delete fries: Delete Base File Path: Image: (m3u8.m3u) Pile prefix: fileSquence Index file name: (m3u8.m3u) Main index file index m3u8 (m3u8.m3u) Beitod: Webvit: Disable ▼ Base Base File prefix 600 (1,3600)s Webvit: Disable ▼ Base Mount hotex 600 (1,3600)s Webvit: Disable ▼ His filename Disable ▼ SDT Interval: 400 (50-1800)ms His filename Disable ▼ I'stable ▼ B frames to Use: 3 ▼	
	Conviriant @ 2013 Wellay Corporation All Rights Reserved	

Figure 49: HLS output

Mode 1: nfs

Features: nfs mount protocol depends on TCP or UDP protocol, its advantages are that the failure impact is not great, it does not require filling in username and password, and connects to the nfs network storage server

ggod III. ddifilli		Normal 2:10:23
Vledia Manager ngest Config Program Config Encode Channels	Channel 1 [Enable] Ingest Stream: udp://239.1920.201:10000:eth1	
Config Details	□ Transport Network Interface: NIC 1 ▼ Protocol: HLS ■ Encryption: Mount protocol: nfs Mount backup: Mount protocol: nfs Mount directory: Target duration: 10 Sliding window: Delete files: Delete ■ Base File Path: File prefix: fileSequence Index file name: prog_index.m3u8 (m3u8.m3u) Main index file index.m3u8 (m3u8.m3u) geriod: (1,3600)s Webvtt: Disable ▼ Base File Path: Encryption: PAT Interval: 400 (50-400)ms PMT Interval: 400 SDT Interval: 1000 (50-1900)ms HMT Interval: 400 His filename Disable ▼ Usable ▼ Usable ▼	

Figure 50: nfs mode

- Encryption: is option, the user needs to fill in the urm server address, encryption cycle, resource ID, whether encryption, as well as encryption cycle, resource ID are related to the urm server settings, as long as OMP is consistent with the server settings. If the server is not set encryption, the user does not need to tick the encryption item.
- Mount protocol: the user selects nfs, cifs or webdav, confirms according to the using environment.
- Mount host: the user fills in the network store server IP.
- Mount directory: the user fills in the name of the shared folder, its format is / upload.
- Mount backup: is option, if the user segments the same source into two network storage servers, can tick this item, and fill out the IP address and mount directory of the backup server.
- Target duration: is the playing duration in fragment length of segment, the unit is second.
- Mobile window: channel corresponds to the total number of segments the system saves under the mount server directory.
- Vanishing file: channel corresponds that whether the system automatically deletes earlier saved segments to maintain the total number of segments, after it reaches the number of mobile window under the mount server directory.
- Basic directory: i.e. channel corresponds to directory, the user creates directory corresponding to each output under the mount directory, which is the corresponding directory of mount directory, if it is saved in the mount directory, "/" should be filled out here.
- Segmented file prefix: defaults as file Sequence, the user can customize, that is, segment is saved for fileSequence_1.ts.
- Main index: is the total index of channel master configuration segmented, default is index.m3u8, the user can customize it, the suffix can be m3u8 or m3u, that is, the main index of the generated segmented is index.m3u8 under basic directory.
- Main index cycle: is main index update cycle, the unit is second, its optional item fills in 1-3600 seconds, the system regularly updates random code.
- Segmented index: each encoding/transcoding outputs parameter segmented sub-index, the default is

prog_index.m3u8, the user can customize it, the suffix can be m3u8 or m3u, that is, the generated segmented index is prog_index.m3u8 under basic directory.

Mode 2: cifs

Features: cifs mount protocol depends on TCP / IP, the protocol requires high network transmission reliability, the user must fill in the username and password, and connect to cifs network storage server.

Wellav Multi-servic	e Real-time Encoding/Transcoding System	ζ 🕡 About 🕜 Help 😵 Log Out
Logged In: admin		Normal 2:12:41
Logged In: admin Media Manager Ingest Config Program Config Proce Channels Config Details System Config	Channel 1 [Enable] Ingest Stream: udp://239.192.0.201:10000:eth1 Copy Channel Config From: Disable ▼ Transport Network NIC 1 ▼ Protocol: HLS ▼ Encryption: Mount protocol: Cifs ▼ Mount backup: Mount host Mount directory: Mount password. Target duration: 10 Siliding window: 5 (1,2048) Delete Tiles: Delete ▼ Base File Path: File prefil: File Sequence Index file name: (m3u8.m3u) Main index file index m3u8 (m3u8.m3u) £000 (1,3600)s Webvit: Disable ▼ File prefil: £000 (1,3600)s PAT Interval: 400 (50-400)ms PMT Interval: 400 (50-400)ms	
	SDT Interval: 1800 (50-1800)ms His filename Disable Cathree: Disable	

Figure 51: cifs mode

- Encryption: is option, the user needs to fill in the urm server address, encryption cycle, resource ID, whether encryption, as well as encryption cycle, resource ID are related to the urm server settings, as long as OMP is consistent with the server settings. If the server is not set encryption, the user does not need to tick the encryption item.
- Mount protocol: the user selects nfs, cifs or webdav, confirms according to the using environment.
- Mount host: the user fills in the network store server IP.
- Mount directory: the user fills in the name of the shared folder, its format is / upload.
- Mount username: is username of mount server setting, and needs to be filled in the same.
- Mount password: is password of mount server setting, and needs to be filled in the same.
- Mount backup: is option, if the user segments the same source into two network storage servers, can tick this item, and fill out the IP address and mount directory of the backup server.
- Target duration: is the playing duration in fragment length of segment, the unit is second.
- Mobile window: channel corresponds to the total number of segments the system saves under the mount server directory.
- Vanishing file: channel corresponds that whether the system automatically deletes earlier saved segments to maintain the total number of segments, after it reaches the number of mobile window under the mount server directory.

- Basic directory: i.e. channel corresponds to directory, the user creates directory corresponding to each output under the mount directory, which is the corresponding directory of mount directory, if it is saved in the mount directory, "/" should be filled out here.
- Segmented file prefix: defaults as file Sequence, the user can customize, that is, segment is saved for fileSequence_1.ts.
- Main index: is the total index of channel master configuration segmented, default is index.m3u8, the user can customize it, the suffix can be m3u8 or m3u, that is, the main index of the generated segmented is index.m3u8 under basic directory.
- Main index cycle: is main index update cycle, the unit is second, its optional item fills in 1-3600 seconds, the system regularly updates random code.
- Segmented index: each encoding/transcoding outputs parameter segmented sub-index, the default is prog_index.m3u8, the user can customize it, the suffix can be m3u8 or m3u, that is, the

generated segmented index is prog_index.m3u8 under basic directory.

Mode 3-Local

Features: WebDAV mount protocol depends on HTTP, in terms of the user who needs to release a lot of content, the user applies WebDAV that can reduce dependence on the CMS system, and be freer for creation, easier in upload, download. The user must fill in the username, password and mount port, and connect WebDAV network storage server.

WELLAV Multi-servi	ce Real-time Encoding/Transcoding System	Pelp 🐼 Log Out
Logged In: admin	Nor	nai 2:15:01
Media Manager Ingest Config	Output A/V Configuration	
Program Config Fincode Channels Config Datale	Channel T [Lhable] Ingest Stream: udp://239.192.0.20110000:em1	_
System Config	Mount protocol: Local Mount protocol: Local Mount protocol: Local Mount protocol: Local Mount host: 192,168,112,17	
	Target duration: 10 Sliding window: 5 (1,2048) Delete files: Delete v Index file name: prog_index.m3u8 (m3u8.m3u) Main index file name: index m3u8 (m3u8.m3u) 60 (1,3600)s Webvit: Disable v V 60 (1,3600)s PAT interval: 400 (c0,400)ms PMT interval:	
	SDT Intervat: 1800 (50-400/ms + intervat: 100 (5	

Figure 52: local mode

- Encryption: is option, the user needs to fill in the urm server address, encryption cycle, resource ID, whether encryption, as well as encryption cycle, resource ID are related to the urm server settings, as long as OMP is consistent with the server settings. If the server is not set encryption, the user does not need to tick the encryption item.
- Mount protocol: the user selects nfs, cifs or webdav, confirms according to the using environment.
- Mount host: the user fills in the network store server IP.
- Mount directory: the user fills in the name of the shared folder, its format is / upload.
- Mount port: is port of mount server setting, and needs to be filled in the same.

- Mount username: is username of mount server setting, and needs to be filled in the same.
- Mount password: is password of mount server setting, and needs to be filled in the same.
- Mount backup: is option, if the user segments the same source into two network storage servers, can tick this item, and fill out the IP address and mount directory of the backup server.
- Target duration: is the playing duration in fragment length of segment, the unit is second.
- Mobile window: channel corresponds to the total number of segments the system saves under the mount server directory.
- Vanishing file: channel corresponds that whether the system automatically deletes earlier saved segments to maintain the total number of segments, after it reaches the number of mobile window under the mount server directory.
- Basic directory: i.e. channel corresponds to directory, the user creates directory corresponding to each output under the mount directory, which is the corresponding directory of mount directory, if it is saved in the mount directory, "/" should be filled out here.
- Segmented file prefix: defaults as file Sequence, the user can customize it, that is, segment is saved for fileSequence_1.ts. The user can fill out zott_\${id}_\${seq}_\${curtime}_\${bitrate}.ts through self-defining, i.e. the generated segmented file name is zott_a_1_20120917T105847_1072.ts.
- Main index: is the total index of channel master configuration segmented, default is index.m3u8, the user can customize it, the suffix can be m3u8 or m3u, that is, the main index of the generated segmented is index.m3u8 under basic directory.
- Main index cycle: is main index update cycle, the unit is second, its optional item fills in 1-3600 seconds, the system regularly updates random code.
- Segmented index: each encoding/transcoding outputs parameter segmented sub-index, the default is prog_index.m3u8, the user can customize it, the suffix can be m3u8 or m3u, that is, the

generated segmented index is prog_index.m3u8 under basic directory.

Transport Target Address

The target address range varies depending on the transport protocol that users select.

UDP multicast mode

In this mode, the terminal IP address is set to multicast IP devices portfolio. The multicast IP address must be limited between 224.0.00 and 239.255.255.255.

UDP unicast mode

In this mode, the terminal IP address refers to a single IP device.

Importance: the terminal IP address should not between 224.0.0.0 and 239.255.255.255 in the unicast mode.

RTP mode

In this mode, the rule of target address is as same as the UDP mode.

RTSP:

In this mode, just fill in the port and not necessary to fill in the target address.

HTTP (MMS)

In this mode, just fill in the port and not necessary to fill in the target address.

HTTP (FLV)

In this mode, just fill in the port and not necessary to fill in the target address.

Port Number

Wellav Multi-service Real-tim	e Encoding/Transcoding System	🧿 中文 📢 About 🕜 Help 😵 Log Out
e Logged In: admin		Normal 2:24:22
Media Manager Ingest Config Program Config Encode Channels Config Details System Config	AV Configuration Channel 1 Enable 1 Ingest Stream: udp://239.192.0.201:10000:eth1 Copy Channel Config From: Disable ▼ Transport Network Interface: NIC 1 ▼ Network Interface: NIC 1 ▼ Multicast TTL: 4 Protocol: UDP ▼ Multicast TTL: 4 Protocol: UDP ▼ Multicast TTL: 4 Protocol: 0.0.0 bestination Port: 6002 Pat Interval: 400 (50-400)ms PMT Interval: 400 (50-400)ms SDT Interval: 1800 (50-400)ms PMT Interval: 400 (50-400)ms SDT Interval: 1800 (50-400)ms PMT Interval: 400 (50-400)ms SDT Interval: 1800 (50-400)ms Edit PSI Table: Disable ▼ Standard Mode: DVB ▼ Edit ATSC Table: Disable ▼ Standard Mode: Edit ATSC Table: Disable ▼ If fame Period: 50 (5,250)frames Codec: H.264 High, 4.1 ▼ Bs Tames to Use: 3 ▼ Resoluton: 1920x1080(1080ip) ▼ If fame Period: 50 (5,250)frames	
	Copyright @ 2013 Wellav Corporation All Rights Reserved.	

Figure 53: Port Number

Port setting refers to the setting of the terminal port number.

Multicast TTL

Wellav Multi-servic	e Real-time Encoding/Transcoding System	文 🕧 About 🕜 Help 😵 Log Out 🛛
Logged In: admin		Normal 2:25:40
Media Manager Ingest Config	Output A/V Configuration	
Program Config	Channel 1 [Enable] Ingest Stream: udp://239.192.0.201:10000:eth1	
Encode Channels	Copy Channel Config From: Disable	
Config Details	□ Transport	
System Config	Network Interface: UDP Multicast TTL: // <td></td>	
	■ Video stream Settings Codec: H_264 High, 4,1 ▼ B frames to Use: Entropy Coding Mode: cabac ▼ Resolution: 1920x1080(1080/p) ▼ I frame Period: 50 (5.250)/rames Transform Mode: Full Width/Edge Crop ▼ Vbi Pass Through Disable ▼ Asnect Ratio Auto ▼ Scene-cut Disable ▼	

Figure 54: Multicast TTL

TTL (Time to Live) manages the time-to-live of the IP packets, avoiding the permanent loop caused by routing errors. When packets pass through the network, routers will reduce the TTL of each packet; when the TTL is reduced to zero, then the packet will be discarded. Routers assign domain value to every interface; only when the packet's TTL is longer than the interface's domain value, would the packet be transported. When a packet passes through the router that assigns specific domain value, the packet's TTL will not be reduced as per the domain value and it only

compares to the specific domain value. (As mentioned above, the TTL will be reduced by 1 as the packet every time passes through the router).

The following is the TTL domain values and the corresponding ranges:

0 is only for the same host, and cannot be output by any interface

1 is only for the same sub-network, and cannot be transported by routers <32 is only for the same site, organization and department. <64 is only for the same region.

<128 is only for the same continent.

<255 can be used anywhere around the worldwide

Edit PSI Table

When selecting UDP protocol output in the IPTV mode, users can select whether to specify PSI information (Program Special Information), which includes program number, PID, service providers' name, and so on. Notes: in general, the PCR PID's value should be the same as the video PID; the prefix of '0x' means it is a hexadecimal number, as shown in the following Figure.

Multi-service	Real-time Encoding/Transcoding System	🧿 中文 📢 About 🕜 Help 🔇 Log Out
Logged In: admin		Normal 2:30:02
Media Manager Ingest Config Program Config Prode Channels Config Details System Config	Output AVV Configuration Channel 1 [Enable] Ingest Stream: udp://239.192.0.201:10000:eth1 Copy Channel Config From: Disable Transport Network Interface: NIC 1 • Protocol: UDP • Multicast TTL: 4 (1.255) Destination Address: Destination Address: 0.0.0 Total Bitrate: kbps PAT Interval: 400 (50-400)ms PMT Interval:	
	Edit PSI Table: Enable ▼ Program number: Dx(1) (1 to FFFF) PMT PID: 0x(0020) (0020 to 1FFE) PCR PID: 0x(0021) (0020 to 1FFE) Audio stream Settings 0x(0031) (0020 to 1FFE) Video stream Settings 0x(0021) (0020 to 1FFE) Provider name: provider Service name: service Standard Mode: DVB ▼ Edit ATSC Table: Disable	

Figure 55: Specifying PSI Information

PSI (Program Special Information) is the information used for setting parameter to decode MPEG-2 program in the receiving end, including the PID regulation about video, audio and data

- Program number: users define the program's number 1-FFFF (hexadecimal);
- PID: a term of digital TV multiplex system. PID (Packet IDdentifier) is like a file name in the digital TV multiplex system and we can call it "identifier code transmission package";
- PMT PID: PMT's PID--- program_map_PID, which refers to the PID that the channel used for PMT's PID;
- PCR PID: the clock synchronous PID code (i.e. PCR PID code);
- Audio PID: audio PID code;
- Video PID: video PID code, which should be the same as PCR PID;
- Provider name: name of the program provider;

• Service name: users define the service's name.

4.2.6 Parameter configuration for video output

Codec type

The current version of OMP system supports the following basic encoding types: H.264 Baseline, Main, High, H.263, WMV8, MPEG4 as well as and MPEG-2. Bellow is the Main Profile for SD product to transcode and it will be preset as benchmark Main 2.2. If supporting B frame, then 0-5 can be selected.



Figure 56: Video Codec



Figure 57: the Common Video Resolution

This encoding system can support the common video resolution, such as D1, Half D1 and CIF, which can be selected by users themselves.

I Frame Interval

The input interval of key frames is depended on the frame interval setting. The larger the interval value is, the less the input number of key frames is; vice versa. Key frame is the video signal frame

that has no temporary reference frame when encoding. When the system is in fast forward and fast rewind, the key frame is used for supporting video data. Therefore, the smaller the key frame interval is, the easier the downstream devices, such as video encoding and transcoding system as well as the personal video recorder, gets video signals. However, the key frames usually occupy more bit rates, which will slightly damage the video quality.

Wellav Multi-servi	e Real-time Encoding/Transcoding System	<mark>②</mark> 申交 🕡 About 🍘 Help 😵 Log Out
Logged In: admin		Alarms[1] 2:46:11
Media Manager Ingest Config Program Config	Standard Mode: DVB Edit ATSC Table: Disable	
Encode Channels	Video stream Settings	
Config Details	Codec: H.264 Main, 3.1 B frames to Use	3 🔻
System Config	Entropy Coding Mode: cabac v Resolution: 720x576(D1) • Ifame Period: Transform Mode: Full Width/Edge Crop • Vol Pass Throug Aspect Ratio: Auto • Vol Pass Throug Scene-ut Detection: Bitrate: 1404 kbps Pre-processing Rate Control: CBR • Max Bitrate: Interface: Auto • Frame Rate: Frame rate mode: VFR • Field Order: Auto • Hue: Saturation: 100 (0,100) Gamma: Brightness: 50 (0,100) Contrast: O OP Mode: Close GOP • Sharp: Disable • Denoise: Disable •	50 (5,250)frames ih Disable • Enable • • 1404 sbps Auto • fps 0 (0,360) 1 (0,10) 75 (0,100)

Figure 58: Key Frame Interval

It is recommended that the key frame interval is set to the maximum value in the broadcast level or the multicast applications; and the interval shall be short in the video-on-demand environment, so that the users can select and watch the video randomly.

Aspect Ratio

Wellav Multi-service	Real-time Encoding/Transcoding System	📀 中文 🕕 About 🕜 Help 😵 Log Out
 Logged In: admin 		Alarms[1] 2:47:54
Media Manager Ingest Config Program Config Encode Channels Config Details System Config	Standard Mode: DVB ▼ Edit ATSC Table: Disable ▼ EVideo stream Settings Codec: H 264 Main, 3.1 ▼ B frames to Use: 3 ▼ Entropy Coding Mode: cabac ▼ I frame Period: 50 (5,250)frames Transform Mode: Full Width/Edge Crop ▼ Vbi Pass Through Disable ▼ Aspect Ratio Auto ▼ Scene-cut Defection: Enable ▼ Bitrate: 11.1 Frame Rate: Auto ▼ (fps Frame rate mode: VFR ▼ Frame Rate: Auto ▼ (fps Frame rate mode: VFR ▼ Field Order: Auto ▼ (fps Frame rate 100 (0,100) Gamma: 1 (0,10) Brightness: 50 (0,100) Contrast: 75 (0,100) OOP Mode: Close GOP ▼ Shapp: Disable ▼	
	Audio stream Settings	

Figure 59: Output Aspect Ratio

This feature is used for specifying the aspect ratio of the output video stream.

Scene-cut Detection

With this feature, encoding algorithm will determine the change of video scenes more accurately and will inset key frames in the appropriate place. This feature will make the encoding system control the bit rate more accurately, thereby generating better video stream.

Wellav Multi-servic	e Real-time Encoding/Transcoding System	🧿 申文 📢 About 🕜 Help 🔇 Log Out
Logged In: admin		Normai 2:49:23
Media Manager Ingest Config Program Config	Standard Mode: DVB Edit ATSC Table: Disable	
Encode Channels	Video stream Settings	
Config Details	Codec: H.264 Main, 3.1 V B frames to Use: 3 V	
	Resolution: TZ0x576(D1) I frame Period: 50 (6,250)frames Transform Mode: Full Width/Edge Crop • Vbl Pass Through Disable • Aspect Ratio: Auto • Scene-cut Enable • Bitrate: 1404 kbps Pre-processing: None • Rate Control: CBR • Max Bitrate: 1404 • kbps Interlace: Auto • Frame Rate: Auto • ps Filed Order: Auto • Hue: 0 (0,360) Saturation: 100 (0,100) Gamma: 1 0,10) Brightness: 50 (0,100) Contrast: 75 (0,100) GOP Mode: Disable • Disable • EAuto stream Settings	

Figure 60: Scene Switch

Video bit rate

Wellav Multi-servic	e Real-time Encoding/Transcoding System	🧿 中文 🕕 About 🕜 Help 😵 Log Out
Logged In: admin		Normal 2:52:36
Media Manager Ingest Config Program Config Encode Channels Config Details Config Details System Config	Total Bitrate: ktpps PAT Interval: 400 SDT Interval: 1800 G60-1800/ms PMT Interval: Edit PSI Table: Disable ▼ Standard Mode: DVB ▼ Edit ATSC Table: Disable ▼	
	■ Video stream Settings Codec: H 264 Main, 3.1 ● B frames to Use: 3 Entropy Coding Mode: cabae ▼ Resolution: T20x576(D1) ▼ I frame Period: 50 (5,250)frames Transform Mode: Full Width/Edge Crop ▼ Vol Pass Through Disable ▼ Aspect Ratio: Auto ▼ Scene-cut Enable ▼ Bitrate: 12000 kbps Pre-processing: None ▼ Rate Control: CBR ▼ Max Bitrate: 12000 kbps Interface: Auto ▼ Frame Rate: Auto ▼ fps Frame rate mode: VFR ▼ (0,360) Saturation: 100 0,100) Gamma: 1 (0,100) Gorp Mode: Close GOP ▼	

Figure 61: Bit Rate

The bit rate here is just used for setting the video stream. The bit rate has different setting range depending on the encoding types. Users can move the mouse onto the input box and then the range of the video bit rate will be prompted. If the bit rate that users set is out of the range, then the system will warn users and refuse their submission. Now the system can support SD H.264 video bit rate from 10k to 4000k and MPEG-2 MP@ML video bit rate from 400k to 15000k

Notes: the final bit rate output value from the system is the sum of the audio, video and system overheads (typically about 8%).

Interlaced Pre-Processing

Multi-service Re	al-time Encoding/Transcoding System	🕑 中文 🌓 About 🕜 Help 😵 Log Out
Logged In: admin		Normal 2:56:41
Media Manager Ingest Config Program Config Encode Channels Config Details System Config	Total Bitrate: kbps PAT Interval: 400 (50-400)ms PMT Interval: 400 (50-400)ms SDT Interval: 1800 (50-1800)ms Edit PSI Table: Disable • Standard Mode: DVB • Edit ATSC Table: Disable •	
	■ Video stream Settings Codec: H 264 Main, 3.1 B frames to Use: 3 Entropy Coding Mode: cabac ▼ Iframe Period: 50 (5,250)frames Transform Mode: Full Width/Edge Crop ▼ Vib Pass Through Disable ▼ Aspect Ratio: Auto ▼ Scene-cut Enable ▼ Bitrate: 12000 kbps Pre-procession None ▼ Rate Control: CBR ▼ Max Bitrate: Deinterface Auto ▼ Frame Rate: Auto ▼ Iframe Rate: Deinterface Frame rate mode: VFR ▼ Field Order: Auto ▼ Hue: 0 (0,360) Saturation: 100 (0,100) Gamma: 1 (0,10) Brightness: 50 (0,100) Contrast: 75 (0,100) GOP Mode: Close GOP ▼ <	

Figure 62: Interlaced Pre-Processing

For the video with the resolution of 1/2 D1, the interlaced pre-processing is set as "None" by default, meaning do nothing with the video; however, users can select "Deinterlace" by themselves.

Bit Rate Control

I coged fin admin Standard Mode: UVB • Ingest Config Standard Mode: UVB • Program Config Edit ATSC Table: Disable • Code Channels Code: H 264 Main, 3.1 • B frames to Use: 3 • Code Channels Code: H 264 Main, 3.1 • B frames to Use: 3 • System Config Entropy Coding Mode: cabac • Resolution: T 2005/76(01) • I frame Period: 50 • (5,250)frames Transform Mode: cabac • Resolution: T 2005/76(01) • Viol Pass Through Bitrate: H 2000 • kps Pre-processing: None • Rate Control: CBR • Vist Pase Tation Mode: CBR • Pied Order: Auto • Vist Pase Tation Order: Auto • Apect Tatio: O (0,100) GOP Mode: Close GOP • Sharp: Deable • Densize Deable • Densize Deable • Densize Deable •	WELLAV Multi-servic	ce Real-time Encoding/Transcoding System	ල中文 🕕 About 🕜 Help 议 Log Out
Nedia Manager Def 4TSC Table: D/B ▼ Edt ATSC Table: Disable ▼ Edt ATSC Table: Disable ▼ Edt ATSC Table: Disable ▼ Code: H 264 Main, 3.1 ← B frames to Use: 3 ← Entrop: Coding Mode: cabas ● Resolution: 720x576(D1) ▼ I frame Period: 50 (5.250)frames Transform Mode: Full Width/Edga Crop ▼ Vil Pass Through Disable ▼ Aspect Ratio: Auto ▼ Scene-ut Detection: Enable ▼ Resolution: 12000 kdps Pre-processing: None Rate Control: 088 Rate: Auto ▼ scene-ut Rate Control: 088 Rate Control: 000 Rate Control: 000 Rate Control: 000 Rate Control: 088 R	Logged In: admin		Normal 2:57:36
▶ Encode Channels I Video stream Settings > Config Details Code:: H 264 Main, 3.1 ♥ B frames to Use: 3 ♥ > System Config Entropy Coding Mode: Cabac ♥ Entropy Coding Mode: Cabac ♥ If ame Period: 50 (6,250)frames Transform Mode: Full Width/Edge Crop ♥ Vii Pass Through Disable ♥ Aspect Ratio: Auto ♥ Scene+cut Enable ♥ Bitrate: 12000 kbps Pre-processing: None ♥ Rate Control: CBR ♥ Max Bitrate: 12000 subps Interface: VBR ↓ Prame Rate: Auto ♥ there Prame rate mode: ABR Frame Rate: Auto ♥ there Saturation: 100 (0,100) Garma: 1 (0,10) Brightness: 50 (0,100) Contrast: 75 (0,100) GOP Mode: Desde ♥ Sharp: Disable ♥ Denoise: Disable ♥ Encole ♥ Encole ♥	Media Manager Ingest Config Program Config	Standard Mode: DVB Edit ATSC Table: Disable	•
> Condig Details Codec: H 264 Main, 3.1 • B frames to Use: 3 • : System Config Entropy Coding Mode: Cabac •	Encode Channels	Video stream Settings	
Entropy Coding Mode: cabac Resolution: 720x576(D1) Iransform Mode: Full Width/Edge Crop Vol Pass Through Disable Aspect Ratio: Auto Bitrate: 12000 ktps Pre-processing: None Rate Control: Interface: VBR Frame rate mode: Auto VBR ABR Hue: 0 0,000 Barma: 100 0,0100 Gamma: 100 0,0100 Gorne: Disable Close GOP Sharp: Denoise: Disable	Config Details	Codec: H.264 Main, 3.1 V B frames to Use: 3 V	
	E System Config	Entropy Coding Mode: Resolution: Transform Mode: Full Width/Edge Crop V Aspect Ratio: Bitrate: Bitrate: Rate Control: Rate Control: CBR • Frame Rate: Rat	

Figure 63: Bit Rate Control

The current version of OMP bit rate control can support both Constant Bit Rate (CBR) and Variable Bit Rate (VBR). When selecting Variable Bit Rate, a maximum bit rate value can be set. This maximum bit rate value will be default as the current video bit rate value and the maximum bit rate cannot greater than the maximum video bit rate in that encoding type. When selecting Average Bit Rate (ABR), then the current bit rate should be the average bit rate of the output video stream.

Frame Rate

The system supports different frame rates, the frame rate range varies depending on the product series. Users can select on demand.

= Logged in: admin	
	Normal 3:00:40
Imager Standard Mode: DVB • Ingest Config Edt ATSC Table: Disable • Program Config Image: Config Cetals Image: Config Cetals Code: H 264 Main, 3.1 • B frames to Use: 3 • Is System Config Entropy Coding Mode: Cabac • Resolution: 720x576(D1) • I frame Period: 50 (6,250)frames Transform Mode: Full Width/Edge Crop • Vol Pass Through Disable • Bitrate: 12000 kbps Pre-processing: None • Rate Control: CBR • Max Bitrate: 12000 kbps Iframe Rate Frame rate mode: FT • Hue: 15 ± 50 (0,100) Saturation: 100 (0,100) Gamma: 29.97 ± 50 (0,100) Ore Mode: Filed Order: Auto • Hue: 10 ± 50 (0,100)	Varinda 3-biologi
Sharp: Disable Denoise: Disable Sharb: Disable Denoise: Disable Sharb: Disable Denoise: Disable Denoise: Disable Denoise: Disable Denoise: Disable Denoise: Denoise: Disable Denoise: Denoise: Disable Denoise:	

Figure 64: Frame Rate

Interlaced encoding

Select the encoding type of the output signal: interlaced encoding or progressive encoding.

- Enable: make interlaced encoding to the input signals
- Auto: adjust automatically with the input source
- Disable : make progressive encoding to the input signals

Multi-servic	ce Real-time Encoding/Transcoding System	📀 中文 🕡 About 🕜 Help 🐼 Log Out
Logged In: admin		Normal 3:02:32
Media Manager Ingest Config Program Config Encode Channels Config Details System Config	Standard Mode: DVB Edit ATSC Table: Disable Image: Code: H264 Main, 3.1 Entropy Coding Mode: cabac Entropy Coding Mode: cabac Transform Mode: Full Width/Edge Crop V Aspect Ratio: Auto Bitrate: 12000 kbps Pre-processing: None Rate Control: CBR V Max Bitrate: 12000 kbps Prame Rate: Auto Frame rate mode: Fraine Rate: Enable Hue: 0 0.360) Saturation: 100 0,100) Contrast: 75 (0,100) GOP Mode: Disable V Denoise: Disable V	
	Convisiont © 2013 Wellay Comparation All Rights Reserved	

Figure 65: Interlaced Encode

Field Order

Selecting the field order of the output signals; if users select "Auto", then the system will adjust automatically with the input source.

WELLAV	ne Encoding/Tran	scoding System	_		📀 中文 🕡 About 🕜 Help 🐼 Log Out
Logged In: admin					Normal 3:03:35
e Media Manager e Ingest Config Program Config	Standard Mode: Edit ATSC Table:)VB ▼ Disable ▼			^
Encode Channels	Video stream Settings	5			
Config Details	Codec:	H.264 Main, 3.1	 B frames to Use: 	3 •	
	Resolution: Resolution: Transform Mode: Aspect Ratio: Bitrate: Rate Control: Interface: Frame rate mode: Field Order: Saturation: Brightness: GOP Mode: Sharp: Denoise: Mudio stream Setting:	Labate ▼ T20x576(D1) ▼ Full Width/Edge Crop ▼ Auto ▼ 12000 kbps CBR ▼ Auto ▼ VFR ▼ Auto ▼ VFR ▼ Auto ▼ Cose GOP ▼ Disable ▼ Disable ▼	I frame Period: Vbi Pass Through Scene-cut Detection: Pre-processing: Max Bitrate: Frame Rate: Hue: Gamma: Contrast:	50 (6,250)frames Disable ▼ • Enable ▼ • 12000 kbps Auto ▼ fps • 0 (0,360) 1 (0,10) 75 (0,100)	

Figure 66: Field Order

Up/Down Conversion Mode

When the resolution of output video is different from the input video, the output video should follow the following rules:

the following rules:

- None: no change with the output
- Edge-trimming up and down/Edge-trimming with both sides: make the output video meet with the current output resolution by trimming edge
- Edge-adding up and down/Edge-adding to both sides: make the output video meet with the current output resolution by adding edge
- Stretch Deformation/Squeeze Deformation: make the output video meet with the current output resolution by deformation

WELLAN Multi-servi	ce Real-time Encoding/Transcoding System	😏 中文 🕕 About 🕜 Help 🔞 Log Out
Logged In: admin		Alarms[2] 3:06:17
Media Manager Monager Ingest Config Program Config Config Details Config Details System Config	Codec:: MPEG-2 MP@HL ▼ B frames to Use: 3 ▼ Resolution: 1920x1080(1080/p) ▼ I frame Period: 50 (5,250)frames Transform Mode: Full Widt/Edge Crop Vol Pass Through Disable ▼ Aspect Ratio: Full Widt/Edge Crop Vol Pass Through Disable ▼ Bitrate: Full Widt/Edge Crop None ▼ Pillar boxLetter Box Preprocessing: None ▼ Rate Control: Stretch/Squeeze Max Bitrate: 12000 ktps Interlace: Auto Frame Rate: 60 ▼ fps Frame rate mode: VFR ▼ F Field Order: Auto Saturation: 100 (0.100) Gamma: 1 (0.10) Bitrate: Disable ▼ Denoise: Disable ▼ E Audio Track 1 Audio Track 2 Audio Track 3 Audio Track 4 Codec: AC3 ▼ NONE ▼ 96 ♥ ktps 96 ♥ ktps 96 ♥ ktps Stereo ▼ Stereo ▼ Stereo ▼ Stereo ▼ 48 ♥ kt+z 18 ♥ kt+z 18 ♥ kt+z 1272 ▼ 1272 ▼ 1272 ▼ 1272 ▼ <td< th=""><th></th></td<>	
	Conviolt © 2013 Wellay Compration All Binhts Reserved	

Figure 67: Up/Down Conversion Mode

Hue/Saturation/Gamma/Brightness/Contrast

Users can set the video parameter on the page, including Hue/ Saturation/ Gamma/ Brightness/ Contrast

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Logged In: admin		Normal 3:09:32
Media Manager Ingest Config Program Config	Standard Mode: DVB V Edit ATSC Table: Disable V	^
Encode Channels	⊡ Video stream Settings	
Config Details	Codec: MPEG-2 MP@HL V B frames to Use: 3 V	
System Config	Resolution: 1920x1080(1080i/p) I frame Period: 50 (5,250)frames	
	Transform Mode: Full Width/Edge Crop ▼ Vbl Pass Through Disable ▼	
	Aspect Ratio: Auto Scene-cut Detection: Enable	
	Bitrate: 12000 kbps Pre-processing: None V	
	Rate Control: CBR Max Bitrate: 12000 kbps	
	Interlace: Auto Frame Rate: 60 fps	
	Frame rate mode: VFR •	
	Field Order: Auto Hue: 0 (0,360)	
	Saturation: 100 (0,100) Gamma: 1 (0,10)	
	Brightness: 50 (0,100) Contrast: 75 (0,100)	
	Sharp: Disable T	
	Denoise: Disable •	
	Audio stream Settings Audio Track 1 Audio Track 2 Audio Track 3 Audio Track 4	
	Codec: AC3 V NONE V NONE V NONE V]
	Bitrate: 128 v kbos 96 v kbos 96 v kbos 96 v kbos	·

Figure 68: Hue/Saturation/Gamma/Brightness/Contrast parameter

Sharp

Users can enable or disable sharp

Multi-servic	ce Real-time Encoding/Transcoding System	📀 中文 🕡 About 🕜 Help 🔞 Log Out
Logged In: admin		Normal 3:12:30
Logged In: admin Media Manager Ingest Config Program Config Encode Channels Config Details System Config	Standard Mode: DVB • Edit ATSC Table: Disable • El Video stream Settings • Codec: MPEG-2 MP@HL • B frames to Use: 3 • Resolution: 1920x1080(1080/p) • I frame Period: 50 (5,250)frames Transform Mode: Full Width/Edge Crop • Vol Pass Through Disable • Aspect Ratio: Auto • Scene-cut Detection: Enable • Bitrate: 12000 lkpps Pre-processing: None • Rate Control: CBR • Max Bitrate: 12000 lkpps Interface: Auto • Frame Rate: 60 • • fps Frame rate mode: VFR • Frame Rate: 60 • • fps Field Order: Auto • Hue: 0 (0,360) Saluration: 100 (0,100) Gamma: 1 (0,10) Brightness: 50 (0,100) Contrast: 75 (0,100)	Normal di 12-10
	Sharp Disable Denoise: Disable Enable Enable @Audio stream Settings Audio Track 2 Audio Track 3 Audio Track 4 Codec: AC3 ▼ NONE ▼ NONE ▼ NONE ▼ Bitrate: 128 ▼ kbos 96 ▼ kbos 96 ▼ kbos 96 ▼ kbos	

Figure 69: Sharp

Denoise

Users can enable or disable denoise

Multi-servic	e Real-time Encoding/Transcoding System	🖸 中文 🕕 About 🕜 Help 😵 Log Out
 Logged In: admin 		Normal 3:12:30
Media Manager Ingest Config Program Config	Standard Mode: DVB • Edit ATSC Table: Disable •	
Encode Channels Config Details	Video stream Settings Codec: MPEG-2 MP@HL B frames to Use: 3	
1: System Config	Resolution: 1920x1080(1980/p) I fame Period 0 5.250/fames Transform Mode: Full WorldreEge Crop Vio Pasa Trough Disable 0 Brate: 12000 ktops Pre-processing None I Brate: 12000 ktops Pre-processing None I Rac Control: CBR Max Frame Rate: 60 for Frame rate mode: VPR • Frame Rate: 60 for Staturation: 100 (0.100) Gamma: 1 0.10) Staturation: 100 (0.100) Gamma: 75 0.100) Sharp Disable Frame Addition: 75 0.100) Contrast: 75 0.100) Sharp Disable Frame/ Audio Track 1 Audio Track 2 Audio Track 4 NONE NONE <td></td>	

Figure 70: Denoise

4.2.7 Parameter configuration for audio output

Multi-servic	Real-time Encoding/Transcoding System	🧿 中文 ݬ About 👔 Help 😵 Log Out
Logged In: admin		Normal 3:16:10
Media Manager	Lenoise: Uisable Y	^
Ingest Config	Audio stream Settings	
Program Config	Audio Track 1 Audio Track 2 Audio Track 3 Audio Track 4	
Encode Channels	Codec: AC3 V NONE V NONE V NONE V	
Config Details	Bitrate: 128 v kbps 96 v kbps 96 v kbps 96 v kbps	
System Config	Channels: Stereo V Stereo V Stereo V	
	Sample Rate: 48 v kHz 48 v kHz 48 v kHz 48 v kHz	
	Input ID: 1: ??? • 1: ??? • 1: ??? • 1: ???	
	Volume: Manual Volume: Normalize Analysis (-30, 15)db	
	Audio Delay: 0 (0,60000)ms	
	Subtitle Settings Subtitle Track 1 Subtitle Track 2 Subtitle Track 3 Subtitle Track 4 Codec: None ▼ None ▼ None ▼ None ▼ Input ID: 1-1 ▼ 1-1 ▼ 1-1 ▼ Clogo Please select ▼ ■ ■ ■ ■ ■ ■ Clogo Disable ▼ ■ ■ ■ ■ ■ ■ Clogo Disable ▼ ■ <	
	Convicted © 2013 Wallow Conversion All Picture Researed	

Figure 71: Audio Parameter Configuration

Audio encoding Type

Wellav Multi-service Real	-time Encoding/Transcoding System	📀 中文 🕕 About 🕜 Help 🔇 Log Out
Logged In: admin		Nonnal 3:17:29
Media Manager Ingest Config Program Config Config Details Config Details System Config	Lenoise: Lisable ▼ •••••••••••••••••••••••••••••]
	Subtitie Settings Subtitie Track 1 Subtitie Track 2 Subtitie Track 3 Subtitie Track 3 Subtitie Track 4 Codec: None V None V None V Input ID: 1-1 V I-1 V I-]

Figure 72: Audio Transcoding Type

The current version of omp500 can support several formats, such as MP2, MP3, DRA, AAC-MAIN, AAC-LC, HE-AAC, AMR, AC3 and AC3+. The system also supports "None", that is to say, no audio will be output from the system.

Sound Channel

Wellaw Multi-service Real	-time Encoding/Transcoding System	🧿 中文 🕕 About 🕜 Help 😵 Log Out
Logged In: admin		Normal 17:16:29
Media Manager Ingest Config	Sitiarµ. UIsable ▼ Denoise: Disable ▼	-
Program Config Cncode Channels Config Details	Audio Track 1 Audio Track 2 Audio Track 3 Audio Track 4 Codec: AC3 NONE NONE NONE NONE NONE NONE NONE NON	
C System Config	Bitrate: 128 v kbps 96 v kbps 96 v kbps 96 v kbps Channels: Stereo v Stereo v Stereo v Stereo v Sample Rate: Input ID: 48 v kHz 48 v kHz 48 v kHz Volume: Manual v Normalize v 11:77? v 11:77? v 11:77? v Audio Delay: 0 (0,60000)ms 0 0 0 0	
	Subtite Track 1 Subtite Track 2 Subtite Track 3 Subtite Track 4 Codec: None Y None Y None Y Input ID: 1-1 Y 1-1 Y Input ID: 1-1 Y 1-1 Y DeLogo Disable Y DAdvanced Scattinger	

Figure 73: Drop-Down Menu for Sound Channel

There are 3 options in the drop-down menu for the sound channel: Mono, stereo and 5.1. In Mono mode, the two audio channels will be merged into one single mono.

- MP2 : Stereo/Dual Mono/Mono
- MP3: Stereo/Mono
- AAC-LC: Stereo/Mono/7.1
- AAC-MAIN: Stereo/Mono/5.1

HE-AAC v1:Stereo/Mono

HE-AAC v2:Stereo

AC3: Stereo/Mono/5.1

AC3+: Stereo/Mono/5.1

Audio Bit Rate



Figure 74: Drop-Down Menu for Bit Rate

The selection of audio bit rate is related to the method of audio encoding. When users select encoding method in the drop-down menu for audio bit rate, the drop-down menu will show the

corresponding audio bit rate. Users can select the audio bit as per their actual demands and bandwidth requirements.

MP2: 32/48/56/64/96/112/128/160/192/224/256 kbps MP3: 32/48/56/64/80/96/112/128/160/192/224/256/320 kbps AAC-LC:12/16/32/40/48/56/64/80/96/128 kbps AAC-MAIN:64/80/96/128/160/192/256 kbps HE-AAC v1:8/10/12/16/20/24/32/48/56/64/80/96/112/128 kbps HE-AAC v2:8/10/12/16/20/24/28/32/40/44/48/64/80 kbps AC3: 128/160/192/256/320/384/448/512/576/640 kbps AC3+: 128/160/192/256/320/384/448/512/576/640 kbps

Sampling Rate

Multi-service Real-	-time Encoding/Transcoding System	📀 中文 📢 About 🕜 Help 😵 Log Out
Logged In: admin		Normal 17:44:18
Media Manager Ingest Config Program Config Encode Channels Config Details System Config	Frame rate mode: VFR ▼ Field Order: Auto ▼ Hue: 0 (0.360) Saturation: 100 (0.100) Brightness: 50 (0.100) Sharp: Disable ▼ Brookse: Disable ▼ Branck 1 Audio Track 2 Audio track 3 Audio Track 4 Codec: MP2 ▼ Bitrate: 128 ▼ kbps Stereo ▼ Stereo ▼ Stereo ▼ Stereo ▼ Stereo ▼ Stereo ▼ Mormalize ▼ 1: ??? ▼ Volume: 0 0 (0.60000)ms	
	It subtite subtite Track 1 Subtite Track 1 Subtite Track 2 Subtite Track 3 Subtite Track 4 Codec: None ▼ None ▼ None ▼ None ▼ Input ID: 1-1 ▼ 1-1 ▼ Input ID: 1-1 ▼ 1-1 ▼	

Figure 75: Drop-Down Menu for Sampling Rate

Sampling Rate is used for determining the input audio sampling frequency. The higher the sampling frequency is, the better the input audio quality gets. However, the higher sampling rate generally requires higher bit rate to transcode audio.

MP2: 32/44.1/48 KHz

MP3: 32/44.1/48 KHz

AAC-LC: 11.025/12/16/22.05/24/32/44.1/48 KHz

AAC-MAIN: 32/44.1/48/64 KHz

HE-AAC v1:32/44.1/48 KHz

HE-AAC v2:32/44.1/48 KHz

AC3: 32/44.1/48 KHz

AC3+: 48 KHz

Volume

Logged In adm Contract 1 Audio Field Order: Audio Program Config Sturation: 100 0,100 Contrast: 75 0,100 Contrast: 75 0,100 Contrast: 75 0,100 Contrast: 75 0,100 Contrast: 10 Saburation: Code: MP3 NONE NONE Starpe St	Multi-service	e Real-time Encoding/Transcoding System	🗿 中文 🕕 About 🕜 Help 😵 Log Out
Media Manager Traffiel tabel HOUDe: VFK ▼ Field Order: Auto ▼ Hue: 0 (0,360) Saturation: 100 (0,100) Gamma: 1 (0,10) Biduration: 500 (0,100) Contrast: 75 (0,100) Sharp:: Disable ▼ Denoise: Disable ▼ Denoise: Disable ▼ CodeC:: MP3 ▼ NONE ▼ Stereo ▼ Stereo ▼ Stereo ▼ Stereo ▼ Stereo ▼ Stereo ▼ Stereo ▼	Logged In: admin		Normal 17:50:41
Subtitle Settings Subtitle Track 1 Subtitle Track 2 Subtitle Track 2 Subtitle Track 3 Subtitle Track 4 Codec: None None	Media Manager Ingest Config Program Config Encode Channels Config Details System Config	Flame rake mode: VFK • Field Order: Auto • Hue: 0 0 (0,360) Saturation: 100 100 (0,100) Brightness: 50 Somar:: Disable • Denoise: Disable • Brate: Disable • Birate: 128 • kbps Gode:: MP3 • NONE • NONE • Stereo • Stereo • Stereo • Stereo • Stereo • Stereo • Stereo • 1: ??? • Volume: Manual • Audio Delay: Manual • 0.60000)ms	
Input ID: 1-1 v 1-1 v 1-1 v Image calledt v 1-1 v 1-1 v v v		Subtite Settings Subtite Track 1 Subtite Track 2 Subtite Track 3 Subtite Track 4 Codec: None ▼ None ▼ None ▼ None ▼ Input ID: 1-1 ▼ 1-1 ▼ If I ono Please select ▼ ▼	

Figure 76: Volume Selection

The volume should be set between $-30 \sim 15 \text{ db}(0\%-600\% \text{ of the volume})$ for adjusting the volume of the input audio. The volume will be reflected on the audio stream's volume that has been transcoded. It will be 100 by default without any adjustment of the volume.

Audio Delay

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Logged In: admin		Alarms 👔 21:28:34
Media Manager Ingest Config Program Config Encode Channels Config Details System Config	Strarp. Utsable ▼ Denoise: Disable ▼ ■ Audio strack 1 Audio Track 2 Audio Track 3 Audio Track 4 Codec: AC3 NONE ▼ NONE ▼ NONE ▼ Bitrate: 128 ▼ kbps 96 ▼ kbps 96 ▼ kbps 96 ▼ kbps Channels: Stereo ▼ Stereo ▼ Stereo ▼ Stereo ▼ Sample Rate: 48 ▼ kHz 48 ▼ kHz 48 ▼ kHz 48 ▼ kHz Input ID: 1:727 ▼ 1:727 ▼ 1:727 ▼ 1:727 ▼ Volume: Manual ▼ Decibel ▼ 0 (-30,15)db	
	Subtite Statings Subtite Track 1 Subtite Track 2 Subtite Track 3 Subtite Track 4 Codec: None None None	

Figure 77: Audio Delay

The audio delay can set between 0~60000 ms

Multi-subtitle and Multi-track

The system supports TS source input with multi-subtitle and multi-track; users can select "transparent transmission" or "encoding transport" for audio and can select "source subtitle" or "no subtitle output" for subtitle. This feature cannot be used without the permission of the vendors.

						Normal 21:33:26
a Manager	Codec:	AC3 V	NONE •	NONE *	NONE •	
st Config	Bitrate:	128 V kbps	96 v kbps	96 v kbps	96 V kbps	
ram Config	Channels:	Stereo 🔻	Stereo 🔻	Stereo V	Stereo *	
code Channels	Sample Rate:	48 🔻 kHz	48 🔻 kHz	48 🔻 kHz	48 🔻 kHz	
nfig Details	Input ID:	1: ??? 🔹	1: ??? 🔻	1: ??? 🔻	1: ??? 🔻	
em Config	Volume:	Manual 🔻	Percentage T 100	(0,600)%		
	Audio Delay:	0 (0,60000)n	ns			
		1-1	1-1 v	1-1 *	1-1 *	
	Input ID:					
	Input ID: Logo Pi DeLogo Di Advanced	sable V				
	Input ID: Logo Pi DeLogo Di Advanced Settings	sable V				

Figure 78: Multi-subtitle and Multi-track Setting

The system can make "transparent transmission" for each audio channel in the original bit stream. After transparent transmission, the properties of each audio channel will be the same as the original bit stream. For example, if the audio encoding format of the original bit stream is "MPEG1 Layer2", then the audio encoding format after transparent transmission should also be "MPEG1 Layer2"; if the audio encoding format of the original bit stream is "DVB AC-3", then the audio encoding format after transparent transmission should also be "DVB AC-3", then the audio encoding format after transparent transmission. Now the system can support three encoding formats for the audio transparent transmission: MPEG1 Layer2, MPEG-2 AAC and AC-3. The system also can support transparent transmission with 4-channel audio.

The system can make transparent transmission for the subtitles on each channel in the original bit stream and after that the encoding format and the language of the subtitles on each channel will be the same as the original bit stream.

It can support transparent transmission with 4-channel audio for three kinds of subtitle transcoding formats: DVB Subtitle, Teletext and Closed Caption. It can support HLS WebVTT subtitle.

Examples:

Input Source	Requirements	Users Behaviors
	for Output	
	Stream	
Track 1-mp2	Track 1-mp2	In the 1 st column of track setting, selecting "copy" in the
(Chinese)	(Chinese)	"transcoding type" and selecting "ID1" in the "audio input"
Track 2-mp3	Track 2-AC3	In the 2 nd column of track setting, selecting "AC3" in the
(English)	(English)	"transcoding type" and selecting "ID2" in the "audio input"
Track 3-AC3	Track 3-mp2	In the 3 rd column of track setting, selecting "copy" in the
(German)	(French)	"transcoding type" and selecting "ID4" in the "audio input"
Track 4-mp2	Track 4 (no	In the 4 th column of audio setting, selecting "none" in the
(French)	sound)	"transcoding type"
Subtitle 1-	Subtitle 1-	In the 1 st column of subtitle setting, selecting "copy" in the
Chinese	Chinese	"transcoding type" and selecting "ID1" in the "subtitle input"

Subtitle 2- English	Subtitle 2-none	In the 2 nd column of subtitle setting, selecting "none" in the "transcoding type"
Subtitle 3- German	Subtitle 3- French	In the 3 rd column of subtitle setting, selecting "copy" in the "transcoding type" and selecting "ID4" in the "subtitle input"
Subtitle 4- French	Subtitle 4-none	In the 4 th column of subtitle setting, selecting "none" in the "transcoding type"

Logo and De-Logo

Wellaw Multi-service Rea	🗿 中文 🕧 About 🕜 Help 🔞 Log Out		
⇒ Logged In: admin		Alarms[1] 23:16:09	
Media Manager Ingest Config IP Program Config Encode Channels	Input ID: 1: English I: Engli		
Config Details System Config	Subtite Track 1 Subtite Track 2 Subtite Track 3 Subtite Track 4 Codec: None None None None None None None Input ID: 1-1 v 1-1 v 1-1 v Image: Coordinate: 0 Graphic height: 100 X Coordinate: 0 V 0		
	Advanced Settings A&V Sync Threshold 1000 ms [Apply] Load Default Back To Prog Config [Input Config] Detailed Config of Output Parameters above have been applied to the channel [1]		

Figure 79: Logo and De-Logo

The OMP500 system supports to insert and remove logo

Advanced Settings

Multi-service Re	eal-time Encoding/Transcoding System	🧿 中文 🕕 About 🕜 Help 😵 Log Out
Logged In: admin		Alarms[1] 23:25:45
Media Manager Ingest Config IP Program Config Config Details System Config	Input ID: 1: English ▼ 1: English ♥ 1: Engl	
	Apply Load Default Back To Prog Config Detailed Config of Output	
	Parameters above have been applied to the channel [1]	

Figure 80: Advanced settings

In the advanced settings, the OMP500 system supports to revise the audio & video sync threshold

5. Media Manager

5.1 Resource

5.1.1 Resource Upload

Add Subtitle

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e Logged In: admin			🚹 Alarms 🌒 1639241
 Media Manager 	C Resource		
Resource	Resource	😋 Subtitle Man	ager
Logo Graphic	∌ Subtitle		
Backup Video	Font	Media Upload	
Timing Task	Graphic Graphic	*Media Name:	Test1
Manual Task	▶ Video	*Type:	
Overlay Log	Dispaly Profile		Surtitle test
 Ingest Config 	Subtitle Display Templates	Description:	Surfice cest
Program Config	Graphic Display Templates		
System Config		Upload:	
			OMP500 Subtitle Test
		To d O other	
		* lext Content:	
			Submit Back
		Text Batch Uplo	oad
		Batch File Se	alection Upload File

Figure 81: Add Subtitle

The OMP500 supports to upload subtitles resource to the system.

Add Font

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Logged In: admin								Alarms[2] 0:44101
- Media Manager	Resource							
≱ Resource	- Resource	Add Fo	ont Batch	Delete				
Logo Graphic	≱ Subtitle		ID	Name	Embedded Font Name	Туре	Operation	
Backup Video	≱ Font	-	0001	华文宋体	STSong	Embedded		
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Manual Task	▶ Video							
Overlay Log	Dispaly Profile							
 Ingest Config 	Subtitle Display Templates							
Program Config	Graphic Display Templates							
 System Config 								
				Copyright © 2013 Well:	av Corporation All Rights Reserv	/ed.		

Figure 82: Add Font

The OMP500 supports to upload fonts source to the system, there are 2 embedded fonts existed. *Add Graphic*

Multi-ser	rvice Real-time Encoding	Transcoding System O中文 () About (🕐 Help 🐼 Log Out .
Logged In: admin		Alarms	2) 0:43:21
🖃 Media Manager	C Resource		
Resource	- Resource	Graphic Manager	
 Logo Graphic Backup Video 	≽ Subtitle	Media Upload	
Timing Task	<pre>p Font</pre>	*Media Name: Test2	
 Overlay Log 	Video Dispaly Profile	Iyye. Graphic Test	
 Ingest Config 	Subtitle Display Templates	Description.	
Program Config	Graphic Display Templates	*Graphic File: Upload No files selected	
System Config	_	Submit Back	
		Graphic Batch Upload	
		Batch File Selection Upload File	
		Storage Space Management	
		Available Space:	
		Used Ratio%	

Figure 83: Add Graphic The OMP500 supports to upload graphic source to the system.

Add Video

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Logged In: admin			Airms 0.48201
Media Manager	C Resource		
Kesource Logo Graphic Logo Graphic Backup Video Timing Task Manual Task Manual Task Overlay Log Ingest Config [Program Config] System Config	Resource Subtlie Font Graphic Vrateo Dispaly Profile Subtlie Display Templates Graphic Display Templates	Video Manager Wedia Upload *Media Name: Test3 Video Test Description: *Material File: Upload *Material File: Upload *Support ts', m2p', mpg', h264', aw' and 'mp4' file format and up to 3000/M file	hb) size onty
		Storage Space Management Available Space: 22G Used Space: 29G Used Ratio%:	57%

Figure 84: Add Video

The OMP500 supports to upload video source to the system.

5.1.2 Display profile

Subtitle Display Templates

Multi-service Real-time Encoding/Transcoding System								g Out						
Logged In: admin												Alarm	s [2] 1:38:18	
- Media Manager	Resource													
Resource	- Resource	Add Profile	Batch Delete											
Logo Graphic	≽ Subtitle		Name	Rolling Mode	Speed	Start Position	End Position	Font	For	nt Color	Font Size	Shadow	Shadow Depth	Bg_c
Backup Video	Font	- PA	缺省下方白字无底*	Rolling from R to L	3	(0,520)	(720,520)	华文楷体	1		20	None	0	Æ
Timing Task	Graphic	- NTS	C缺省下方白字无底*	Rolling from R to L	3	(0.450)	(720.450)	华文字体			20	None	0	Ŧ
Manual Task	▶ Video				-	(-)/	(/	1 South						
Overlay Log	 Dispaly Profile 													
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	Graphic Display Templates													
Program Coning Financial														
Config Dotaile														
System Config														
		_												
		4												•

Figure 85: Subtitle Display Templates

The OMP500 has two embedded default display templates for subtitles, and the system supports

to add user-defined subtitle display templates.

Graphic Display Templates

Wulti-service Real-time Encoding/Transcoding System							🧿 中文 🕕 About 🕜 Help 😵 Log		
Logged In: admin								1 Alarms[2] 1:41:09	
Media Manager	Resource								
Resource	- Resource	Add Profile	Batch Delete						
 Logo Graphic Backup Video 	≽ Subtitle		Name	Coordinate	Lock overlay size(Width x He ight)	Graphic Transparency(%)	Actions		
Timing Task	Font	- 88	<u> 治左上角图片</u>	(20,16)	No	0	Preview		
Manual Task	> Video	- £2	省右下角图片	(550,400)	No	0	Preview		
Overlay Log	Dispaly Profile	· · · · ·						1	
Ingest Config	Subtitle Display Templates								
⊧ IP	Graphic Display Templates								
Program Config									
Encode Channels									
 Config Details 									
System Config									
			Conuciabi	Come	rolian All Diable Deserved				

Figure 86: Graphic Display Templates

The OMP500 has two embedded default display templates for graphics, and the system supports to add user-defined graphic display templates.

5.2 Logo Graphic

The OMP500 supports to upload multiple logo resources.

Wellav Multi-servic	ce Real-time Encoding/Transcoding System	lp 🐼 Log Out
Logged In: admin	Alamse) us	0:57
Media Manager Resource	AD Meta Data Manager	
 Logo Graphic Backup Video Timing Task Manual Task 	Advertisement upload Media Name: Logo Test * Graphic File: Upload MG_0680.PNG *	
Overlay Log Ingest Config	Add New Back	
System Confg	Storage Space Management Available Space: 22,592,632 (KB) Used Space: 29,810,568 (KB) Use%	

Figure 87: Logo Graphic

5.3 Backup Video

The OMP500 supports to upload multiple video resources.

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Logged In: admin		1 Alarms[2] 0:50:57
Media Manager	O AD Meta Data Manager	
Resource		
Logo Graphic	Advertisement upload	
Backup Video	Media Name: Logo Test	
Timing Task	Graphic File: Upload MG 0680 PNG	
Manual Task		
Overlay Log	Add New Back	
 Ingest Config 		
Program Config		
 System Config 	Storage Space Management	
	Available Space: 22,592,632 (KB)	
	Used Space: 29,810,568 (KE)	

Figure 88: Backup Video

5.4 Timing Task

5.4.1 Task type

Subtitle Overlay

Wellav Multi-servi	ce Real-time Encoding	/Transcoding System	👩 中文 🕕 About 🕢 Help 😵 Log Out
Logged In: admin			Normal 1:10:46
	Timing Task Type Statute Overlay Graphic Overl	Add Timing Task Basic Info Task Name: Subtitle 10 verlay Overlay Type: Subtitle ▼ Channel: 1 ▼ Insertion Channel: 1 ▼ Templet: PAL缺省下方白字无底* ▼ Start Time: 2020-04-17 愛 23:00:00 Playing Times: 1 ■ Infinite Loop Add Media Add Media: Test1 ▼ 1 Times Delay Time: 1 Min 0 Sec	od: Time Range
		Playing Unit List NO. Media Name Playing Times Delay Time Dura	ution Operate

Figure 89: Subtitle Overlay

The OMP500 supports to overlay subtitles periodically.

Graphic Overlay

Multi-serv	ice Real-time Encoding	/Transcoding System	🗿 中文 🕕 About 🕜 Help 🔞 Log Out
Logged In: admin			Alarms(@) 1:57248
Media Manager	C Timing Task		
Resource Logo Graphic Backup Video Timing Task Wanual Task Overlay Log Ingest Config If Config Details Config Details System Config	 Task Type > Subtite Overlay > (crashic Overlay) > Video Insertion Settings > Task Save Time Settings 	CAd Timing Task Basic Info Task Name: Overlay Type: Graphic * Channel: 1 * Insertion Channel: 1 * Templet: Red Z: F / / / / / / / / / / / / / / / / / /	me period: Time Range Control Coverate
	<u> </u>	Copyright © 2013 Wellav Corporation All Rights Reserved.	

Figure 90: Graphic Overlay The OMP500 supports to overlay graphic periodically.

Video Insertion

Logged In: admin					Alarms[2] 1:59:1
-) Media Manager	C Timing Task				
Resource	 Task Type 	Add Timing Task			
Logo Graphic	Subtitle Overlay				
Backup Video	Graphic Overlay	Basic Info		Date: 2020-04-17 Occupied time period:	
Timing Task	Video Insertion	Task Name:		NO. Task Name	Time Range
Manual Task	- Settings	Overlay Type:	Video 🔻		
Overlay Log	Task Save Time Settings	Channel:	1 •		
Ingest Config		Insertion Channel:	1 -		
▶ IP		Start Time -	2020-04-17 = 00:00:00		
Program Config		our time:	2020 04 17		
Encode Channels		End Time:	2020-04-17		
Config Details		Playing Times:	1 Infinite Loop		
System Config					
		Add Play Unit			
		Add Media:	Test3(Duration:00:04	:42) 🔻	Add
		Playing Unit Li	st (The period of time: 23:00:00 The total	media time: 0)	
		NO.	Media Name Playing 1	imes Delay Time Duration	n Operate

Figure 91: Video Insertion

The OMP500 supports to insert video periodically.

5.4.2 Settings

Task Save Time Settings

Wulti-service Real-time Encoding/Transcoding System				📀 中文 📢 About 🕜 Help 😵 Log Out	
Logged In: admin					Alarms[9] 2:03:20
Media Manager	Timing Task				
Resource Logo Graphic Backup Video Training Task Manual Task Overlay Log Inger Config If Config Channels Config Details Config Details System Config	Task Type Subtitle Overlay Graphic Overlay Graphic Overlay Video Insertion Settings Idask Save Time Settings	Save time:	0	(0-30)Day	Settings
		Cor	yright © 2013 Wellav Corporation All F	Rights Reserved.	

Figure 92: Task Save Time Settings The OMP500 supports to save all the tasks 0~30 days

5.5 Manual Task

Similar to timing tasks

5.6 Overlay Log

The OMP500 supports to set up, delete and query the system log

WELLAN Multi-service	About ♀ Help 🔇 Log Out	
Logged In: admin		Alams(2) 2:13:56
- Media Manager	Overlay Log	
	Log Setting Save Time: One Month ▼ Delete the tog on the right date: 2020-04-17 👿 2020-04-17 👿 Delete Date : 2020-04-17 👿 2020-04-17 👿 Channel : Media Type : All ▼ Task type : Timing Task ▼ Subtille1Ove ▼	
Program Config Config Details	ID Task Name Channel Media Type Media Name Start NO Data	Times(H:M:S) Mode
D System Config	Showing 0 to 0 for 0 items	<< < > >>

Figure 93: Overlay Log

6. FAQ

The MGMT port cannot be connected?

- Check whether the power cord is connected correctly.
- Check whether the default IP address of ETH0 is pingable, it should be 192.168.254.1;
- Confirm there is no IP conflict in the network;
- Use the browser of Internet Explorer 8.0 or higher, or Firefox 3.0 or higher;
- Contact customer service from Wellav for help

How to restart the system and restore the factory settings?

- Refer to section 3.4 on how restart the system
- Contact customer service on how to restore the system

How to calculate the rate of the output stream?

• OMP output stream contains video stream and audio stream. The accurate calculation of output TS requires the sum of video stream rate and audio stream rate and plus 3% of the sum. TS head data used contain video stream and audio stream. For example, if the audio stream rate is 96Kbps and the video stream rate is 1.2Mbps, then the total output flow rate (including TS head data) is (96Kbps +1.2 Mbps) * 1.03 = 1.335 Mbps. This is the precise calculation of output stream rate of OMP.

How to re-obtain the current configuration parameters?

• WMS management interface, if you click on the network configuration or the coding channel output configuration button / link, OMP will provide current running parameter configuration and display the configuration page. You can further modify the parameters, click on "Apply" (submit) button to confirm the new configuration.

Why are there compressed color lump?

• This is usually due to lower rate and higher video complexity. To address this problem, you can increase the rate; if the problem still exists after that, reboot the system.

Why there is no sound?

Check the audio settings from WMS management interface

Why the system can only conduct the coding configuration on one input program stream when multiple input program streams are available in the system?

When it is set to the DVB mode, the system can only select a Multiple Programs Transport Stream (MPTS) and can only progress the programs in the MPTS, and the program after being processed can be compounded into MPTS for output. If it needs to progress multiple MPTS or SPTS, the system must be set to IPTV mode and then conduct the processing.

- To output the adaptive streaming, it needs the third-party software.
- Start the output main configuration and proxy first, configure them as RTMP output, and configure the FMS address as the IP address of the third-party server.
- Start the channel and receive the adaptive streaming from the third-party server connected.

7. Contact

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