

使用手册

Users' Manual

VER 0.1



五通道高清视频竖屏切换台

5-CH HD Vertical Screen Switcher

语言 LANGUAGES

中文.....01

English.....21

安全须知

如果忽视这些注意事项，可能导致人员伤亡或伤亡，可能导致设备损坏、数据丢失、设备性能降低或不可预知的结果。

**电器安全特性**

- 为避免可能的电击造成严重损害，在搬动产品之前，请先将电源线暂时从产品电源接口处移除。
- 当您需加入新的硬件到产品中或移除产品中现有硬件时，请务必先关闭产品电源。条件允许的情况下，建议将电源线暂时从产品接口处移除。
- 使用前应确认产品是否已接地，电源电压是否已调整到产品适用的范围内。否则将可能导致产品意外损坏、性能降低或不可预知的结果。
- 请勿使用松动或损坏的电源插座或在手潮湿的时候接触电源插座，否则将有触电和起火的危险。
- 若听到电源线和电源接口处有噪音，请立即拔下电源线，并向您的销售代表寻求帮助，否则将有起火或触电的危险。
- 若如有异物或液体进入产品或需要清洁产品时，请从产品上移开电源线以及其他的任何电缆线，否则将有触电、起火和损坏产品的危险。
- 若电源已损坏，请不要尝试自行修复。请联系专业技术服务人员或经销商来处理。

Preparation Before Installation

**Caution**

- During transportation, handling, and installation of switchboard equipment, avoid collisions between the switchgear equipment and doors, walls, shelves, etc.
- When the equipment is unpacked and transported, it is strictly forbidden to put it down and drag it gently to avoid damage to the switchboard equipment.
- Do not place the switcher equipment in a flammable, explosive atmosphere or smoke environment. Do not perform any operation in this environment.
- Operating equipment should be kept away from water and moisture. The water in the switchgear or moisture will cause damage to the circuit of the switchgear equipment.
- A certain amount of heat will be generated during the operation of the switcher. Ensure that the switchgear equipment is ventilated and the switcher device can operate normally.

**Danger**

- It is a fatal hazard that indirect contact with the power supply by wet objects is prohibited. Unregulated, incorrect high-voltage operation can cause accidents such as fire or electric shock.
- It is forbidden to install and remove the switchgear equipment and power cord. When the power cord is in contact with the conductor, an arc or spark may be generated, which may result in fire or electric shock.

目录

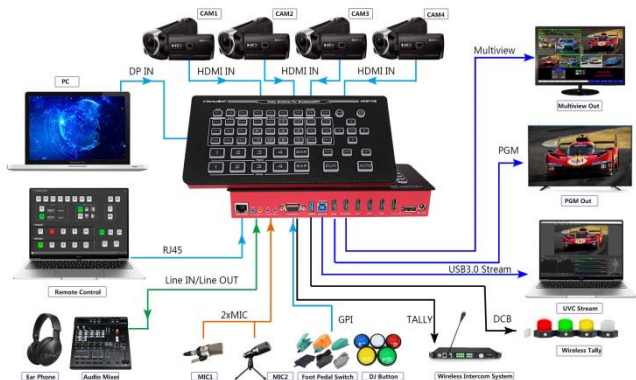
1.概述.....	02
1.1 产品介绍.....	02
2.功能特性.....	02
2.1 设备尺寸.....	02
3.接口规格说明.....	03
3.1 接口介绍.....	03
3.2 TALLY 接口.....	03
3.3 接口参数.....	04
4.控制面板介绍.....	05
4.1 控制面板分区说明.....	05
4.2 按键说明.....	05
4.2.1 功能区.....	06
4.2.2 音频控制区.....	07
4.2.3 转场特效控制区.....	08
4.2.4 综合控制区.....	09
4.2.5 菜单控制区.....	11
4.2.6 PGM 与 PVW 的选择.....	11
4.2.7 转场控制区.....	12
5. USB 接口对接 OBS 软件说明.....	12
6.系统菜单设置.....	14
7.切换台软件控制.....	16
8.同步地区时间操作说明.....	17
9.图文、台标叠加步骤.....	17
10.故障及维修.....	19

1.概述

1.1 产品介绍

中帝威(DeviceWell) 高清视频切换台 HDS7105, 采用便携式一体化设计, 金属外壳, 体积小重量轻, 标准尺寸: 240mm*118mm*41.5mm, 可适用于小型外出场景的视频特效切换需求。设备集成多画面预览处理器、特效发生器、音频处理器、控制键盘等切换台常用组件。

HDS7105 支持 4 路 HDMI+1 路 DP 信号输入, 共计 5 路视频信号。可同步输出外部预览信号。HDS7105 支持 HDMI 内嵌音频+外部模拟音频, 混合处理后, 可嵌入到输出的 HDMI 信号中, 也可从模拟端口输出。所有输入信号的分辨率自动适应, 输出信号分辨率可按需求选择, 相当灵活。对于广播电视、节目制作、访谈演讲现场制作、户外体育赛事、学校课件制作等视频切换需求, HDS7105 的功能完全可以满足。



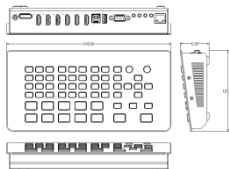
2.功能特性

中帝威 HDS7105 五通道高清视频切换台是一款多功能切换台, 无需专业知识, 只需通过简单操作即可进行视频切换和音频混合。本机可在广电、直播和各种活动场所中使用。

- ◆ 便携式一体式设计
- ◆ 金属机身, 强度高, 重量轻
- ◆ 集成控制键盘
- ◆ 单独的 PATTERN KEY, 可设置各种异形图案, 图像的位置、大小、数量可调整
- ◆ 圆形、菱形、扇形、梅花、百叶窗等上百种特效划像
- ◆ 支持 4K 信号输入
- ◆ 2 路 MIC 输入
- ◆ 1 路 LINE IN 输入, 1 路 LINE OUT 输出
- ◆ 支持 1 路 USB3.0 UVC 输出
- ◆ 支持 GPI 控制, DCB 控制
- ◆ 支持脚踏板, 控制手柄等输入
- ◆ 支持图文叠加、台标叠加等功能
- ◆ 支持色度键、亮度键功能
- ◆ 支持竖屏菜单输出
- ◆ 支持 4 路 HDMI+1 路 DP 输入
- ◆ PGM 输出: 1 路 HDMI
- ◆ 多画面输出: 1 路 HDMI
- ◆ 支持 MIX /FADE 等特效切换
- ◆ 支持 CUT 硬切和 AUTO 特效切换
- ◆ 支持画面冻结 (STILL) 功能
- ◆ 支持 PIP/POP 功能
- ◆ 支持 FTB 应急黑场输出功能
- ◆ 支持音频跟随、混音功能
- ◆ 支持 HDMI 音频解嵌
- ◆ 支持 PC 远程控制
- ◆ 设备自带彩条输出画面

2.1 设备尺寸

HDS7105 尺寸: 240mm*118mm*41.5mm



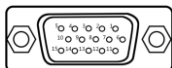
3.接口规格说明

3.1 接口介绍



序号	接口定义	说明
1	RJ45	网络升级、PC 远程控制
2	LINE IN/OUT	立体声音频输入、输出
3	MIC IN	2 路 MIC 输入
4	TALLY/GPI	接导播 Tally 灯系统 (DB-15) /GPI 控制
5	DCB	级联设备、配套 TALLY 灯模块
6	STREAM OUT	USB3.0 接口、UVC 输出
7	HDMI OUT	1*PGM 直播输出
8	MULTIVIEW	导播多画面输出
9	HDMI IN/DP IN	4 路 HDMI+1 路 DP 输入，第 1 路输入可以切换为 DP 输入
10	DC 12V	电源输入

3.2 TALLY 接口



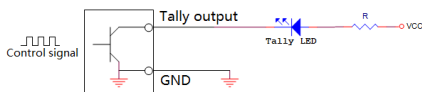
TALLY/GPI 可选功能表

PIN	(Tally) 功能	PIN	(GPI) 功能
11	PGM-IN1	1	GPI-IN1
12	PGM-IN2	2	GPI-IN2
13	PGM-IN3	3	GPI-IN3
14	PGM-IN4	4	GPI-IN4
6	PVW-IN1	10	GPI-IN5
7	PVW-IN2	15	GPI-IN6
8	PVW-IN3	5	GND
9	PVW-IN4		

GPI 可选功能表:

GPI-Inx 可选功能		说明
1	PGM1	模拟 PGM1 按键消息
2	PGM2	模拟 PGM2 按键消息
3	PGM3	模拟 PGM3 按键消息
4	PGM4	模拟 PGM4 按键消息
5	PGM BAR	模拟 PGM BAR 按键消息
6	CUT	模拟 CUT 按键消息
7	AUTO	模拟 AUTO 按键消息
8	MUTE	模拟 MUTE 按键消息
9	FTB	模拟 FTB 按键消息
10	STILL	模拟 STILL 按键消息

TALLY 联机示意图:

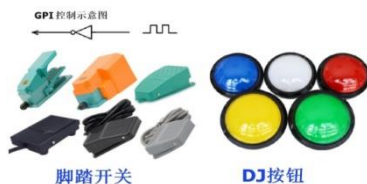


注: Tally LED: 为外接显示设备

Tally output: 低电平有效 (Tally LED 亮灯)

高电平无效 (Tally out 熄灯)

GPI 控制示意图:



3.3 技术参数

产品名称	5 通道带竖屏功能高清切换台	
产品型号	HDS7105	
视频 信号 输入	输入信号	4 路 4K HDMI+1 路 4K DP 输入
	码率	270Mbps~3Gbps
	信号幅度	800mV±10%(SDI/HDMI/DP)
	阻抗	100 Ω(HDMI) 100 Ω(DP)
	均衡	自适应
	HD 视频格式	720p50、720p59.94、720p60、1080i50、1080i59.94、1080i60 1080p23.98、1080p24、1080p25、1080p29.97、1080p30、1080p50、1080p59.94、1080p60
	Ultra HD 视频格式	2160p23.98、2160p24、2160p25、2160p29.97、2160p30
视频 信号 输出	视频输出	PGM: 1x1080P HDMI Multiview: 1080P HDMI
	画面显示	4-CH HD DISPLAY
	HDMI 视频输出	1920x1080
	时钟恢复	支持
控制 参数	远程控制	GPI
	连接端口	3.5mm 接口
	网络控制	UDP
	连接端口	RJ45, 100M
	Tally	Tally 灯号 4 组
常规 参数	电源/功率	12V/DC/<80W
	主机 尺寸/重量	240*118*41.5mm/0.82Kg
	音频	2 路 MIC+1 路 LINE IN 音频输入
		1 路 LINE OUT 音频输出
	UVC 输出	USB3.0
	KEY	画中画 (PIP) / 画外画 (POP)
		色度键/亮度键
	转场特效	WIPE(圆形、菱形、扇形、梅花、百叶窗等上百种特效划像)
		MIX /FADE/ FTB(黑场)/STILL(静止/冻结)/ PATTERN
	转场	AUTO /CUT
	LOGO/台标叠加	保存数量 4 个
		图片格式必须是 BMP
		图片大小必须是 256*128px
	色彩空间	RGB/ YUV
	灰度处理	10bit
	视频采样	4:2:2 YUV
	控制面板	支持现场制作, 集成多种按键
	工作温度	0℃~50℃无冷凝
	存储温度	-20℃~75℃

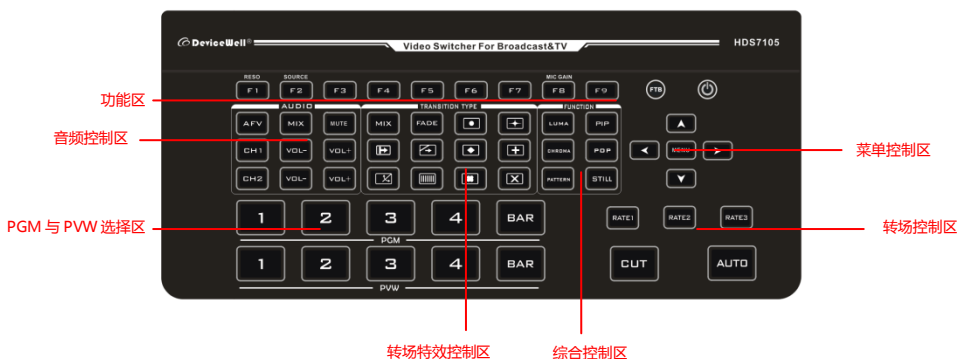
4.控制面板介绍

在使用中帝威高清切换台 HDS7105 设备前，恳请您能花几分钟时间阅读本章节。本章节将为您详细介绍中帝威高清切换台的面板及接口，以方便您后续的使用和操作。

中帝威高清切换台设备外壳使用新型金属材料制成，新型金属外壳具备高强度特性提升了整机的抗摔、抗压、抗震能力，有效保护了设备内部的元器件。超轻薄的特性使得设备在运输和维护过程中更加便捷，无需借助其它设备；同时也具有无可比拟的散热性能。

除了外壳的创新，中帝威高清切换台对接口连接器也做了全新的优化。采用全新 RoHS 标准的环保材料，在耐用程度和环境保护上要求更为苛刻，为您提供更稳定，更环保，性价比更高的产品。

4.1 控制面板分区说明



序号	名称	说明
1	功能区	目前仅支持 F1、F2、F8 功能
2	音频控制区	主要是对音频跟随混音进行设置及音频音量控制
3	转场特效控制区	选择转场特效
4	综合控制区	主要是控制切换台叠加特效
5	菜单控制区	使用按键设置菜单信息
6	PGM 与 PVW 选择区	直播与预监选择
7	转场控制区	控制转场切换和转场速率调整

4.2 按键说明

4.2.1 功能区

- F1---Reso 分辨率控制

按下按键面板的 F1 可以调整画面输出的分辨率，每按下一次调整一次输出分辨率，分辨有 1080P60Hz/1080P50Hz/1080P30Hz/1080P25Hz/1080P24Hz/1080I60Hz/1080I50Hz 可以选择。

- F2---Source 通道切换控制

按下按键面板的 F2 可以对第四通道的输入源进行选择，当同时在 HDS7105 的背面接口接入 HDMI 和 DP 信号时，按下 F2 后可以在 IN1-HDMI1 和 IN1-DP1 中选择

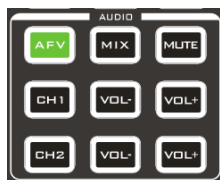
- F8---MIC GAIN Mic 音量增益

按下 F8 按键灯亮，Mic 音量增益，直接调整音频。

4.2.2 音频控制区

- 音频跟随模式的使用方法：

1、按下操作面板的 AFV 按键，按键此时会亮绿色灯，对应多画面的菜单也会显示当前音频状态，菜单里面音频模式显示跟随，表示音频处于跟随模式；如下图所示



STATUS	
CH1	IN1
CH2	IN2
CH1_VOL	0
CH2_VOL	0
Audio Mode	Follow
PGM Out	1080P30

2、音频跟随模式的通道有 IN1、IN2、IN3、IN4，对应的操作面板的按键（此时按键面板中 PGM 的 2 亮起，表示正在操作 IN2 信号源）如下图所示



3、音频跟随模式的音量大小调整，通过操作面板的按键来控制；按下跟随模式的 AFV 按键（显示绿灯），会默认跟随 PGM 直播通道的音频，此时需要增加或是减少音量，只需要按 AFV 旁边的 VOL+（增加音量）和 VOL-（减少音量）来调整,对应的菜单部分也可以显示当前音量大小。



● 混音指派模式的使用方法：

1、按下操作面板的 MIX 按键，按键此时会亮绿色灯，如下图所示



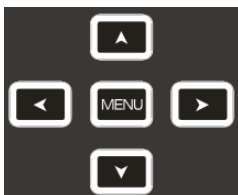
STATUS	
CH1	IN1
CH2	IN2
CH1_VOL	0
CH2_VOL	0
Audio Mode	Mixing
PGM Out	1080P30

对应多画面的菜单也会显示当前音频状态，菜单里面 Audio Mode 显示 Mixing，表示音频处于混音指派模式，如下图所示



2、混音指派的通道有 IN1、IN2、IN3、IN4，PHONE_IN、MIC_IN1、MIC_IN2 在混音指派模式下，多了两种音频加嵌功能：PHONE_IN 表示 3.5 音频接口，MIC_IN 表示 3.5mm 麦克风音频接口；PGM 直播输出可以同时任意混音两路音频，两路音频的音量大小也可以分别调整。

3、混音指派的音频通道调整：是通过面板上面的按键来调整的，其中包括音频控制区和菜单控制区来调整的。如下图所示



按下按键面板中的 MIX（显示绿灯），再按下“MENU”按键，多画面的菜单会做出相应的变化，按下“MENU”进入第一路音频的通道选择，使用菜单中的“上下”按键进行通道选择，可以从 IN1、IN2、IN3、IN4、PHONE_IN、MIC_IN1、MIC_IN2 选择，确定选择后按下“MENU”退出；如右图所示第一通道的音频源从 IN1 变成了 IN4。

STATUS	
CH1	IN1
CH2	IN2
CH1_VOL	0
CH2_VOL	0
Audio Mode	Mixing
PGM Out	1080P30

STATUS	
CH1	IN4
CH2	IN2
CH1_VOL	0
CH2_VOL	0
Audio Mode	Mixing
PGM Out	1080P30

CH2 音频通道的选择跟 CH1 相同的操作方法；按下“MENU”按键后，调整第二路音频，再按下“MENU”按键进入第二路音频通道选择有 IN1、IN2、IN3、IN4、PHONE_IN、MIC_IN1、MIC_IN2，确定选择后按下“MENU”退出；如右图所示第二通道的音频源从 IN2 变成了 MIC_IN1。

STATUS	
CH1	IN1
CH2	IN2
CH1_VOL	0
CH2_VOL	0
Audio Mode	Mixing
PGM Out	1080P30

STATUS	
CH1	IN4
CH2	MIC_IN1
CH1_VOL	0
CH2_VOL	0
Audio Mode	Mixing
PGM Out	1080P30

4、音频指派通道的音量调整：直接按下音频控制区 VOL+/VOL- 键来

控制音量大小，或者不断调整 CH1 和 CH2 的音频的按键，对应的菜单部分也可以显示当前音量大小。音量值在 0-100 范围，如下图所示第一路通道的音量从 44 增加到了 100。第二路混音音量大小调整的操作同第一路混音音量调整操作一致。



STATUS	
CH1	IN4
CH2	MIC_IN1
CH1_VOL	45
CH2_VOL	100
Audio Mode	Mixing
PGM Out	1080P30

4.2.3 转场特效控制区

● MIX 混合转场特效

MIX 特效为混合转场特效，设置后转场在主输出会有原直播画面逐渐减淡，然后直到完全过渡到新的直播画面。

点击特效控制区的 MIX （按下后显示绿灯），然后点击 AUTO 或 CUT 便可以进行切换。效果图如下



MIX 混合过渡特效，在 A 的画面中叠加逐渐叠加 B 画面，直至转场到最后，画面完全替换为 B 画面

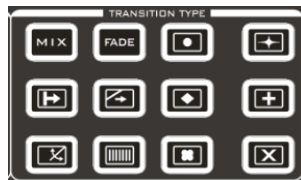
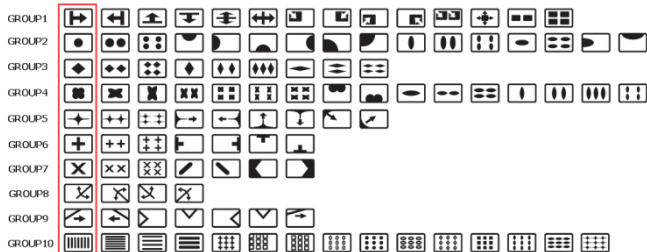
● FADE 淡入淡出转场特效

点击特效控制区的 FADE （按下后显示绿灯），然后点击 AUTO 或 CUT 便可以进行切换。效果图如下



FADE 淡入淡出特效，A 逐渐画面变暗直至完全为黑色，再逐渐由黑色变为 B 画面。

● 圆形、菱形、扇形、梅花、百叶窗等上百种特效划像



GROUP1 开始键，通过按键切换，点击特效控制区的切换键（按下后显示绿灯）然后点击 AUTO 或推杆或 CUT 便可以进行切换。重复按下当前切换键，然后点击 AUTO 或推杆或 CUT 便可以进行切换。注意，每次切换画面完全后，下一组图才显示完全。同样的 GROUP2~GROUP10，和 GROUP1 一样的操作切换特效。



开启 PATTERN KEY 功能后，可选 10 种特效图案，图案的大小、位置和形状都可改变，每种图像的数量可以增加。同样的 GROUP2~GROUP10，和 GROUP1 一样的操作切换特效。

PATTERN	
图案选择	0
水平位置	960
垂直位置	560
显示大小	300
水平拉伸	255
垂直拉伸	255
图案数目	0
退出	

4.2.4 综合控制区

● FTB 应急黑场

FTB 按键定义为应急黑场画面输出，按下按键 FTB 红灯闪烁，PGM 画面应急黑场输出，按下 FTB 按键红灯熄灭，FTB 应急黑场功能关闭；



● PIP 画中画特效

画中画特效：按下控制面板的 PIP（按下后显示绿灯），然后点击 AUTO 或 CUT 便可以进行切换。效果图如下
此时的液晶屏上的信息会切换成 PIP 画中画设置，按下菜单键后可根据需求设置。如右图所示



画中画大小与位置

可以使用菜单按键对 PIP 画中画的参数进行设置，情况如下（水平位置/垂直位置大小是以最小显示图像为例的）。

水平位置设置：从最左上端到最右上端的值是 0-1440，每按下按键一格数值增加/减少 10。

垂直位置设置：从最左上端到最左下端的值是 0-810，每按下按键一格数值增加/减少 10。

显示大小设置：可以选择小/中/大设置。

边框开关设置：可以选择开/关设置。

边框宽度设置：边框宽度可以选择 2-7 厚度边框，每按下按键一格数值增加/减少 1。

边框颜色设置：可以选择白/红/绿/绿设置边框颜色。

PIP	
画面选择	1
水平位置	0
垂直位置	0
显示大小	大开
边框开关	2
边框宽度	绿
边框颜色	
退出	

● POP 画外画特效

画外画特效：按下控制面板的 POP（按下后显示绿灯），然后点击 CUT 键或者 AUTO 便可以进行切换。

效果图如右图



画外画大小与位置

可以使用按键对 POP 画外画的参数进行设置，情况如下

画面选择设置：可以选择 1/2 两个画面。

水平位置设置：从最左上端到最右上端的值是 0-960，每按下按键一格数值增加/减少 10。

垂直位置设置：从最左上端到最左下端的值是 0-540，每按下按键一格数值增加/减少 10。

边框开关设置：可以选择开/关设置。

边框宽度设置：边框宽度可以选择 2-7 厚度边框，每按下按键一格数值增加/减少 1。

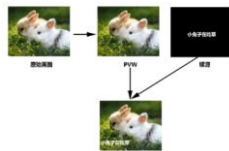
边框颜色设置：可以选择白/红/绿/绿设置边框颜色。



● Luma KEY 亮度键

亮度键抠像支持动态视频源像与静态源抠像，切换台会抠去键源的黑色部分，保留其他颜色。然后与背景图像重叠从而达到抠像和叠加背景的目的，此功能一般用于虚拟演播室叠加字幕等。把黑色背景白色字体的视频或者图片切换到 PVW 预览窗口，开启 Luma（按下后显示绿灯）亮度键功能，此时液晶会出现一个亮度键参数设置界面，然后用 CUT/AUTO 切换都可以把字符叠加到 PGM 直播窗口。

抠像色域设置：按下 Luma KEY 亮度抠像后，液晶面板会显示当前亮度键抠像信息，如右图



KEY	
KEY	亮度
背景	蓝
级别	0
退出	

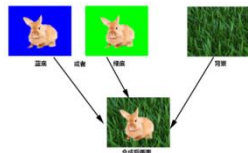
● Chroma KEY 色度键

色度键抠像支持动态视频源像与静态源抠像，切换机会抠去键源的蓝色或绿色部分，保留其他颜色，然后与背景图像重叠从而达到抠像和叠加背景的目的，此功能一般用于虚拟演播室叠加字幕等。

把蓝色背景或者绿色背景切换到 PVW 预览窗口，再开启 Chroma KEY 色度键功能，此时液晶屏会出现一个色度键的参数设置界面，通过旋钮选择你抠像的背景，选择完后可以通过 CUT/AUTO 实现抠像，此时你要叠加的图像出现在 PGM 直播画面中；

当按下 Chroma KEY，色度键时，液晶面板会显示当前色度键抠像信息，如右图。

视频源项可以选择键源，KEY 类型有色度键_绿和色度键_蓝，级别设置范围在 0-64。



KEY	
KEY	色度
背景	蓝
级别	0
退出	

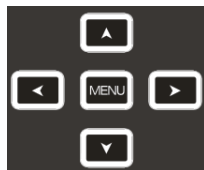
● STILL 画面冻结特效

画面冻结特效：按下控制面板的 STILL（按下后显示绿灯），然后输出的 PGM 视频动画将会进入冻结现象，再次按键即可解冻画面，效果图如右图所示。



4.2.5 菜单控制区

通过 MENU 按键和上下左右方向按键进行菜单设置。



4.2.6 PGM 与 PVW 的选择区

主要是选择 PGM（直播）与 PVM（预览）输出的通道，红色表示正在播出，绿色表示预览。



按下按键面板中的 BAR 
按键后屏幕将输出彩条。

● 多画面输出窗口介绍



其中 Preview 和 Program 分别为预览和直播输出。如下图所示



预览

直播

下方有 4 个窗口对应的是输入源监看，分别对应切换台控制面板上的 1-4 号按键。



● PGM 和 PVW 源切换

设备接入视频信号源后，按下按键面板中的 1（PGM）和 2（PVW），在输出的多画面监视器中的直播和预监信号源分别是 1（PGM）和 2（PVW），信号源分别是 HDMI IN1 和 HDMI IN2。效果图如下图



如果想让多画面中的直播与预监信号源切换（直播≠预监）

假设想要多画面中的直播信号源 1（PGM）和预监信号源 2（PVW）变换成 2（PGM）和 1（PVW），只需要按下按键面板中的 2（PGM）和 1（PVW），再点击 AUTO 或 CUT 切换即可。直播 PGM 信号源 1-4 可以和预监 PVW 信号源任意切换。

效果图如下：



4.2.7 转场控制区

● 转场速率调整



在操作转场特效控制区时，还可以通过操作按键面板中的 RATE1、RATE2、RATE3 控制转场速率义（RATE 1: 640ms; RATE 2: 1280ms; RATE 3: 2560ms）注：只有使用 AUTO 转场时才有效果



硬切转场，无转场特效。



自动转场，有转场特效。

HDS7105 切换台的转场控制方式主要是分两种，一种是有转场过渡特效，另一种方式为无转场过渡特效的转场方式。

1、无转场过渡特效：按下，CUT 键为硬切，若选择预监（PVW）画面直接切换到主输出（PGM），因为是无延迟的无缝切换，所以无转场特效。

2、有转场过渡特效：

●AUTO 键，首先选择转场的速率，在用户自定义区选择预存的转场时间，RATE1/RATE2/RATE3（按下后显示绿色）。

●然后选择转场特效，转场特效已接入：MIX 混合、FADE 淡入淡出、圆形、菱形、扇形、梅花、百叶窗等上百种特效划像。最后按下 AUTO 便可以进行附带特效的转场了。

5. USB 接口对接 OBS 软件说明

步骤 1: 通过 USB 数据线将单板与 WIN7 相连, WIN7 端识别后, 设备列表会出现 HDS7105 Audio 和 HDS7105 Video, 代表识别 ok.

如图 1 所示。图 1 设备管理器中 Audio 和 Video 节点。

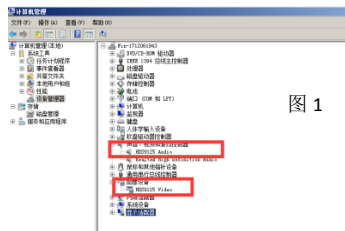


图 1

步骤 2: 添加视频捕获设备

打开 OBS 软件, 点击界面左下角的来源框的“+”然后点击“视频捕获设备”, 如图 2 所示。

点击“视频捕捉设备”后将出现一个可以修改名称的界面, 可以自定义名称。如图 3 所示。



图 2



图 3

步骤 3: 设置视频捕获设备属性

①设置视频属性。

设备选择: Device Video IN;

分辨率/帧率类型选择: 自定义; 分辨率: 必须选择与切换台的 PGM 输出分辨率一致的。除了分辨率以外, FPS 这一项, 也需要选择成跟输出分辨率的帧率一致。如图 4 所示。

②下拉设置音频属性。

音频输出模式选择: 输出桌面音频 (WaveOut); 勾选使用自定义的音频设备

音频设备选择: Capture Input terminal(Device Audio), 如图 5 所示。



图 4



图 5

说明:

- 1.最新 OBS 版本 25.0.1 可以在视频格式选择 H264, 这样图像质量会有所提升。
 - 2.每次使用前需要先将设备与电脑连接, 再打开 OBS 软件, 否则 OBS 软件无法识别 USB 设备。
- 注意: USB 推流时, OBS 软件在选择帧率时需要与 PGM Out 的输出帧率一致, 否则会影响录制和 UVC 推流, 导致录制和 UVC 推流异常

6.系统菜单设置

● 状态显示

在开机默认状态下，可进行音频模式设置：跟随模式/混音模式。

输出分辨率设置：1080p60/1080p50/1080p30/1080p25/1080p24/1080i50/1080i60。

状态	
CH1 源	IN1
CH2 源	IN2
CH1 音量	100
CH2 音量	100
音频模式	混音
输出分辨率	1080P30

● 菜单显示

在开机默认状态下，按下“MENU”，进入主菜单，按  键选择自己需要的选项，再按“MENU”键确认。如下图所示

状态	
CH1 源	IN1
CH2 源	IN2
CH1 音量	100
CH2 音量	100
音频模式	混音
输出分辨率	1080P30

按下“MENU”



主菜单	
系统设置	
网络设置	
GPI 设置	
设备信息	
退出	

● 系统设置

在系统设置菜单内，按  键选择自己需要的选项，再按 MENU 键确认，按  键设置自己需要的选项，再按 MENU 键确认。

语言选择：选择中文或英文两种不同语言；

风扇控制：智能/手动； 风扇转速：150-500 范围

Mic 增益：0dB~21dB； Line 增益：8 个等级； Mic HPFS：7 个频率

旋转：打开或关闭竖屏模式；

在使用过程中若遇到未知的错误，您可以选择恢复出厂设置，进行重置。

主菜单	
系统设置	
网络设置	
GPI 设置	
设备信息	
退出	

按下“MENU”

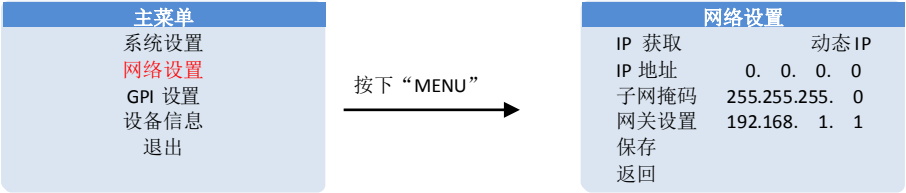


系统设置	
语言选择	中文
风扇控制	智能
风扇转速	300
Mic 音量	21dB
Line 增益	0dB
Mic HPFS	OFF
选转	关
恢复出厂设置	
返回	

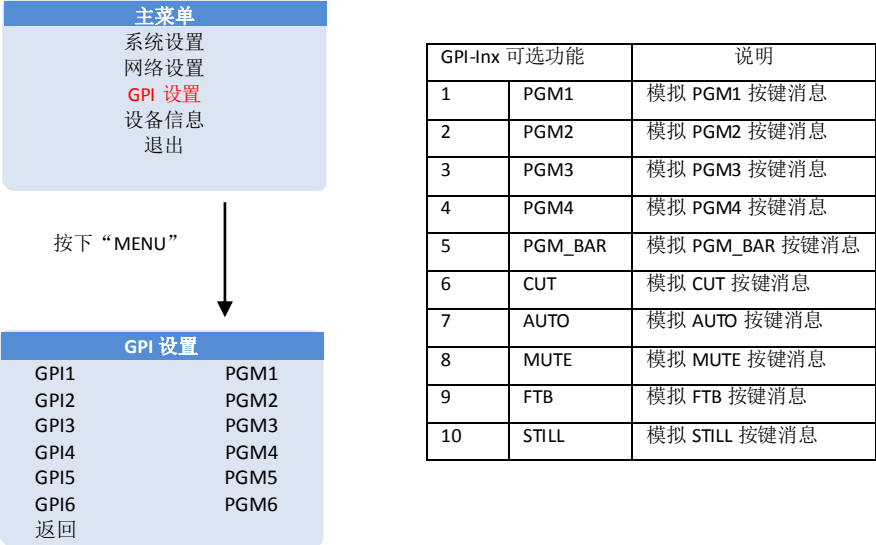
若菜单显示不完全，则请按菜单向下箭头继续翻页。

● 网络设置

在网络设置菜单内，您可以在 IP 获取中选择：动态 IP 或静态 IP，当选择了静态 IP 之后还可以对 IP 地址、子网掩码、网关设置进行相应的设置，之后保存返回即可。

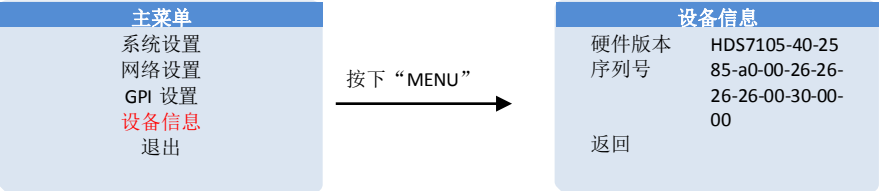


● GPI 设置



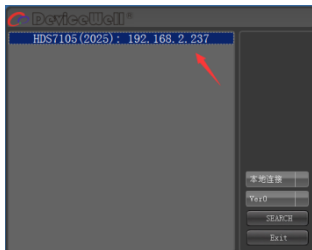
● 设备信息

在设备信息菜单内，您可以看到设备的版本信息，此处不可以修改。

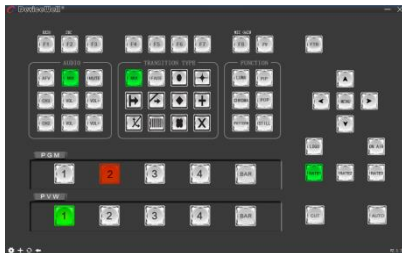


7. 切换台软件控制

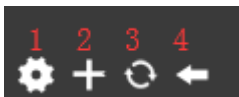
HDS7105 支持对接软件控制，软件操作面板和切换台按键面板对应使用（软件可从中帝威官网 www.devicewell.com 下载 HDS7105 PC 控制软件:版本 DSC2.1.3）。



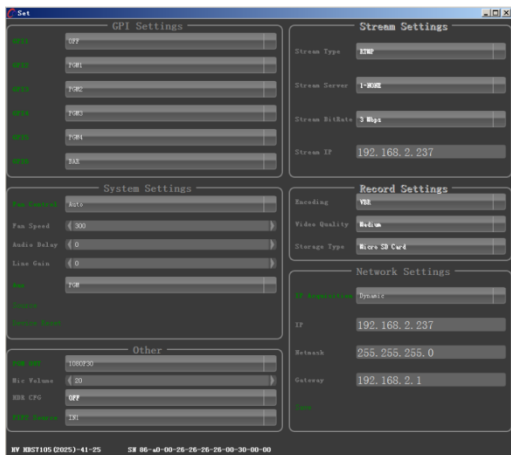
- 1.通过网线连接，打开界面搜索到对应型号：
HDS7105(2025),可以点击“SEARCH”或者双击点击型号 HDS7105。



- 2.搜索到设备之后，可以在控制界面对切换台的功能区、黑场控制区、音频控制区、转场特效控制区、综合控制区、PGM 与 PVW 选择区和转场控制区进行设置。如右图所示：



- 1.设置 2.添加 Logo 界面 3.刷新 4.返回



- 点击控制界面左下角的设置图标，出现参数控制界面，根据需要设置参数如左图

8. 同步地区时间操作说明

1. 到中帝威官网下载时间同步软件，www.devicewell.com 搜索关键词时间同步；

2. 双击打开时间同步软件



3. 软件功能介绍，打开软件默认自动设置功能

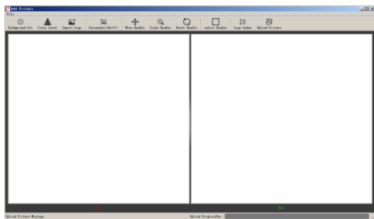
设备插上网线，跟电脑在同一个局域网内，点击自动同步，电脑会自动去同步你的设备时间，图中红框标记是你设备连接正常的 IP 地址；



4. 手动设置，如果自行更改时间，需要勾选手动设置功能；填写你需要设置的时间过后，点击手动确定；

9. 图文、台标叠加步骤

• 界面功能介绍

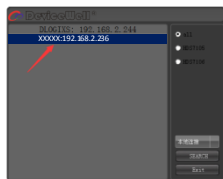


- 1、Background Set，设置 Logo 图片的底色。
- 2、Color Level，设置底色的色彩等级。
- 3、Import Logo，添加 Logo 图片。
- 4、Screenshot，对添加的图片进行截图处理。
- 5、Move Enable，移动添加的图片的位置。
- 6、Scale Enable，放大或缩小添加的图片。
- 7、Reset Enable，把添加的图片恢复到初始位置。
- 8、Select Enable，去除添加的图片中不需要的内容。
- 9、Logo Index，设置当前添加的图片在切换台中对应的序号。
- 10、Upload Picture，把添加的图片上传到切换台中。

• LOGO 预设



导播台支持对接软件控制，软件操作面板和切换台按键面板对应使用（软件可从本公司官网 www.devicewell.com 下载）。软件图标如左图



1. 点击” SEARCH”，搜索相应设备，如左图所示

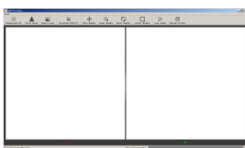


2. 双击 XXXXX:192.168.2.236 打开软件,如左图

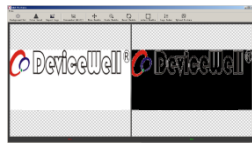
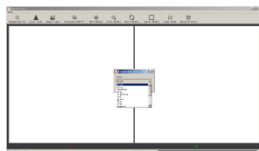
3. 添加 logo。根据图片的色彩不同，添加 Logo 的方式有两种。

第一种方式：默认白色

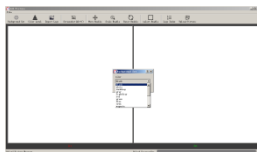
打开本公司切换台控制软件，点击左下角的+号，进入添加 Logo 界面，可以选择需要使用的背景颜色，如果不选择的话，默认是白色背景。然后点击 Import Logo 添加 Logo 图片，选择好需要上传的图片，等待软件中显示图片。



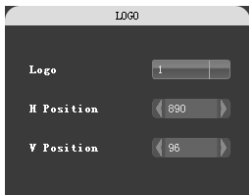
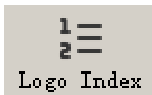
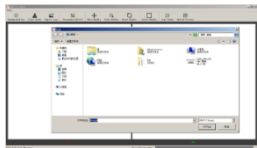
第二种方式：背景颜色设置



打开本公司切换台控制软件，点击左下角的+号，进入添加 Logo 界面，选择的蓝色背景，左边是原始图片，右边是最终上传的图片。



4. 抠像颜色等级设置，数值越大，抠像越干净，如左图所示



LOGO 台标叠加菜单

LOGO	
LOGO	2
水平位置	22
垂直位置	90
返回	

5.logo 图片添加，如左图所示

注意：添加的图片格式必须是 BMP，大小必须是 256*128px

6.点击 **Logo Index**，选择图片对应的序号，可选 0、1、2、3。选择好后，点击 **Upload Picture** 把图片上传到切换台中。上传图片时间视网速而定，用户需耐心等待。在上传图片的过程中，不要操作切换台，以免设备卡死机。

7.通过 PC 软件，用户可以自行导入 **Logo**，然后把 **Logo** 上传至切换台。切换台总共能保存 4 个 **Logo**，保存好的 **Logo** 可在 **Logo** 菜单中选择。

状态显示菜单情况下按菜单左键，打开 **LOGO** 菜单。

打开 **Logo** 功能，状态栏中会出现 **Logo** 菜单。

LOGO 开关是在摄像机控制区的数字 1，按下数字 1 打开 **LOGO** 菜单。

Logo 会先出现在 **PVW** 窗口上，在菜单中选择需要使用的 **Logo** 序号。

PVW 窗口中查看 **Logo** 的位置，把 **Logo** 调整至合适的位置。

按下在摄像机控制区的数字 2，把 **Logo** 叠加到 **PGM** 窗口中。

9. 故障及维修

1. 输出图像受干扰会闪烁，可能是使用的线材质量较差，线材的屏蔽层没有做好。当使用环境附近有强烈的无线电的时候，无线电波会干扰到信号的传输，导致信号闪烁不稳定。请使用正规厂家生产的线材，例如百通，佳耐美。
2. 当拔插音视频接口时，如果感觉到有明显的静电，有可能设备电源线没有良好接地。请按正确方法接地，否则容易损坏主机，缩短主机寿命。
3. 当 RJ45 控制不了切换台时，检查控制软件所设定的通信口是否与所接设备的串口相对应；检查电脑的通信口是否良好。

● 维护

请用柔软、干燥的抹布来清洁本设备。禁止用酒精、油漆稀释剂或汽油来清洁。确保本设备保存和工作在远离液体和污渍的环境中。用户没有自己处理的部件，所有服务和维修事项请联络本公司或者其它授权的分销商。

● 保修说明

自购买之日起，DeviceWell 为本品提供 12 个月的保修服务。若本品在保修期内出现故障，DeviceWell 可为本品提供免费修理或更换零部件，在有必要的情况下可以进行更换缺陷产品的服务。为确保用户有权享受本保修条款中的服务，如遇产品出现故障请您务必在保修期内联系 DeviceWell 售后服务部，经确认后妥善安排保修事宜。缺陷产品，用户应将负责将产品包装并寄送到 DeviceWell 的指定服务中心进行维修，运费由用户承担并预先支付。若用户因任何原因退货，所有产生的运费、保险费、关税等各项税务以及其他费用均由用户自行承担。

● 保证限制和例外

在上述的有限保证之外，本保修条款不适用于任何因使用、维护不当或保养不周造成的缺陷、故障或损坏。如产品因滥用，错误使用，疏忽，意外，异常的物理压力或者电压、未被授权的修改，篡改，改变或者由于本公司或它授权的代理以外其他人提供的服务造成的损坏，本公司将不用承担额外的义务。平常使用或者在该产品适用的应用中正确使用产品而引起的故障除外。根据本保修服务，DeviceWell 保修期内保修服务范围不包括以下内容：

1. 对由非 DeviceWell 专门人员进行的安装、维修或保养所造成的损坏进行维修，
2. 对因使用不当或连接到不兼容设备所造成的损坏进行维修，
3. 对因使用了非 DeviceWell 生产或提供的零部件所导致的损坏或故障进行维修，
4. 对经过改装或和其他产品进行组装的产品进行保养维修（产品经改装或组装后会增加保养维修所需时间或保养难度）。本保修条款由 DeviceWell 提供，它可取代所有其他明示或隐含的保修。DeviceWell 及其供应商对任何有关适销性及就特定用途的适用性等隐含保证不作任何担保。DeviceWell 负责为用户提供缺陷产品的维修或更换服务是完整和排他性补救措施，不论 DeviceWell 或其供应商是否事先获悉发生间接、特殊、偶然或必然损坏等损坏的可能性。若用户对本设备进行非法使用，DeviceWell 概不负责。对因使用本产品造成的一切损失，DeviceWell 概不负责。本产品的操作风险由用户自行承担。

以上所有内容，DeviceWell 保留一切权利，并拥有最终解释权。

Contents

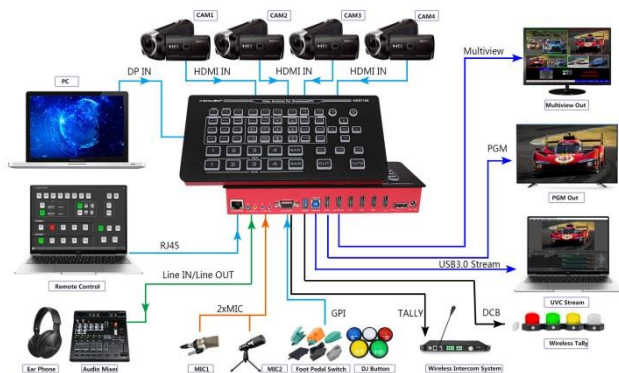
1. Overview.....	22
1.1 Introduction.....	22
2. Functional characteristics.....	22
2.1 Size.....	23
3. Interface Specification.....	23
3.1 Interface Introduction.....	23
3.2 TALLY Interface.....	23
3.3 Parameter.....	24
4. Control Panel and Interface.....	25
4.1 Control Panel.....	25
4.1.1 Area Description.....	26
4. 2 Key Description.....	26
4. 2.1 Function Area.....	26
4. 2.2 Audio Control Area.....	26
4. 2.3 Transition Effect Control Area.....	28
4. 2.4 Transition Control Area.....	30
4. 2.5 Integrated Control Area.....	30
4. 2.6 PGM & PVW Selection.....	33
5. System menu settings.....	34
6. Instructions for USB interface to OBS software.....	36
7. Switcher software control.....	37
8. Synchronize regional time.....	38
9. Steps for image and text overlay.....	39
10. Failure and Maintenance.....	43
11. More switcher options.....	45

1. Overview

1.1 Introduction

High-definition video switcher adopts a portable integrated design, metal casing, small size and light weight. Standard size: 240mm * 118mm * 51.5mm, which can be used for small-scale out-of-field video effects switching requirements. The device integrates multiview processor, special effect generator, audio processor, control keyboard and other common components of the switcher.

Switcher supports 4 HDMI + 1 DP signal inputs, a total of 5 video signals. The external preview signal can be output simultaneously. The switcher supports HDMI embedded audio + external analog audio. After mixed processing, it can be embedded in the output HDMI signal or output from the analog port. The resolution of all input signals is automatically adapted, and the output signal resolution can be selected according to requirements, which is quite flexible. For the needs of video switching such as radio and television, program production, live production of interviews and lectures, outdoor sports events, and school courseware production, the functions of the switcher can be fully met.



2. Functional characteristics

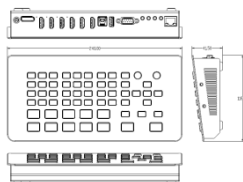
DeviceWell HDS7105 5-CH HD video switcher is a multi-functional switcher, no professional knowledge is required, and video switching and audio mixing can be performed by simple operations. This machine can be used in broadcasting, live broadcast and various event venues.

- ◆ A separate PATTERN KEY, which can set various special-shaped patterns. The position, size and number of images can be adjusted.
- ◆ Hundreds of special effect wipes such as circle, rhombus, fan, plum blossom, shutter, etc.
- ◆ Integrated control keyboard
- ◆ 2 stereo MIC inputs
- ◆ 1 LINE IN input
- ◆ 1 LINE OUT output
- ◆ Support USB 3.0 UVC output
- ◆ Support PC remote control
- ◆ The device comes with color bar output
- ◆ Support up to 4 HDMI + 1 DP inputs
- ◆ PGM output: 1 HDMI
- ◆ Multiview output: 1 HDMI
- ◆ Support special effects switching such as MIX / FADE
- ◆ Support CUT, AUTO and FTB
- ◆ Support Luma key, Chroma key
- ◆ Support audio follow, mix function
- ◆ Support Tally / Network / GPI control
- ◆ Support pedal, control handle and other input
- ◆ Support HDMI audio de-embedding
- ◆ Support still function
- ◆ Support PIP /POP function
- ◆ Support vertical menu output
- ◆ Support functions such as image and text, logo overlay, etc

2.1 Size

HDS7105 Size:

240mm*118mm*41.5mm



3. Interface Specification

3.1 Interface Introduction

The Switcher interface is shown below.

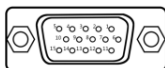


NO.	Definition	Description
1	RJ45	Network upgrade, PC remote control
2	LINE IN/OUT	Line audio input and output
3	MIC IN	2 stereo MIC inputs
4	TALLY/GPI	Connected to the director TALLY system (DB-15)/ GPI control
5	DCB	Cascade equipment, supporting TALLY lamp module
6	USB3.0	USB3.0 UVC output
7	HDMI OUT	1*PGM live output
8	MULTIVIEW	Multiview output
9	HDMI IN/DP IN	4 HDMI + 1 DP inputs, The first input can be switched to DP input
10	DC 12V	Power Input

3.2 TALLY Interface

Note: PIN1 PIN2 not used.

TALLY /GPI feature lis

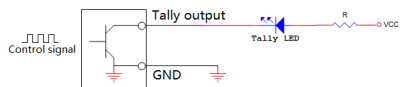


PIN	Function(TALLY)	PIN	Function(GPI)
11	PGM-IN1	1	GPI-IN1
12	PGM-IN2	2	GPI-IN2
13	PGM-IN3	3	GPI-IN3
14	PGM-IN4	4	GPI-IN4
6	PVW-IN1	10	GPI-IN5
7	PVW-IN2	15	GPI-IN6
8	PVW-IN3	5	GND
9	PVW-IN4		

GPI Optional feature list

PIN	Function	Description
1	PGM1	Simulate PGM1 button messages
2	PGM2	Simulate PGM2 button messages
3	PGM3	Simulate PGM3 button messages
4	PGM4	Simulate PGM4 button messages
5	PGM_BAR	Simulate PGM_BAR button messages
6	CUT	Simulate CUT button messages
7	AUTO	Simulate AUTO button messages
8	MUTE	Simulate MUTE button messages
9	FTB	Simulate FTB button messages
10	STILL	Simulate STILL button messages

TALLY connection diagram:



Note: Tally LED: for external display device

Tally output: Active low (Tally LED is lit)
High level is invalid (Tally out is off)

GPI Control Schematic:



Foot Switch

DJ Button

3.3 Parameters

Name	4*HDMI+1*DP Vertical Screen Switcher		
Model	HDS7105		
Video Signal Input	Input signal	HDMI/DP video signal	
	Rate	270Mbps~3Gbps	
	Connector	Standard	
	Signal amplitude	800mV ±10%(HDMI)	
	Impedance	100Ω (HDMI)	
	Balance	Adaptive	
	DVD input HDMI support	480i/576i,480p/576p,720p,1080i,1080p,2160p	
	Computer HDMI input support	1920x1080,1680x1050,1600x900,1440x1050,1366x768,1360x768,1360x768,1280x1024,1280x960,1280x800,1280x768,1280x720,1280x600,1152x864,1024x768,800x600,	

Video Signal Output	output signal	HDMI video output
	Code rate	270Mbps~3Gbps
	Connector	Standard
	Signal amplitude	800mV±10%(HDMI)
	impedance	100Ω (HDMI)
	Clock recovery	Support
Control Parameter	Control	9600 baud, 8 bits, 1 stop bit, no parity
	Connection	15-pin D-port, 2-RX, 3-TX, 5-GND
	Network control	RJ45, 100M
General Parameter	power supply	12V/DC
	Power rate	18w
	Size/ Weight	240*118*41.5mm/0.82Kg
	control panel	Support on-site production, integration of a variety of buttons.
	Operating temperature	0℃~50℃, No condensation
	Storage temperature	-20℃~75℃
	Working humidity	20%~70%RH

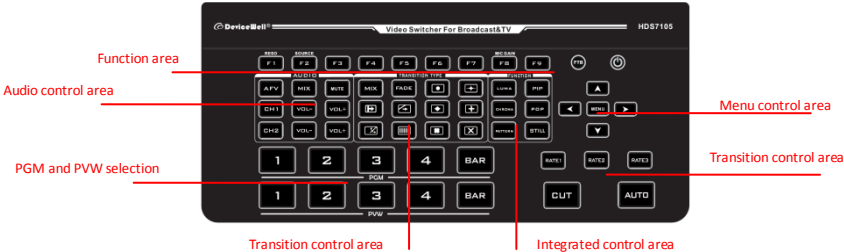
4. Control Panel and Interface

Before using the HD Mini Switcher, please take a few minutes to read this section. This chapter will introduce you the panel and interface of the HD switcher to facilitate your subsequent use and operation.

The new high-strength characteristics of the new aluminum alloy with high-strength characteristics improve the anti-drop, anti-shock and shock-proof capabilities of the whole machine, and effectively protect the internal components of the equipment. Ultra-lightweight features make the unit easier to transport and maintain without the need for additional equipment; it also offers unparalleled thermal performance.

In addition to the innovation of the case, the HD switcher has also been completely optimized for the interface connector. Environmentally friendly materials with new RoHS standards are More demanding in terms of durability and environmental protection, to provide customers with more stable, more environmentally friendly, more cost-effective products

4.1 Control Panel



4.1.1 Area Description

No.	Name	Description
1	Function area	Currently supports F1、F2、F8 function
2	Audio control area	Mainly set the audio follow-up mix and audio volume control
3	Transition effect control area	Select transition effects
4	Integrated control area	FTB、PIP and STILL effects
5	Menu control area	Setting menu information with keys
6	PGM and PVW selection	Program and preview selection
7	Transition control area	Control transition switching and transition rate adjustment

4. 2 Key Description

4. 2.1 Function area

- F1---Reso resolution control**

Press F1 on the keypad to adjust the screen output resolution. Each time you press the button, you can adjust the output resolution. The resolutions are 1080P60Hz / 1080P50Hz / 1080P30Hz / 1080P25Hz / 1080P24Hz / 1080I60Hz / 1080I50Hz.
- F2--- Source channel switching control**

Press F2 on the keypad to select the input source of the fourth channel. When the HDMI and DP signals are connected to the back interface of the switcher at the same time, you can choose between IN1-HDMI and IN1-DP after pressing F2.
- F8--- MIC GAIN One click mute function**

Pressing the F8 button will turn on the light, indicating that the PGM output volume is turned off. The status of MUTE can be seen in the multi screen menu.

4. 2.2 Audio Control Area

- How to use the audio follow mode:**
 - Press the AFV button on the operation panel, the button will light green at this time, and the corresponding multiview menu will also display the current audio status. The Audio Mode in the menu shows Follow, which indicates that the audio is in follow mode; as shown in the figure on the right
(Note: the color of the keys displayed in the picture is different from the actual effect picture.)



STATUS	
CH1	IN1
CH2	IN2
CH1_VOL	0
CH2_VOL	0
Audio Mode	Follow
PGM Out	1080P30

2. The channels of the audio follow mode are IN1、IN2、IN3、IN4 , and the corresponding operation panel keys (the button panel 2 lights up at this time, indicating that Operate the IN2-HDMI2 signal source as shown below.)



3. The volume adjustment of the audio follow mode is controlled by the keys on the operation panel. Pressing the AFV button in the follow mode (green light is displayed) will follow the audio of the PGM live channel by default. At this time, you need to increase or decrease the volume. Next to VOL + (increase volume) and VOL- (decrease volume) to adjust.

Keep clicking the VOL + and VOL- buttons, the corresponding menu section can also display the current volume value.



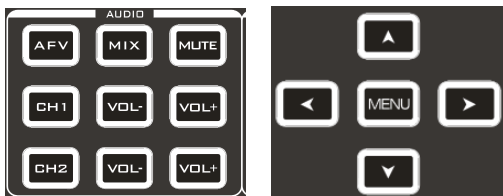
● How to use mix assignment:

1、 Press the MIX button on the operation panel. Lights up green as shown on the right

The menu corresponding to the multiview will also display the current audio status. The Audio Mode in the menu displays Mixing, which indicates that the audio is in the mixing assignment mode, as shown in the right figure.

2. The mixing assigned channels are IN1、IN2、IN3、IN4、PHONE_IN、MIC_IN1、MIC_IN2. Under the mixing assignment mode, there are two more audio embedding functions; PHONE _IN means 3.5mm stereo audio interface, MIC_IN means 3.5mm microphone audio interface; PGM live output can mix two audio channels at any time, and the volume of the two audio channels can also be adjusted separately.

3. Audio channel adjustment for mixing assignment: It is adjusted through the buttons on the panel, including audio control area and menu control area. As shown below.



You can also press MIX (showing green light) in the key panel, then press the "up and down" buttons of the menu button to enter the audio channel selection, press the "down" button to enter the CH1 channel, click "MENU" to enter the audio source selection, audio The source can be selected from IN1、IN2、IN3、IN4、PHONE_IN、MIC_IN1、MIC_IN, after confirming the selection, press "MENU" to exit; as shown in the right figure, the audio source of the first channel is from IN1-HDMI1 becomes IN4-HDMI4. The second audio selection operation is the same. As shown in the right figure, the audio source of the second channel has changed from IN2-HDMI2 to MIC_IN1.

Note: When there is a white bar displayed in the menu, you can only exit by pressing the "up" button on the key panel, and you can only operate the operating system menu after exiting

STATUS	
CH1	IN1
CH2	IN2
CH1_VOL	0
CH2_VOL	0
Audio Mode	Mixing
PGM Out	1080P30

STATUS	
CH1	IN4
CH2	IN2
CH1_VOL	0
CH2_VOL	0
Audio Mode	Mixing
PGM Out	1080P30

The second audio selection operation is the same. As shown in the right figure, the audio source of the second channel has changed from IN2-HDMI2 to MIC_IN1.

Note: When there is a white bar displayed in the menu, you can only exit by pressing the "up" button on the key panel, and you can only operate the operating system menu after exiting

STATUS	
CH1	IN1
CH2	IN2
CH1_VOL	0
CH2_VOL	0
Audio Mode	Mixing
PGM Out	1080P30

STATUS	
CH1	IN4
CH2	MIC_IN1
CH1_VOL	0
CH2_VOL	0
Audio Mode	Mixing
PGM Out	1080P30

4. Volume adjustment of the audio assigned channel: directly press the VOL+/VOL- button in the audio control area to control the volume, or adjust the position of the audio faders of CH1 and CH2 up and down, the corresponding menu part can also display the current volume. The volume value is in the range of 0-100. As shown in the figure on the right, the volume of the first channel has increased from 44 to 100. The operation of adjusting the volume of the second channel of mixing is the same as that of adjusting the volume of the first channel of mixing.

Volume fader MASTER: Represents the master volume fader, you need to push this fader to the top in the mix follow mode.



STATUS	
CH1	IN4
CH2	MIC_IN1
CH1_VOL	45
CH2_VOL	100
Audio Mode	Mixing
PGM Out	1080P30

4.2.3 Transition Effect Control Area

There are 3 transition modes:

MIX transitions, FADE, and Wipes

Transition effects: Hundreds of special effect wipes such as circle, rhombus, fan, plum blossom, shutter, etc.

● MIX Transition

MIX special effects are transition effects. After setting the transition, the main output will fade from the original live picture and then transition to the new live picture until it completely disappears.

Click MIX  in the special effect control area (green light is displayed after pressing), and then click AUTO or CUT or T-bar to switch. The effect is shown below.



MIX transition effects, superimposed on the A picture and gradually superimposed the B picture, until the transition to the end, the picture is completely replaced by the B picture

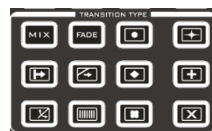
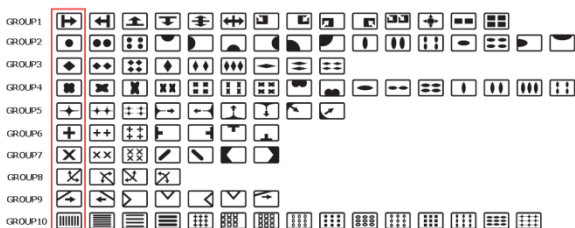
Click **FADE** in the special effect control area (green light is displayed after pressing), and then click AUTO or CUT or T-bar to switch, the effect picture is below.

● FADE Transition



FADE in and fade out effects, A gradually darkens the picture until it is completely black, and then gradually changes from black to B picture.

● Hundreds of Special Effect Wipes such as Circle/Diamond/Fan



PATTERN	
Pattern	6
H Stretching	255
H Position	960
V Stretching	255
V Position	560
Pattern Num	0
Size	300
Exit	

Perform special effect style conversion according to the 10 buttons in the red frame.



GROUP1 start button, switch by button, click the switch button in the special effect control area (the green light will be displayed after pressing) and then click AUTO or T-bar or CUT to switch. Press the current switching key repeatedly, and then click AUTO or the T-bar or CUT to switch. Note that the next group of pictures will be displayed completely after each screen switch is completed.



The same GROUP2~GROUP10, the same operation switching effect as GROUP1.

After the PATTERN KEY function is turned on, 10 special effect patterns can be selected, the size, position and shape of the pattern can be changed, and the number of each type of image can be increased.

4. 2.4 Transition control area

● Transition rate adjustment

When operating the transition effect control area, you can also control the transition rate by operating the RATE1, RATE2, and RATE3 in the keypad (rate1: 640ms; rate2: 1280ms; rate3: 2560ms) Note: Only when using AUTO transition effective.



Hard cut transitions, no transition effects.



Automatic transition with transition effects.



4. 2.5 Integrated control area

● FTB emergency black field

The FTB button is defined as the emergency black field screen output, press the button and the green light flashes to turn on the FTB emergency black field output function, press the button to turn off the green light, and the FTB emergency black field function is off;



If the PGM output is found to be black and it is still black after the transition, please check if the FTB button is pressed (flashing). Press again to turn off the black field.

● PIP picture-in-picture special effects

PIP special effects: Press  on the control panel (the green light is displayed after pressing), and then click AUTO or CUT to switch. The effect is shown below.

At this time, the information on the LCD screen will be switched to the PIP setting. The control menu key can be set according to requirements, as shown below.



PIP size and position

You can use the knob to set the parameters of PIP picture-in-picture, the situation is as follows (the horizontal / vertical position size is based on the smallest display image as an example)

Horizontal position setting: The value from the upper left end to the upper right end is 0-1440, and the value increases / decreases by 10 each time the knob is rotated.

Vertical position setting: The value from the upper left end to the lower left end is 0-810, and the value increases / decreases by 10 each time the knob is rotated.

Display size setting: You can choose small / medium / large settings.

Bezel switch settings: You can choose on / off settings.

Border width setting: The border width can be selected from 2-7 thickness borders, and the value increases / decreases by 1 each time the knob is turned.

Border color setting: You can choose white / red / green / green to set the border color.

PIP	
Window	1
H Position	0
V Position	0
Size	Large
Border Enable	On
Border Width	2
Border Color	Green
Exit	

● POP Picture-Out-Picture Special Effect

Picture out picture effect: Press POP on the control panel (the green light is displayed after pressing), then click the CUT button or use the T-bar or AUTO to switch. The effect diagram is as follows

Picture out picture effect: Press POP on the control panel (the green light is displayed after pressing), then click the CUT button or use the T-bar or AUTO to switch. The effect diagram is as follows



POP	
Window	1
H Position	0
V Position	0
Size	Large
Border Enable	On
Border Width	2
Border Color	Green
Exit	

POP size and position

You can use the knob to set the parameters of the POP drawing, as follows

Screen selection setting: You can select 1/2 two screens.

Horizontal position setting: The value from the top left to the top right is 0-960, and the value of each rotation knob is increased/decreased by 10.

Vertical position setting: The value from the top left to the bottom left is 0-540, and the value of one rotation per knob is increased/decreased by 10.

Border switch setting: You can select the on/off setting.

Border width setting: The border width can be selected from 2-7 thickness borders, and the value of each rotation knob is increased/decreased by 1.

Border color setting: You can choose white/red/blue/green to set the border color.

Picture-out-picture source switching

Press 1, 2, 3... in the PVW number keys to switch the input source of the picture.

● STILL screen freeze effects

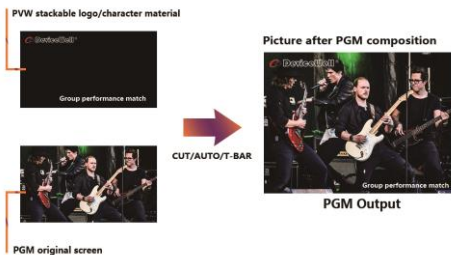
Screen freeze special effect: Press **STILL** on the control panel (green light is displayed after pressing), and then the output PGM video animation will enter the freeze phenomenon. Press the button again to unfreeze the screen, the effect is shown below.



● Luma KEY

The Luma key image supports the dynamic video source image and the static source image. The switcher will deduct the black part of the key source and retain other colors. Then it overlaps with the background image to achieve the purpose of keying and superimposing the background. This function is generally used for superimposing subtitles in virtual studios.

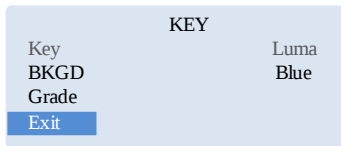
Luma Key Operation:



Panel Luma Key

Switch the video or picture of the black background white font to the PVW preview window, and turn on the Luma KEY brightness key function. At this time, the LCD will display a brightness key parameter setting interface, and then use the CUT/AUTO/push switch to superimpose the characters. PGM live window.

Image color gamut setting: After pressing the Luma KEY, the LCD panel will display the current luma key image information, as shown below.



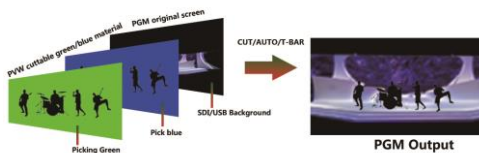
Luma Key

Press 1, 2, 3... in the PVW number keys to switch the input source of the picture.

● Chroma KEY

The Chroma key image supports dynamic video source image and static source image, switching the opportunity to buckle the blue or green part of the key source, retaining other colors, and then overlapping the background image to achieve the purpose of image and overlay background. Generally used for superimposing subtitles in virtual studios.

Chroma Key Operation:



Panel Chroma Key

Switch the blue background or green background to the PVW preview window, and then turn on the Chroma KEY function. At this time, the LCD screen will display a parameter setting interface for the chroma key. Use the knob to select the background of your key image. After the selection, The image can be achieved by CUT/AUTO/Pusher, and the image you want to superimpose appears in the PGM live view;

When the chroma key is pressed, the LCD panel displays the current chroma key image information as shown below.

	Key	
Key		Chroma
BKGD		Blue
Grade		16
Exit		

The video source item can select the key source, and the KEY type has the chroma key _ green and chroma key _ blue, and the level setting range is 0-64.

4.2.6 PGM and PVW selection

● Multiview output window introduction



Among them Preview and Program are preview and live broadcast output respectively, as shown below.



PVW

PGM

There are 4 windows below corresponding to the input source monitoring, which correspond to the No. 1 to No. 4 buttons on the switcher control panel.



● PGM and PVW output signals

After the device is connected to the video signal source, press 1 (PGM) and 2 (PVW) in the keypad. The live and preview signal sources in the output multiview monitor are 1 (PGM) and 2 (PVW), respectively. The signal sources are HDMI IN1 and HDMI IN2.

The effect diagram is as follows

● PGM and PVW source switching



The button board and the 1-4 channels in the PGM & PVW of the PC control software correspond to the 4 multiview under the 4-screen segmentation.

Press the selection in the PGM area as shown below, and the button will turn red (live). Pressing PVW will display green (preview).

Suppose you want to convert the live signal source 1 (PGM) and the preview signal source 2 (PVW) in the multiview into 2 (PGM) and 1 (PVW), just press 2 (PGM) and 1 (PVW), and then click AUTO or CUT to switch. The live PGM signal source 1-4 can be switched arbitrarily with the preview PVW signal source. As shown above.



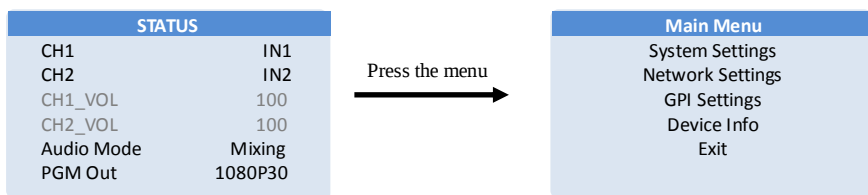
After pressing the **BAR** button in the button panel, the screen will output color bars

5. System menu settings

● Menu display

In the menu bar, you can perform IP settings on the device, restore the factory settings, and change the language.

In the default state of power on, press the menu to enter the main menu, as shown below.

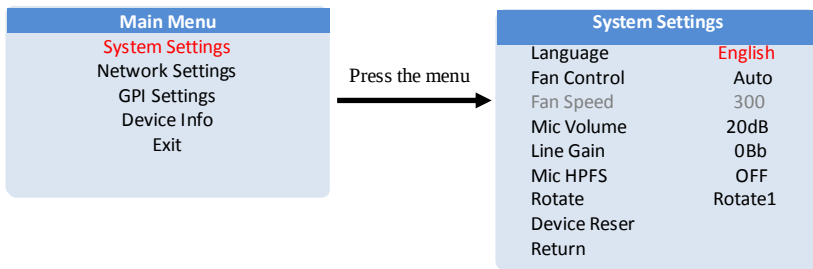


Press MENU under the status bar to set the audio mode and output resolution;

Audio mode; menu to select mix or follow;

Output resolution: menu can be operated, you can choose 1080p60 / 1080p50 / 1080p30 / 1080p25 / 1080p24 / 1080i50 / 1080i60

● System settings



In the system settings menu, press the button to select the option you need, then press the MENU button to confirm, press the button to set the option you need, and then press the MENU button to confirm.

Language selection: Choose between two different languages: Chinese or English;

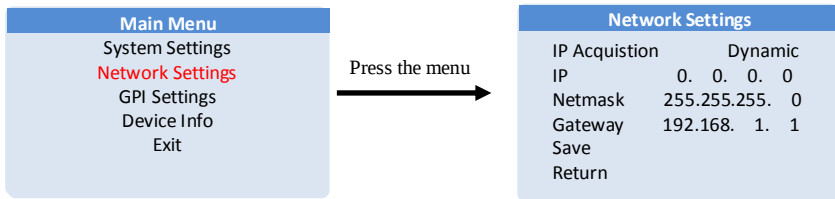
Fan control: intelligent/manual; Fan speed: 150-500 range

Mic gain: 0dB~21dB; Line gain: 8 levels; Mic HPFS: 7 frequencies

Rotation: Turn on or off portrait mode;

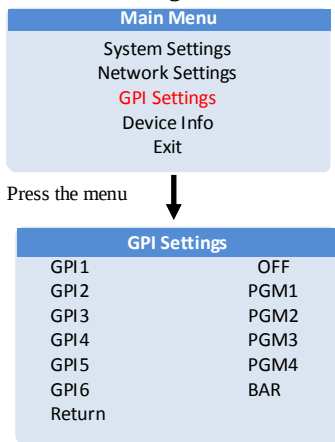
If you encounter unknown errors during use, you can choose to reset to factory settings.

● Network settings



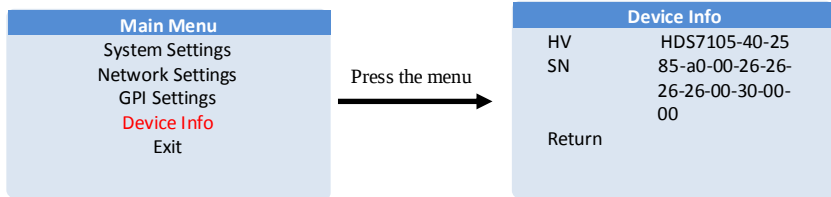
In the network setting menu, you can choose in the IP acquisition: dynamic IP or static IP. After selecting the static IP, you can also set the IP address, subnet mask, and network management settings accordingly, and save and return.

● GPI Settings



GPI-Inx Optional Function		Description
1	PGM1	Simulate PGM1 button messages
2	PGM2	Simulate PGM2 button messages
3	PGM3	Simulate PGM3 button messages
4	PGM4	Simulate PGM4 button messages
5	PGM_BAR	Simulate PGM_BAR button messages
6	CUT	Simulate CUT button messages
7	AUTO	Simulate AUTO button messages
8	MUTE	Simulate MUTE button messages
9	FTB	Simulate FTB button messages
10	STILL	Simulate STILL button messages

● Device information

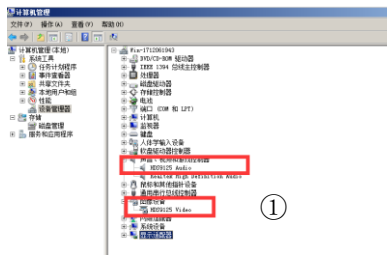


In the device information menu, you can read the serial number of the device. You cannot modify it here.

6. Instructions for USB interface to OBS software

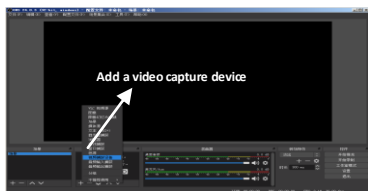
Step 1: Connect the board to WIN7 through the USB data cable. After the WIN7 end is identified, HDS7105 Audio will appear in the device list. Interface and HDS7105 Video represent ok.

As shown in Figure ①. Figure ① Audio and Video nodes in the device manager.

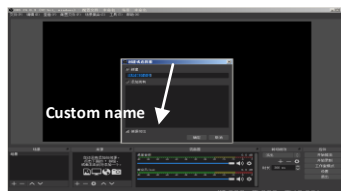


Step 2: Add a video capture device

Open the OBS software, click the "+" in the source box in the lower left corner of the interface, and then click "Video Capture Device", as shown in Figure ②. After clicking "Video Capture Device", an interface for changing the name will appear, and you can customize the name. As shown in Figure ③



②



③

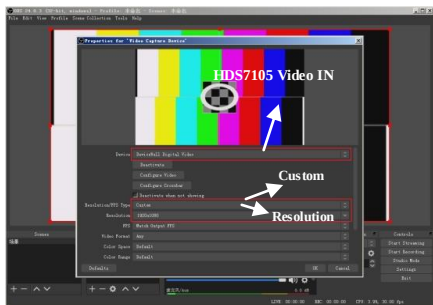
Step 3: Set video capture device properties

- Set the video attributes.

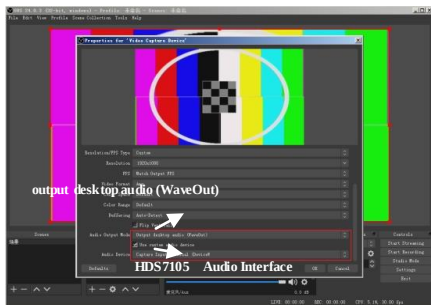
Device selection: HDS7105 Video / HDS7105 Video IN; Resolution / frame rate type can be customized; resolution can be selected: 1920 * 1080, 1280 * 720, 640 * 360, as shown in Figure ④.

- Pull down to set the audio properties.

Audio output mode selection: output desktop audio (WaveOut); tick Use custom audio device Audio equipment selection: Capture Input terminal (HDS7105 Audio/ HDS7105 Audio Interface), as shown in Figure ⑤



④



⑤

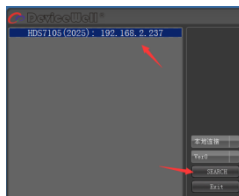
Description:

- 1.The resolution setting needs to be customized to display the video. If there is no image display after setting, you need to set the video format and modify it to MJPEG. (The latest OBS version 25.0.1 can choose H264 in the video format, so the image quality will be improved)
2. Before each use, you need to connect the device to the computer before opening the OBS software, otherwise the OBS software cannot recognize the USB device.

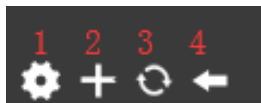
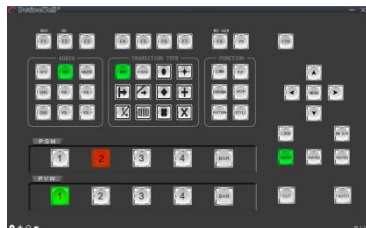
7. Switcher software control

The seitcher supports docking software control, software operation panel and switcher key panel are used correspondingly.(The software can be downloaded from Devicewell official website)

Click “SCANNING” to search for the corresponding device, as shown in the figure below:

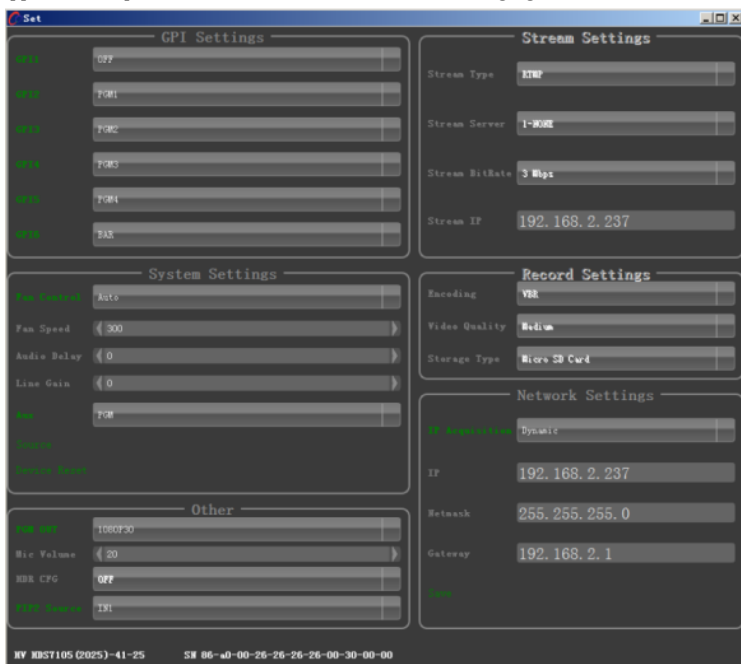


After searching for the device, you can perform the following operations on the switcher: function area, black field control area, audio control area, transition effect control area, comprehensive control area, PGM and PVW selection area, and transition control area. Settings. As shown below:



1. Settings
2. Add Logo Interface
3. Refresh
4. Return

Click on the settings icon in the bottom left corner of the control interface, and the parameter control interface will appear. Set the parameters as needed as shown in the following figure



8.Synchronize regional time

1.Go to Devicewellofficial website to download the time synchronization software, www.devicewell.com search keyword time synchronization;

2.Double-click to open the time synchronization software



3.Software function introduction, open the software default automatic setting function①

Connect the device to the internet cable and be in the same local area network as the computer. Click Auto Sync, and the computer will automatically synchronize your device time. The red box in the figure is the IP address of your device that is normally connected;

4.Manual setting, if you change the time by yourself, you need to check the manual setting function; after filling in the time you need to set, click manual confirmation; ②



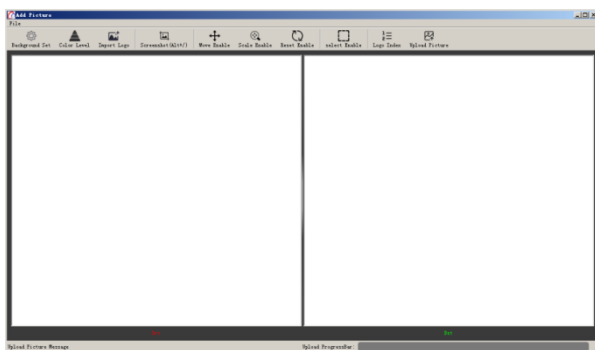
①



②

9. Steps for image and text overlay

● Interface introduction



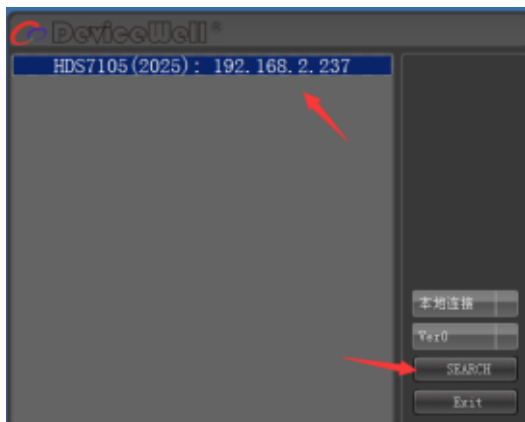
- 1、Background Set: Set the background color of the Logo
- 2、Color Level: Set the color level of the base color.
- 3、Import Logo: Add a logo image.
- 4、Screenshot: Take a screenshot of the image.
- 5、Move Enable: Move the position of the image.
- 6、Scale Enable: Enlarge or reduce the picture.
- 7、Reset Enable: Restore the images to their original positions.
- 8、Select Enable: Remove unnecessary content from the images.
- 9、Logo Index: Set the corresponding sequence number of the currently added picture in the switcher.
- 10、Upload Picture: Upload the added images to the switcher.

● LOGO preset

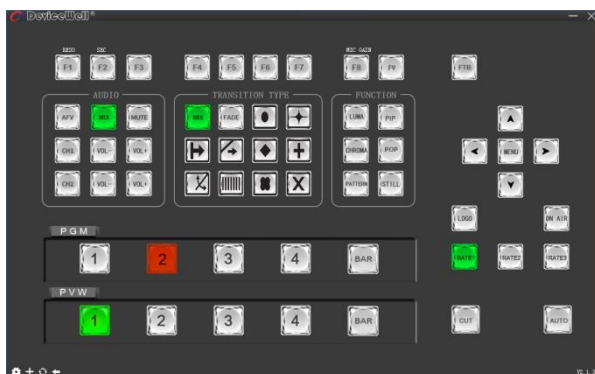
DeviceWell switchers support software control, and the software can be downloaded from the DeviceWell official website. The software icon is as follows:



1. Click "SEARCH" to search for the corresponding device, as shown in the following figure:



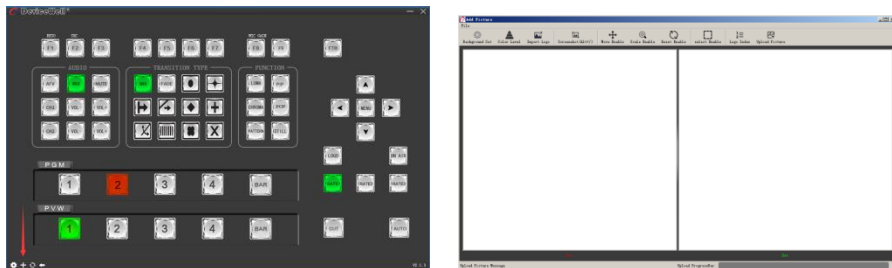
2. Double click HDS7105(2025):192.168.2.237 to open as follows:



3. Add logo. There are two methods to add a logo, depending on the color of the image.

Method 1: Default white

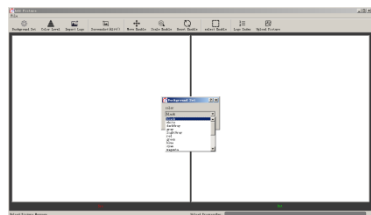
Open the DeviceWell switcher control software, click the + sign in the lower left corner to enter the add logo interface, as shown below:



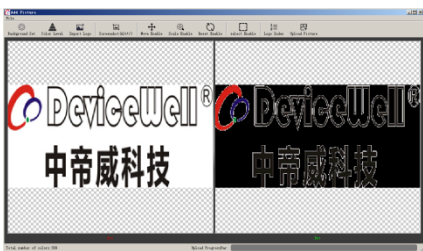
You can select the background color you want to use. If you do not select it, the default is white background.



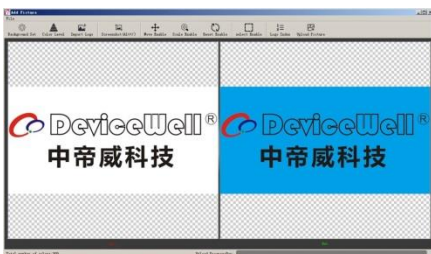
Then click Import Logo to add the Logo image, select the image you want to upload, and wait for the image to be displayed in the software.



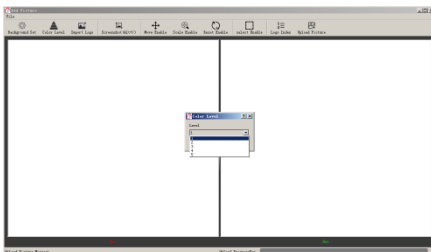
Select the black background, the left side is the original picture, and the right side is the final uploaded picture, as shown below:Method 2: Background color setting



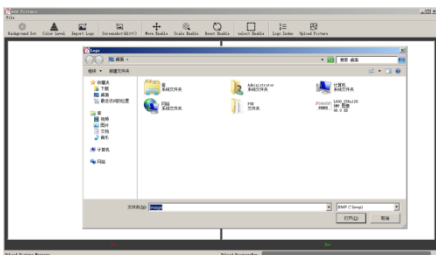
Select the blue background (Blue), the left side is the original picture, and the right side is the final uploaded picture, as shown below:



4. Set the keying color level. The larger the value, the cleaner the keying will be, as shown below:



5. Add the logo image as shown below:



Note: The added image format must be BMP and the size must be 256*128.

6. Click Logo Index and select the serial number corresponding to the picture. You can choose 0, 1, 2, or 3. After selecting, click Upload Picture to upload the picture to the switcher. The time to upload the picture depends on the network speed. Users need to wait patiently. Do not operate the switcher during the process of uploading pictures to avoid the device freezing.



7. Through the PC software, users can import the logo by themselves, and then upload the logo to the switcher. The switcher can save a total of 4 logos, and the saved logos can be selected in the Logo menu.

The PC software can set the logo



8. logo menu

LOGO	
LOGO	4
H Position	100
V Position	100
Return	

Press the left button  on the menu when the status is displayed to open the LOGO menu.

Open the Logo function, and the Logo menu will appear in the status bar.

The LOGO switch is located in the camera control area with the number 1. Press the number 1 to open the LOGO menu.

The logo will first appear on the PVW window, and select the desired logo number from the menu.

View the position of the logo in the PVW window and adjust it to the appropriate position.

Press the number 2 in the camera control area to overlay the logo onto the PGM window.

10. Failure and Maintenance

● Common Faults and Solutions

(1) The output image may be flickered by interference. The quality of the wire used may be poor, and the shielding layer of the wire is not well prepared. When there is a strong radio near the use environment, radio waves may interfere with the transmission of the signal, resulting in unstable signal flicker. Please use the wire produced by regular manufacturers, such as Belden, Jia Nai Mei.

(2) When plugging in the audio and video interface, if there is obvious static electricity, the device power ground wire may not be good grounding, please ground in the correct way; otherwise it will easily damage the host and shorten the life of the mainframe.

(3) When RJ45 cannot control the Switcher, check whether the communication port set by the control software corresponds to the serial port of the connected device; check if the communication port of the computer is good.

● Maintenance

Use a soft, dry cloth to clean the device. Do not use alcohol, paint thinner or benzene to clean. Make sure that the device is stored and operated in an environment away from liquids and stains.

● Warranty information

The company guarantees that the process and materials of the product are not defective within 12 months after purchase from the company or its authorized distributors, under normal use and service support. We offer a one-year warranty after sale.

11. More switcher options

No.	Model	Description	No.	Model	Description
1	HDS9101	Portable switcher (4xSDI+2xHDMI)	14	HDS6105	Simple switcher(4SDI)
2	HDS9110	Portable switcher (8 SDI+2 HDMI)	15	HDS6105P	HDS6105 with T-Bar
3	HDS9112	Portable switcher (12 SDI)	16	HDS6305	Simple switcher(4SDI)
4	HDS9125	Portable switcher (4HDMI+1DP)	17	HDS6506	All-in-one switcher(6-CH)
5	HDS9135	Portable switcher (4HDMI+1DP)	18	HDS6110	All-in-one switcher (10-CH)
6	HDS9325	Portable switcher (4HDMI+1DP)	19	HDS6112	All-in-one switcher (12-CH)
7	HDS9335	Portable switcher (4HDMI+1DP)	20	HDS7105S	Simple switcher(4HDMI+1DP)
8	HDS9226	Portable switcher (4SDI+2HDMI)	21	HDS7105	Simple switcher(4HDMI+1DP)
9	HDS9236	Portable switcher (4SDI+2HDMI)	22	HDS7105P	HDS7105 with T-Bar
10	HDS9326	Portable switcher (4SDI+2HDMI)	23	HDS7305	Simple switcher(4HDMI+1DP)
11	HDS9336	Portable switcher (4SDI+2HDMI)	24	HDS7306	Simple switcher(2HDMI+4SDI)
12	HDS9108	Portable switcher (4HDMI+4SDI)	25	HDS7108	Type C switcher(4Type C+4HDMI)
13	HDS9106	Portable switcher (4SDI+2HDMI)	26	HDS7308	Type C switcher(4Type C+4HDMI)

产品保修卡 WARRANTY

保修须知:

Warranty Notice:

一: 凡购买本公司的产品用户, 凭本保修卡享受保修期内维修服务。

1.Customer who buys the product will be offered repair service during the warranty validity period.

二: 本公司所有产品自出货之日起保修一年。保修服务仅限正常使用下有效。

2.The warranty period is one year form the date of shipment,Guarantee service is subject to normally using.

三: 本保修卡不补发, 保修期内请妥善保管, 用户要求维修服务时, 应出示保修卡和保修卡对应的机器。

3. This warranty card is not reissued. Please keep it properly during the warranty period. When the user requests repair services, the warranty card and the machine corresponding to the warranty card should be presented.

四: 因以下情况损坏和出现故障的产品不能享受保修服务:

4.Damage and failures due to following conditions are not covered:

1).一切人为损坏、自行拆机、拆封标、使用不当的维修保养、意外或自然灾害所致之故障或损坏;

1) All man-made damage, self-dismantling, unsealing labels, improper use of maintenance and storage, failure or damage caused by accidents or natural disasters;

2).产品无保修卡或保修卡被涂改、内容无法辨认或内容与实物不符;

2) No product warranty card,warranty card has been alterd;content illegible or incompatible with the product.

3).产品超出保修期。

3) Validity period has expired.

保修单位(Warranty Party): _____ 地 址(Address): _____

联系电话(Tel): _____ 邮 编(Post Code): _____

产品型号(Mode): _____ 产品编号(Item No.): _____

产品合格证 CERTIFICATE

本合格证证明客户购买的产品是本公司生产，完全符合原厂服务要求。

This is to certificate that the product in the package is manufactured by the manufacture and in full complian with the specifications of the original service.

检验员(QC): _____

出厂日期(Date): _____

产品型号(Model): _____

产品编号(Item No.): _____



中帝威科技



www.devicewell.com