LDC65HD-LK

Logo Generator and Keyer

USER MANUAL

OSEE TECHNOLOGY LTD.

Product Information

Model: LDC65HD-LK Logo Generator and Keyer
Version: V010001
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Company

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Chapter1 Introduction

LDC65HD-LK is a logo generator and keyer, which supports for SD / HD, including the three basic models: LDC65HD-L independent logo generator, LDC65HD-K downstream key and LDC65HD-LK logo generator with internal downstream key.

LDC65HD-LK logo generator and keyer, can support video standards such as 1080i50, 1080i60, 1080Psf24, 720P50, 720P60, 576i and 480i, and provide the greatest flexibility for broadcasting control system application.

LDC65HD-LK logo generator and keyer supports up to three motion logo and clocks, and type the logo and clock into the program signal, while supporting 2 external key for the subtitles and other key signals at the same time.

Chapter2 Features

- Support video standards such as 1080i50, 1080i60, 1080Psf24, 720P50, 720P60, 576i and 480i
- Generate and support up to three motion logo and clocks
- 2 external key
- Support all embedded audio, including Dolby E
- Preview output
- TC time comparison
- Local control and remote control
- Double backup power
- Signal blackouts bypass

FCC Caution:

Any Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

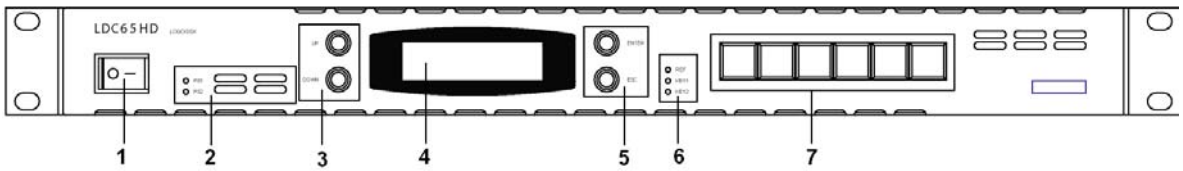
This device complies with part 15 of the FCC Rules.

Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

Reorient or relocate the receiving antenna.
Increase the separation between the equipment and receiver.
Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
Consult the dealer or an experienced radio/TV technician for help.

Chapter3 Front Panel



Front panel introduction

As shown above, it is divided into several parts:
1: Power switch.
4: VFD screen, which is used to display menu and setup information.
3, 5: Menu button, which is used to turn screen, select, setup and other related operations.
7: five special keys, which are control buttons.
2, 6: Status Indicator.

3.1 Detailed description of functions

VFD screen

Menu, setup and the related information can be displayed on the VFD screen. Boot screen displays the device information.

Use the menu control buttons

All the menu options and control setups may be set via the menu buttons.

Browse menu

Start menu items.
Boot screen shows the device information and if you want to enter the menu screen, please press "Enter" key.
It includes the following submenus as:

1. Set CLOCK
2. CLOCK V POS
3. CLOCK H POS
4. LOGO1 SEL
5. LOGO1 V POS
6. LOGO1 H POS
7. LOGO1 FRZ FRM
8. LOGO1 RPT FRM

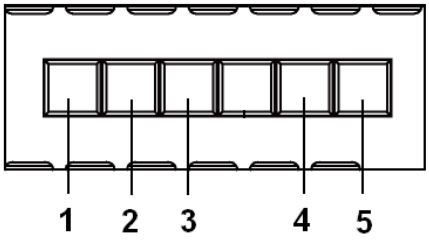
9. LOGO1 RPT SQN
10. LOGO2 SEL
11. LOGO2 V POS
12. LOGO2 H POS
13. LOGO2 FRZ FRM
14. LOGO2 RPT FRM
15. LOGO2 RPT SQN
16. LOGO3 SEL
17. LOGO3 V POS
18. LOGO3 H POS
19. LOGO3 FRZ FRM
20. LOGO3 RPT FRM
21. LOGO3 RPT SQN
22. CLOCK DispCtl
23. LOGO2 DispCtl
24. LOGO3 DispCtl
25. KEY DELAY
26. SHAPED LOGO
27. REFERENCE SEL
28. STANDARD SEL
29. H PHASE
30. V PHASE
31. AUTO PHASE
32. SHAPED KEYER1
33. SHAPED KEYER2
34. NO SYNC PROC

Please refer to Appendix 1 for the detailed description of each submenu.

LDC65HD-LK menu operation

1. Press "ENTER" (confirmation) to enter the main menu, through the "UP" and "DOWN" keys to view the first submenu item.
2. Press "ENTER" key to open the next submenu item.
3. Turn screens and set the parameters by "UP" and "DOWN" keys and save the settings and return to the previous menu through "ESC" key.
4. Press "ESC" key to return to the previous menu.

Special keys



Five special keys:

1. KEY1： Control the first channel.
   Press this key, the first channel will operate on pre-monitoring signals, and you must press the TAKE key to cope the state of the first channel to the PGM signal to complete the operation.
2. KEY2： Control the second channel.
   Press this key, the second channel will operate on pre-monitoring signals, and you must press the TAKE key to cope the state of the second channel to the PGM signal to complete the operation.
3. LOGO： Control the built-in logo.
   Press this key, the built-in logo will operate on pre-monitoring signals, and you must press the TAKE key to cope the state of the built-in logo to the PGM signal to complete the operation.
4. TAKE： Execution.
   Press this key to cope the state of the KEY1, KEY2, and Built-in LOGO on the PST signal to the PGM signal.
5. ENABLE：Enable the control buttons. It makes Key 1, Key2 and LOGO can be controlled when the lights are on and be uncontrolled when the lights are off.

Key indicators	Status	Remarks
Key1	ON	Up key
	OFF	Down key, after TAKE key enabled, the light will be off.
	FLASH	When it flashes, it shows TAKE is still.
Key2	ON	Up key
	OFF	Down key, after TAKE key enabled, the light will be off.
	FLASH	When it flashes, it shows TAKE is still.

Note: The device support the RS-422 protocol, and the third party equipment or control software control can read the information of the current working status.

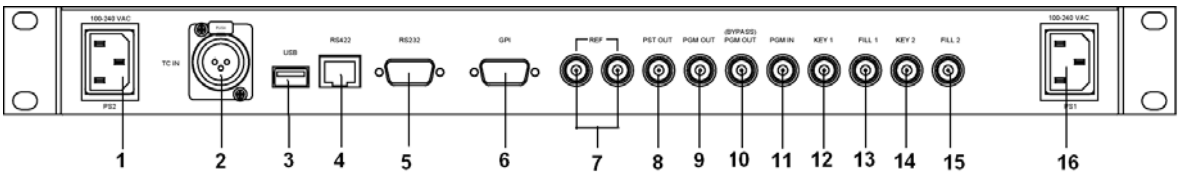
Status and indicators

Status indicator shows the state of the setup in the current operating conditions. Refer to Table 1 about the instructions and messages of each light.

- PS1：Show the state of power supply 1. LED ON shows working.
- PS2：Show the state of power supply 2. LED ON shows working.
- REF**:** Show the state of external sync signal.
- KEY1**:** Show the state of KEY1.
- KEY2: Show the state of KEY2.

Chapter4 Rear panel

Note: When LDC65HD-LK is used, it must ensure that it's well grounded. Poor grounding may lead to matrix or other connected equipment be damaged or make you be electric shocked.



LDC65HD-LK rear panel

Port introductions as below:

1. Power input: 100-240VAC, 50-60Hz; Power Supply: >50W.
2. TC IN: Time code signal input.
3. USB port: for the logo download and firmware upgrade.
4. 422 port
5. 232 port
6. GPI port
7. REF: Reference signal input

   This device supports the reference signal includes: 1080i50, 1080i59.94, 1080Psf23.97, 720P50, 720P59.94, 576i and 480i.
8. PST OUT: Pre-monitoring signal output
9. PGM OUT: main channel output
10. (BYPASS) PGM OUT: main channel bypass output
11. PGM IN: main channel background signal input
12. KEY1: Key signal 1 input
13. FILL1: Fill signal 1 input
14. KEY2: Key signal 2 input
15. FILL2: Fill signal 2 input
16. Power input port: 100-240VAC, 50-60Hz; Power Supply: >50W.

Chapter5 Specifications

Digital Video Input

Input number: 5 (program input， fill input 1， key input 1， fill input 2 and key input 2)
Standard: SMPTE 259M-C, SMPTE 292M

Format: 486i59.94, 576i50, 1080i50, 59.94, 60, 720p50, 59.94, 60, 1080pSF23.97
Connector: BNC
Impedance: 75ohm
Return loss: > 15 dB (typical) to 1485 MHz

Digital video output

Output number: 3 (Program, Preview, BYPASS)
Standard: SMPTE 259M-C, SMPTE 292M
Frame rate: 50 Hz, 59.94 Hz, 60Hz, and 23.97Hz
Connector: BNC
Impedance: 75ohm
Return loss: > 15 dB (typical) to 1485 MHz
DC offset: 0.0 V ± 0.5 V
Output level: 800 mV ± 10%
Rise and Fall Time: <270ps at 1.485 GHz; 400ps to 1500ps at 270 MHz
Overshoot: <10% of amplitude
Jitter: Timing (<1 UI at 1.485 GHz), Alignment (<0.2 UI at 1.485 GHz), Timing (<0.2 UI at 270 MHz), Alignment: (<0.2 UI at 270 MHz)

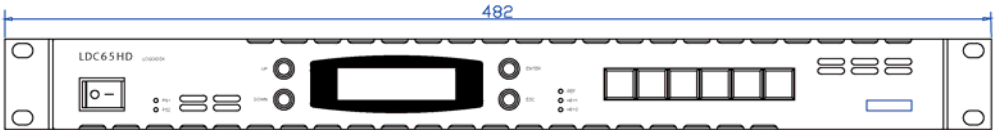
Reference Video Input

Input number: 2 (Ring Loop Through)
Format: 1080i50, 1080i59.94, 1080Psf23.97, 720P50, 720P59.94, 576i and 480i
Level: 1Vp-p
Connector: BNC

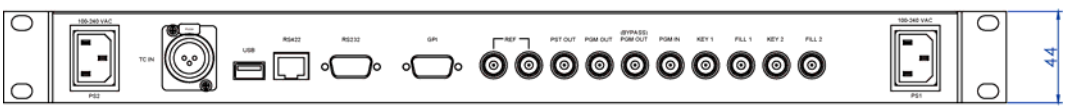
Others

Installation: 1RU, 19 "inch standard chassis
Power input: 100-240 VAC, 50/60Hz
Dimensions: Depth 334.5mm, Height 44mm and width 482mm

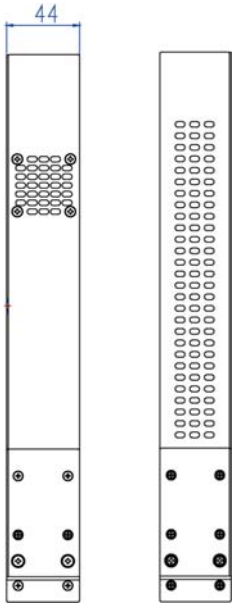
Chapter6 Description



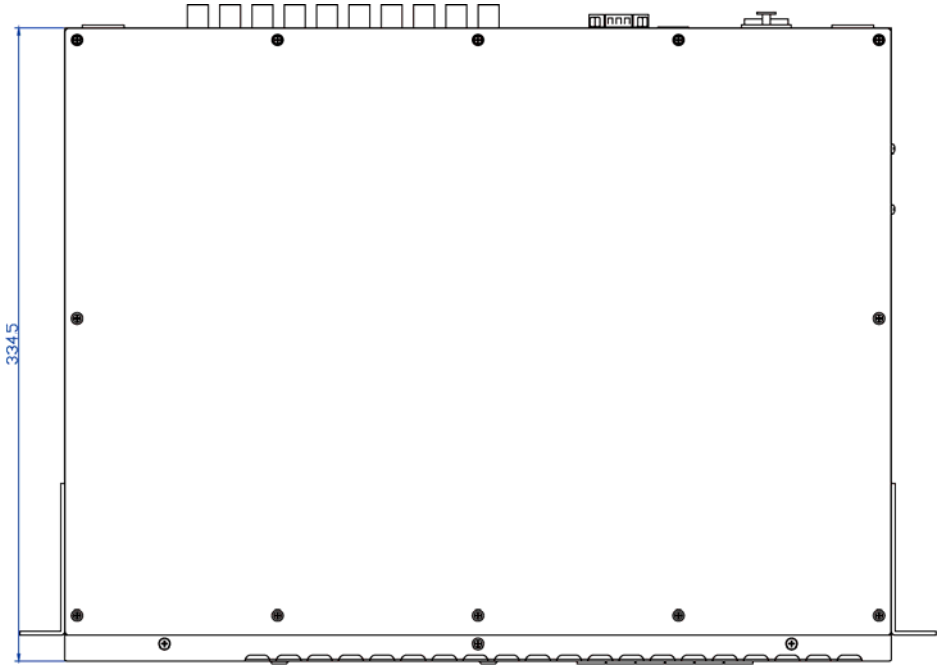
Front panel (mm)



Rear panel (mm)



Side (mm)



Top view (mm)

Table 1 Instructions of the front panel lights

LED（Light）	Status	Remarks
PS1, PS2 Power (Green)	ON	Normal power supply
	OFF	Abnormal power supply
REF (Green)	ON	Reference signal and output signal synchronization

LED（Light）	Status	Remarks
	OFF	Reference signal and output signals unsynchronized
Key1 (Green)	ON	Key 1 input signal and output signal synchronization
	OFF	Key 1 input signal and output signal unsynchronized
Key2 (Green)	ON	Key 2 input signal and output signal synchronization
	OFF	Key 2 input signal and output signal unsynchronized

Appendix 1 LDC65HD-LK Logo generator and keyer menu

Sub-menu	Menu Description
1. Set CLOCK	Set the clock manually. Clock setup menu is used to set LDC65HD-LK Logo generator clock time when there is no LCT time comparison signal. When there is LCT time comparison signal, LDC65HD-LK's internal clock and the station time will be fully synchronized, so there is no use to make any adjustments. When there isn't LCT time comparison signal, LDC65HD-LK clock is in the internal clock mode and the users can use the standard time to adjust the LDC65HD-LK clock. Adjustment method is as follows: The device LCD displays: > 20:00:00 and it means the hour can be adjusted. ">" means that the right parameter is the state to be adjusted, and the users can use the UP, DOWN keys to change the parameter. When adjusting minute and second, select through the ENTER key, and LCD displays 20> 00:00 and 20:00> 00.
2.CLOCK V POS （0~539）	Set the clock Vertical position. Clock vertical position setup menu is used to set the clock display position on the TV vertical screen. Clock can move top and bottom between the most visible area of the TV screen and the clock vertical position parameter can be adjusted range of 0 to 539.
3.CLOCK H POS （0~959）	Set the clock horizontal position. Clock horizontal position setup menu is used to set the clock display position on the TV horizontal screen. Clock can move left and right between the most visible area of the TV screen and the clock horizontal position parameter can be adjusted range of 0 to 539.
4.LOGO1 SEL	The main logo select setting: the main logo select setup menu is used to select different logos.
5.LOGO1 V POS （0~539）	Set the main logo Vertical position. The main logo vertical position setup menu is used to set the main logo display position on the TV vertical screen. The main logo can move top and bottom between the most visible area of the TV screen and the main logo vertical position parameter can be adjusted range of 0 to 539.

Sub-menu	Menu Description
6.LOGO1 H POS （0~959）	Set the main logo horizontal position. The main logo horizontal position setup menu is used to set the main logo display position on the TV horizontal screen. The main logo can move left and right between the most visible area of the TV screen and the main logo horizontal position parameter can be adjusted range of 0 to 539.
7.LOGO1 FRZ FRM （000~030）	Set the main logo animation interval. The main logo animation interval setup menu is used to set the main logo animation interval per minute. The main logo animation interval parameter can be adjusted range of 000 to 030.
8.LOGO1 RPT FRM （001~008）	Set the main logo animation speed. The main logo animation speed setup menu is used to set the main logo animation repetition frequency.
9.LOGO1 RPT SQN （001~008）	Set the main logo animation repetition frequency.
10.LOGO2 SEL	The second logo select setting: the second logo select setup menu is used to select different logos.
11.LOGO2 V POS （0~539）	Set the second logo Vertical position. The second logo vertical position setup menu is used to set the second logo display position on the TV vertical screen. The second logo can move top and bottom between the most visible area of the TV screen and the second logo vertical position parameter can be adjusted range of 0 to 539.
12.LOGO2 H POS （0~959）	Set the second logo horizontal position. The second logo horizontal position setup menu is used to set the second logo display position on the TV horizontal screen. The second logo can move left and right between the most visible area of the TV screen and the second logo horizontal position parameter can be adjusted range of 0 to 959.
13.LOGO2 FRZ FRM （000~030）	Set the second logo animation interval. The second logo animation interval setup menu is used to set the second logo animation interval per minute. The second logo animation interval parameter can be adjusted range of 000 to 030.
14.LOGO2 RPT FRM (001~008)	Set the second logo animation speed. The second logo animation speed setup menu is used to set the second logo animation repetition frequency.
15.LOGO2 RPT SQN (001~008)	Set the second logo animation repetition frequency.
16.LOGO3 SEL	The third logo select setting: the third logo select setup menu is used to select different logos.

Sub-menu	Menu Description
17. LOGO3 V POS （0~539）	Set the third logo Vertical position. The third logo vertical position setup menu is used to set the third logo display position on the TV vertical screen. The third logo can move top and bottom between the most visible area of the TV screen and the third logo vertical position parameter can be adjusted range of 0 to 539.
18. LOGO3 H POS （0~959）	Set the third logo horizontal position. The third logo horizontal position setup menu is used to set the third logo display position on the TV horizontal screen. The v logo can move left and right between the most visible area of the TV screen and the third logo horizontal position parameter can be adjusted range of 0 to 959.
19.LOGO3 FRZ FRM （000~030）	Set the third logo animation interval. The third logo animation interval setup menu is used to set the third logo animation interval per minute. The third logo animation interval parameter can be adjusted range of 000 to 030.
20.LOGO3 RPT FRM (001~008)	Set the third logo animation speed. The third logo animation speed setup menu is used to set the third logo animation repetition frequency.
21.LOGO3 RPT SQN (001~008)	Set the third logo animation repetition frequency.
22.CLOCK DispCtl (ON/Def/OFF)	Clock Display Control • ON: Clock will always show. • Def: Only display for a minute when hour or half and then turn off. • OFF: Turn off.
23.LOGO2 DispCtl (ON/Def/OFF)	The second logo Display Control • ON: The second logo will always show. • Def: Only display for a minute when hour or half and then turn off. • OFF: Turn off.
24.LOGO3 DispCtl (ON/Def/OFF)	The third logo Display Control • ON: The third logo will always show. • Def: Only display for a minute when hour or half and then turn off. • OFF: Turn off.
25.KEY DELAY (-4~+4)	Key delay setup menu is used to set the delay for the key. Key delay setup is used to adjust the phase relationship between KEY signals and FILL signal. It can ensure that the logo displays on the TV screen best, and also makes the clock logo generator master switching using with different units. Key delay parameters can be adjusted range of -4 to +4.
26.SHAPED LOGO (ON/OFF)	Logo forming key control • ON: Turn the logo generator key on. • OFF: Be the same as the traditional keyer.

Sub-menu	Menu Description
27.REFERENCE SEL (PGM/SD/HD)	External sync signal selection • PGM: Select the PGM main channel background input signal as the sync signal. • SD: Select the following format input signal as a sync signal: 576i (PAL) and 480i (NTSC) • HD: Select the following format input signal as a sync signal: 1080i50, 1080i60, 1080Psf24, 720P50 and 720P60.
28. STANDARD SEL	Set logo generator output signal format as following: auto select, 525i, 625i, 720P/60, 720P/59.94, 720P/50, 1080i/60, 1080i/59.94, 1080i/50, 1080P/24, 1080P/23.97
29.H PHASE	Line phase setup Line phase setup menu is used with the master control switcher to adjust the fill signal and key signal's line phase. Line phase adjustment range is: • When the input signal is 1080I60: 0~2199 • When the input signal is 1080I50: 0~2639 • When the input signal is 720P60: 0~1649 • When the input signal is 720P50: 0~1979 • When the input signal is 525I(480I): 0~857 • When the input signal is 625I(576I): 0~863
30.V PHASE	Field phase setup Field phase setup menu is used with the master control switcher to adjust the fill signal and key signal's field phase. Field phase adjustment range is: • When the input signal is 1080I60: 0~1124 • When the input signal is 1080I50: 0~1124 • When the input signal is 720P60: 0~749 • When the input signal is 720P50: 0~749 • When the input signal is 525I(480I): 0~524 • When the input signal is 625I(576I): 0~624
31.AUTO PHASE (SET/SETTING…)	Auto-phase adjustment
32.SHAPED KEYER1 (ON/OFF)	Key 1 forming control • ON: Turn the forming key on. • OFF: Be the same as the traditional keyer.
33.SHAPED KEYER2 (ON/OFF)	Key 2 forming control • ON: Turn the forming key on. • OFF: Be the same as the traditional mixing key.
34.NO SYNC PROC (ON/OFF)	Processing equipment without synchronization • ON: Use the PGM main channel background input signal as clock synchronization • OFF: None processing.

Note: Specifications would be changed without notice.