

NightShift

User Manual

Version: V0.26.0

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<https://nightshift-dj.cn>

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1. Product Information

1.1 Overview

NightShift is an intelligent lighting synchronization software for Pioneer DJ equipment. It reads all music metadata from CDJ players in real time via its proprietary protocol, and drives lighting fixtures through ArtNet, sACN DMX, timecode and other protocols, achieving precise music-to-light synchronization.

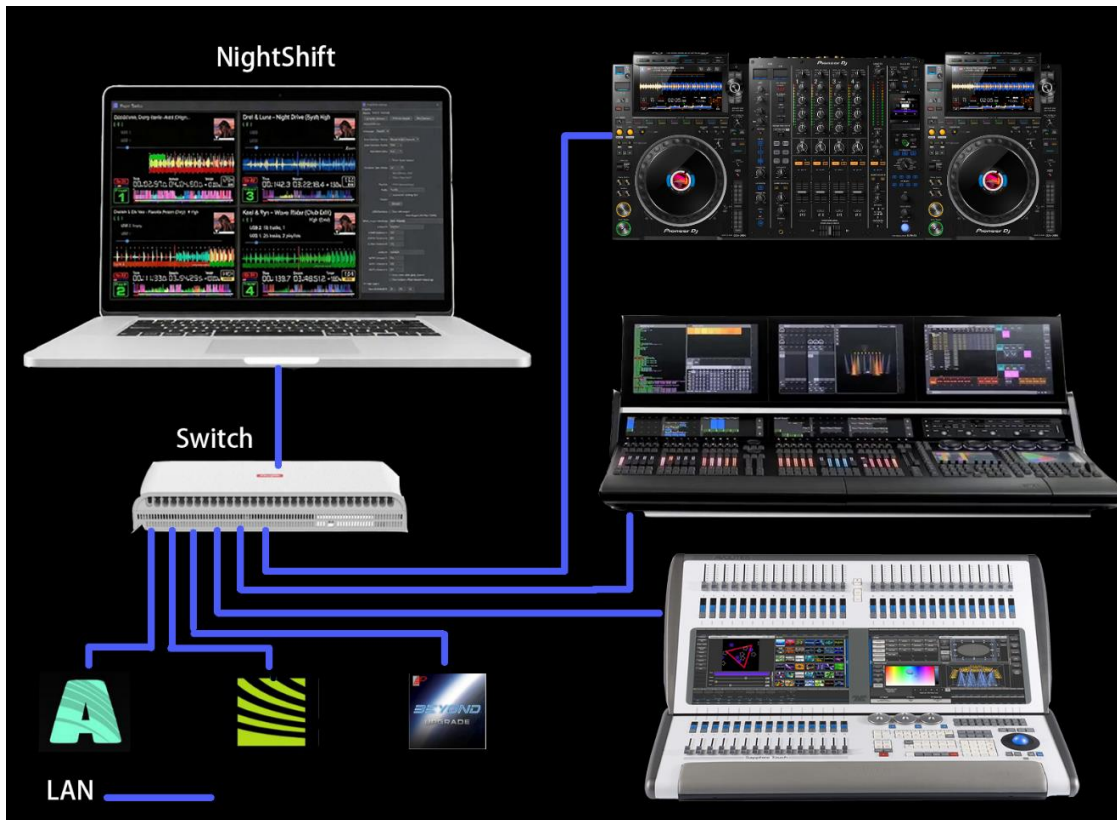
NightShift seamlessly connects Pioneer DJ gear with professional lighting and video systems, allowing DJs to automatically control lighting and video changes while performing. Simply configure trigger rules in advance, and NightShift will automatically follow the music's metadata — beat, phrase, tempo, track name, timecode, custom time scenarios and more — to operate lighting and video effects unattended.

NightShift supports:

- Fully unattended operation: customizable Time Trigger, Song Match Trigger, Phrase Trigger, Timecode Trigger and more
- Remote control of CDJ players from MA2 / MA3 / TigerTouch2 lighting consoles
- Remote loading of tracks onto CDJs, track switching, Play, CUE, Pause, Fast Forward, Rewind, Previous Track, Next Track
- Pioneer CDJ series players (PRO DJ Link network connection)
- CDJ-2000NXS2 / CDJ-3000 / DJM-900NXS2 / DJM-V10 / XDJ-XZ and more
- Real-time waveform and metadata display for up to 6 CDJ players
- Synchronized waveform and metadata display on multiple PCs in the same LAN
- Lighting and video software and hardware supporting ArtNet / sACN DMX and timecode protocols
- Full MA2 / MA3 / TigerTouch2 lighting console series, Resolume Avenue VJ software, Madrix software, ArKaos, Pangolin, BEYOND software

- Three timecode outputs: LTC (SMPTE 12M audio), MTC (MIDI timecode), Art-Net ArtTimeCode
- Ableton Link compatible software

Device Connection Diagram:



Use Category 6 or higher network cables and a switch to connect all devices, and set IP addresses to the same subnet on the same LAN.

1.2 System Requirements

Item	Minimum	Recommended
OS	Windows 10 (64-bit)	Windows 11 (64-bit)
CPU	Dual-core 2.0 GHz	Quad-core 2.5 GHz or higher
Memory	4 GB	8 GB or more
Storage	200 MB free space	500 MB (SSD)
Network	Wired NIC (for DJ Link)	Gigabit NIC × 2
GPU	OpenGL 2.0 support	Dedicated graphics card

Important: The computer must have a wired network card to connect to the Pioneer DJ Link network. If only Wi-Fi is available, purchase a USB-to-RJ45

wired adapter. The software cannot work properly without access to the DJ Link network and the Internet.

1.3 Installation

Step 1: Run the installer. Double-click NightShift-Setup.exe and follow the wizard to complete the installation.

Step 2: Choose the installation directory. The default path C:\Program Files\NightShift is recommended. Click "Install" to copy the files.

Step 3: Finish installation. After installation, the NightShift icon appears on the desktop and in the Start Menu. Double-click it to launch.

On first launch, Windows may show a firewall warning. Allow access, otherwise the software cannot connect to the DJ Link network and the Internet.

Uninstall: Find NightShift in Windows [Settings → Apps → Installed apps] and click Uninstall, or run unins000.exe in the installation directory.

1.4 License & Activation

NightShift uses a license activation mechanism. After the first installation, you get a **30-day free trial**. No activation is needed during the trial — all features are fully available. You may purchase an activation code and activate permanently at any time during or after the trial period.

NightShift activation steps:

1. Purchase a license: visit <https://nightshift-dj.cn> to buy, and receive an activation code (format: NS-XXXX-XXXX-XXXX-XXXX).
2. Click the [Activate] button at the top of the PLAYER panel to open the License window.
3. Click "Activate License" in the License window, enter the activation code, and click OK.
4. After online verification passes, the license is bound to this computer.

Deactivation & Migration: To move to another computer, click "Deactivate" in the License window on the old computer first, then activate again on the new computer.

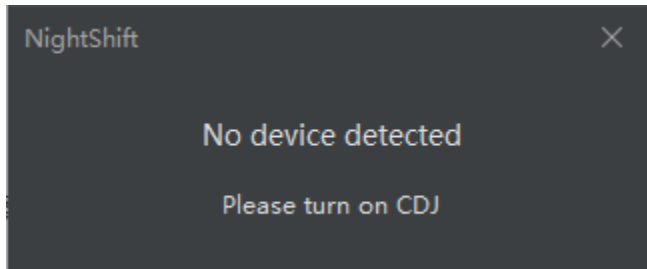
Deactivation is irreversible. After deactivation, this computer will be locked immediately and must be re-activated on another computer. The activation code is generated once — keep it safe!

Offline Use: NightShift supports offline use. It must connect to the Internet at least once every 7 days, otherwise it will lock. It is recommended to launch NightShift online at least once before a show to ensure normal operation.

EULA: On first launch, the End User License Agreement and Privacy Policy dialog appears; you must click “Agree” to use the software. The software only collects SHA256 hashes of the motherboard serial number and NIC MAC address for license verification. No personal information is collected.

1.5 CDJ Detection

Turn on the CDJ players before starting the software. After launch, NightShift automatically detects CDJ players on the LAN and displays them in the PLAYER panel.



2. Player Status Window (PLAYER Panel)

The PLAYER panel (Player Status window) is the main interface of NightShift. It displays the real-time status of all CDJ players on the network, and provides trigger switches, CDJ remote control and timecode sending functions.



The window is divided into five areas from top to bottom:

1. **Top toolbar:** language switch, settings, activation, and three trigger switch buttons.
2. **CDJ status display area:** shows the real-time status of up to 6 CDJ players.
3. **CDJ control area:** connect, select and remotely control CDJ playback.
4. **Timecode send row:** manually select a CDJ and send timecode.

5. **PLAY track selection:** select a track and load it to a specified CDJ.

2.1 Display Information

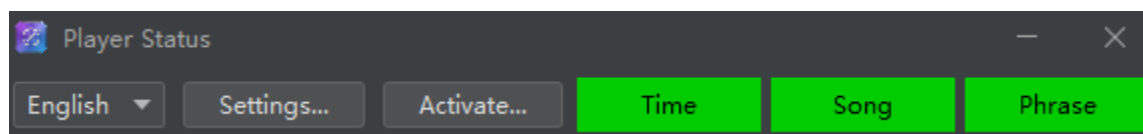
The CDJ status display area shows each detected CDJ player as a card, including:

Information	Description
Player number	CDJ player number (1-6), up to 6 players displayed
Waveform	Song waveform information of the CDJ player
Play status	Playing ► / Paused / Stopped ■
On Air	Whether audio is being output (ON/OFF)
BPM	Current tempo
Track title	Name of the currently loaded track
Phrase type	Intro / Verse / Chorus / Outro, etc.
Beat number	Beat position within the current bar
Pitch	Tempo fader position (%)
Time remaining	Remaining playback time of the track
TimeCode	Current timecode
Title / Artist	Track name and artist of the current song
USB / SD slot	Current media source (USB 1 / USB 2 / SD)

This window monitors all CDJ status in real time. No operation is required; it refreshes automatically.

2.2 Top Toolbar Buttons

The toolbar is located at the very top of the PLAYER panel:



Button	Function	How to Use
Language ▼ (dropdown)	Switch UI language	Select 「中文」 or 「English」 from the dropdown. The interface switches immediately without restarting. Button texts in the PLAYER panel, Settings window and License window switch together.
Settings	Open the Settings window	Click to open the Settings window (see Chapter 3). If already open, the window is brought to front.
Activate	Open the License	Click to open the License window, where you can view license status, activate, refresh, deactivate and purchase.

Button	Function	How to Use
	window	
Time Trigger	Time Trigger master switch	When Pressed (green) = enabled; released (grey) = disabled. When disabled, Time Triggers 1-6 stop running, and phrase/song triggers are no longer restricted by time periods. Enabled by default.
Song Match	Song Match master switch	When Pressed (green) = enabled; released (grey) = disabled. When disabled, the song match table is not scanned and triggered song channels are cleared immediately. Enabled by default.
Phrase Trigger	Phrase Trigger master switch	When Pressed (green) = enabled; released (grey) = disabled. When disabled, phrase channel switching does not run and triggered phrase channels are cleared immediately. Enabled by default.

The three trigger switches are independent and can be combined in any way. The switch state is saved automatically and persists after restart. A pressed switch turns green, indicating that the trigger function is running.

2.3 CDJ Control Area

The CDJ control area is located at the bottom of the PLAYER panel and is used to remotely control CDJ playback.



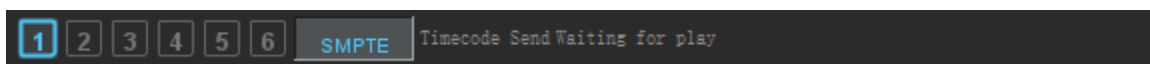
The control area is divided into three parts from left to right:

Part	Function	How to Use
Connect button + status	Discover and connect CDJ	Click to automatically search all CDJ players on the LAN and establish connection sessions. The status text on the left shows the current connection state.
6 indicator boxes (1-6)	Show CDJ connection status and select target player	Grey box = player number not found; blue box = found and connected. Click a blue box to select the CDJ to control (selected one is highlighted).
Previous track	Jump to the previous track	Click to send the previous-track command.
Rewind	Fast rewind	Hold to rewind continuously; release to stop.
CUE	Return to CUE point	Click to return to the beat CUE point.
Play/Pause	Play or pause	Click to toggle between play and pause.

Part	Function	How to Use
Fast Forward	Fast forward	Hold to fast-forward continuously; release to stop.
Next track	Jump to the next track	Click to send the next-track command.
Remote control requires CDJ players with PRO DJ Link enabled and external control allowed (some models require enabling it in the CDJ settings).		

2.4 Timecode Send Row

The timecode send row is located at the very bottom of the PLAYER panel. It is used to manually send timecode to the lighting console without filling in the song match table — select and send.



Part	Function	Description
6 CDJ selector boxes (1-6)	Select the CDJ for timecode	ode Unselected = grey; selected = bright blue. Only one player can be selected.
SMPTE button	Timecode send switch	Released (grey) = off; pressed (bright blue) = on, continuously detects and sends.
Status text	Shows the current send s	tatus See the status table below.

Status Text Description:

Status	Meaning
Please select a CDJ	No player selected yet
Send not enabled	Player selected, but the SMPTE button is off
Waiting for MASTER	Enabled; waiting for this CDJ to become the Tempo Master
Waiting for play	Enabled; waiting for the CDJ to start playing
Fader not up	CDJ is playing, but the On-Air fader is not raised (no audio output)
Paused	The CDJ is paused
Sending HH:MM:SS:FF	Timecode is being sent, showing the current playback progress
Track ended, press again	Playback finished; timecode stopped. Press the SMPTE button again to re-trigger
Track changed, press again	A track change was detected; timecode stopped. Press the SMPTE button again to re-trigger

How to Use:

1. Click to select a CDJ (the selector box turns bright blue).
2. Press the SMPTE button (the button turns bright blue).
3. Start playback on the selected CDJ, set it as Tempo Master and raise the On-Air fader — the software automatically begins sending timecode.

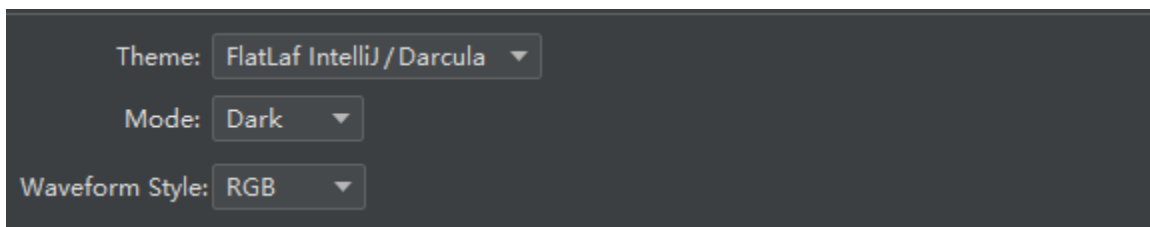
How It Works & Notes:

- Timecode is sent based on the selected CDJ's **pure playback progress** (updated every 33ms). The three outputs (LTC / MTC / Art-Net ArtTimeCode) follow the configuration in the 「Timecode Output」 section of the Settings window; unselected channels are not sent.
- While manual sending is active, it has the highest priority and song-offset automatic sending is fully paused; automatic sending resumes when the SMPTE button is released.
- **One track per send:** after a track change or track end, you must press the SMPTE button again to trigger the next track.
- Switching the selected CDJ during sending returns to the ready state and switches the timecode source without ending the send.
- The frame rate must match the console's follow setting (default 30).

3. Settings Window

Click the 「Settings」 button at the top of the PLAYER panel to open the Settings window. The window is arranged from top to bottom by section; changes take effect immediately (no restart needed).

3.1 Theme



Setting Description	Description
User Interface Theme Selection	switches the overall visual style of the software. Multiple built-in themes are available; select from the dropdown to switch in real time.

For performances, the 「Dark」 theme is recommended to reduce screen glare.

3.2 Mode

Mode	Description
Light	Light mode, suitable for daytime use
Dark	Dark mode (default), suitable for dark environments
System	Follows the Windows system setting automatically

3.3 Waveform Style

Sets the display style of the track waveform. It only affects the waveform preview in the PLAYER panel.

Style	Description
RGB	Colored waveform (default), colored by frequency band
3-Band	Three-band waveform (low/mid/high)
Blue	Classic blue waveform

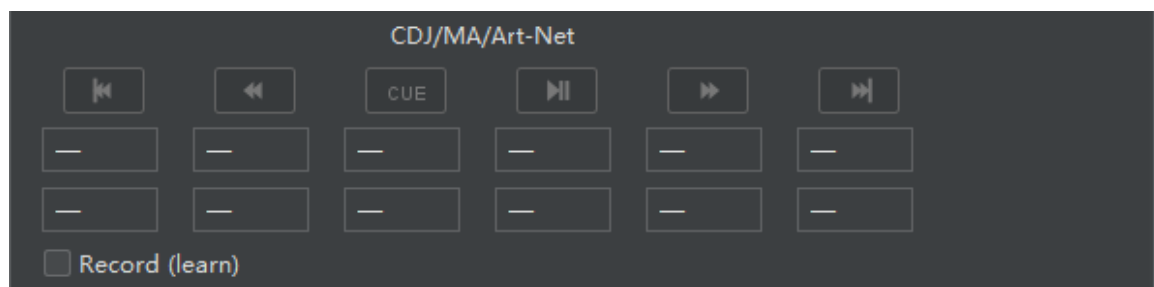
3.4 OBS Overlays



Setting Description	Script
Run web server? When checked, starts the built-in HTTP server to provide real-time playback data overlays for OBS.	

When enabled, open a browser on other PCs on the LAN and enter <http://localhost:17081> (e.g. <http://127.0.0.1:17081>) to see the currently playing track and status information. Multiple PCs are supported.

3.5 CDJ/MA/Art-Net External Control



This section binds keys of MA2/MA3/TigerTouch2 lighting consoles to the 6 CDJ control functions, so console keys can directly control CDJs.

Part	Function	How to Use
6 function icons	Select the CDJ function	to bind In order: Previous (PREV), Rewind (REWIND), CUE, Play/Pause (PLAY), Fast Forward (FF), Next (NEXT). Click an icon to select the learning target; the selected icon is highlighted and the status text shows "Learning target: XXX".
Record (learn) checkbox	Learning mode switch	When checked, enters learning mode (playback is paused while learning). The status text shows "Learning mode: click an icon to select a target, then press the key on MA2".
First row: 6 value boxes	Show MA2 key bindings	Shows the bound MA2 keys (format e.g. GO:exec:cue / SET:fader:page). Unbound boxes show "—".
Second row: 6 value boxes	Show Art-Net bindings	Shows bindings of another Art-Net device. Unbound boxes show "—".

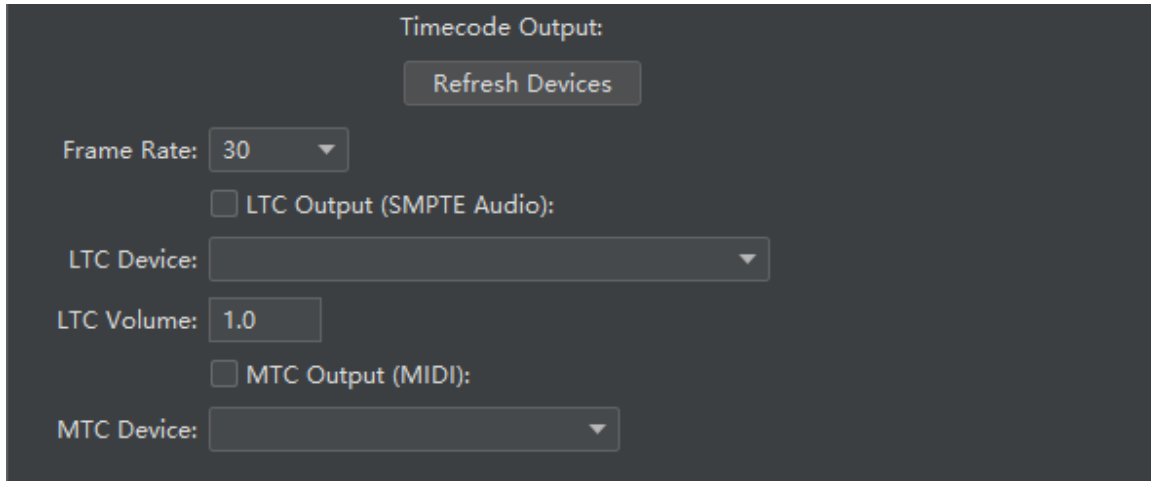
How to Use (binding an MA2 key as an example):

1. Check [Record (learn)] to enter learning mode.
2. Click one of the 6 function icons (e.g. [PLAY]) to select the function to bind.
3. Press the key on the MA2 console that you want to use to control the CDJ (e.g. a GO button or fader).
4. NightShift captures the key and binds it automatically; the corresponding value box shows the binding and it is saved automatically.
5. Uncheck [Record (learn)] to exit learning mode.
6. From now on, pressing that key on the MA2 controls the corresponding CDJ function.

Clearing a binding: Click the corresponding value box to focus it, then press Delete or Backspace to clear the binding (value boxes are read-only; text cannot be typed in).

MA2 signals are received via the MSC protocol (UDP port 6005); make sure the computer and the MA2 console are on the same network. Bindings are saved automatically and persist after restart.

3.6 Timecode Output



Timecode Output:

Refresh Devices

Frame Rate: 30

☐ LTC Output (SMPTE Audio):

LTC Device:

LTC Volume: 1.0

☐ MTC Output (MIDI):

MTC Device:

NightShift supports three timecode outputs. All three send the same timecode value at the same moment (CDJ playback progress + song match table offset, driven by a single 33ms timer):

Channel	Protocol	Transmission	Target Devices
① Art-Net ArtTimeCode	Art-Net (UDP 6454)	Network cable	MA3 / Art-Net capable consoles
② LTC	SMPTE 12M audio (biphase mark	) Sound card 3.5mm	→ XLR MA2 LTC IN, Arena SMPTE
③ MTC	MIDI Quarter Frame (F1)	USB MIDI interface	Devices with MTC MIDI IN

Setting	Description	Default
Refresh Devices	Rescans LTC sound cards and MTC MIDI devices. After plugging/unplugging devices, click Refresh to see	new devices (the current selection is kept). —
Frame Rate	Timecode frame rate: 24 / 25 / 30. Must match the console's follow setting.	30
LTC Output (SMPTE Audio)	When checked, outputs LTC timecode audio through the sound card.	Off
LTC Device	Selects the sound card for LTC output (built-in or external USB).	Empty
LTC Volume	LTC audio output volume (0.0-1.0), default 1.0 (100%).	1.0
MTC Output	When checked, outputs MTC timecode through the MIDI	Off

Setting	Description	Default
(MIDI)	interface.	
MTC Device	Selects the MIDI device for MTC output (a USB MIDI interface is required). If no device is detected,	a prompt is shown; connect a device and click 「Refresh Devices」 . Empty

Wiring:

- **LTC:** check LTC → select the sound card → connect the computer's 3.5mm audio output to the MA2 LTC IN via a 3.5mm-to-XLR cable.
- **MTC:** check MTC → select the MIDI device → connect a 5-pin MIDI cable to the console's MIDI IN.

All three outputs share the same timecode value. When manual sending via the PLAYER panel 「Timecode Send Row」 is active, manual sending takes precedence (see Chapter 2, Section 2.4).

3.7 DMX Output Settings (ArtNet / sACN)

DMX output is the core function of NightShift. It sends DMX signals to lighting devices via the ArtNet or sACN protocol.

DMX Output (ArtNet / sACN)

DMX Output: Auto (default)

ArtNet IP 1: Universe 1:

ArtNet IP 2: Universe 2:

ArtNet IP 3: Universe 3:

sACN IP 1: Universe 1:

sACN IP 2: Universe 2:

sACN IP 3: Universe 3:

☐ Loopback Signal

☐ Clear when no signal?

☐ Fine mode

3.7.1 DMX Output Interface

Setting	Description
DMX Output Interface Selection	Selects the network interface used to send ArtNet/sACN data. Auto (default) selects automatically; a specific NIC can also be chosen manually.

If the computer has multiple network adapters (e.g. Wi-Fi + wired), make sure to select the adapter connected to the lighting network (ArtNet network).

3.7.2 ArtNet Settings

Setting	Description	Default
ArtNet IP 1	Target IP address of group 1 (broadcast or unicast)	Empty
Universe 1	Universe number of group 1	Empty
ArtNet IP 2	Target IP address of group 2	Empty
Universe 2	Universe number of group 2	Empty
ArtNet IP 3	Target IP address of group 3	Empty
Universe 3	Universe number of group 3	Empty

Each group supports an independent IP and Universe, allowing up to 3 console devices to be controlled simultaneously. When controlling only 2 devices, leave the 3rd IP empty (that group is not sent). The target IP and Universe numbers must match the console device configuration.

3.7.3 sACN Settings

Setting	Description	Default
sACN IP 1	Target IP address of group 1	Empty
Universe 1	Universe number of group 1	Empty
sACN IP 2	Target IP address of group 2	Empty
Universe 2	Universe number of group 2	Empty
sACN IP 3	Target IP address of group 3	Empty
Universe 3	Universe number of group 3	Empty

It is recommended that ArtNet and sACN use different Universe number ranges to avoid conflicts.

3.7.4 Advanced DMX Options

Setting Description	Description
Loopback Signal When checked	When checked, sends a loopback signal to this computer without needing a network card. For example, when NightShift is installed on the same computer as Arena (VJ software), checking this option triggers Arena directly.
Clear when no signal When checked	When checked, all channels return to zero (blackout) when the CDJ stops outputting; when unchecked, the last output values are kept (last scene is held).
Fine mode Enable	Enables variant offset channel mapping for finer DMX control.

3.8 Time Trigger Settings (Face Light Control)

3.9 DJ Face Light

DJ Face Light is the 7th time trigger channel, configured the same way as Time Triggers 1-6 (Start/End/DMX channel), but it **runs independently in parallel with all other triggers without affecting them**. It is designed for scheduled on/off of the DJ area face lights.

Example: Start 21:00:00, End 02:00:00 (next day; cross-day settings supported), DMX channel 506 — 21:00 automatically triggers lighting programs bound to channel 506; 02:00 the next day returns to zero, unaffected by other triggers during the period.

3.10 Phrase-to-Channel Mapping

Phrase-to-Channel Mapping			
Phrase	Start	End	Extra (+)
Low Intro:		-	
Low Verse:		-	
Low Bridge:		-	
Low Chorus:		-	
Low Outro:		-	
Low Fill:		-	
Mid Intro:		-	
Mid Verse:		-	
Mid Bridge:		-	
Mid Chorus:		-	
Mid Outro:		-	
Mid Fill:		-	
High Intro:		-	
High Up:		-	
High Down:		-	
High Chorus:		-	
High Outro:		-	
High Fill:		-	

The phrase trigger function analyzes the phrase structure of CDJ music in real time and automatically triggers bound lighting programs and video materials according to your settings. For each phrase type you can set a **start DMX channel** and an **end DMX channel** (one channel within the range is triggered), plus **extra channels**.

Phrase Types (18 rows):

Music

Style Phrase Types

Light music Intro, Verse, Bridge, Chorus, Fill, Outro

Music Style	Phrase Types
Pop	Intro, Verse, Bridge, Chorus, Fill, Outro
Electronic	Intro, Up, Down, Chorus, Fill, Outro

Configuration Example (Electronic):

Phrase Type	Start DM	X End DMX	Description
Electronic In	tro 121	130	Automatically triggers one of DMX 121-130 when the music reaches that phrase
Electronic Up	131	140	Automatically triggers one of DMX 131-140 when the music reaches that phrase
Electronic Do	wn 141	150	Automatically triggers one of DMX 141-150 when the music reaches that phrase
Electronic Ch	orus 151	160	Automatically triggers one of DMX 151-160 when the music reaches that phrase
Electronic Ou	tro 161	170	Automatically triggers one of DMX 161-170 when the music reaches that phrase
Electronic Fi	ll 171	180	Automatically triggers one of DMX 171-180 when the music reaches that phrase

Extra Channels: You can add extra DMX trigger channels to any phrase in the format +xxx. For example, +221+302 adds channels 221 and 302 to the triggered programs in that range.

3.11 Song Match Trigger

Song Match Trigger		
Song Name	DMX	Offset
1:		
2:		
3:		
4:		
5:		
6:		
7:		
8:		
9:		
10:		
11:		
12:		
13:		
14:		
15:		
16:		
17:		
18:		
19:		
20:		

The song match trigger automatically detects the name of the track playing on the CDJ. Up to **20 song entries** can be configured. When a matched track is detected, NightShift automatically triggers the corresponding DMX channel bound to the lighting console/video software, or the lighting program and video material at the corresponding timecode offset. Both Chinese and English track names are supported.

Table Structure (3 input boxes per row):

Column D	escription
Song Name T	he track name to match (Chinese or English)
DMX T	he DMX channel number triggered when matched

Column D	escription
Offset T	imecode offset, format H:MM:SS (frame-level H:MM:SS.FF supported), triggers the timecode at that offset

Example:

Song Name	Trigger Method	Effect
DeEstate, Duherty Harrie - Ares (Original Mix)	DMX: 400	Automatically triggers lighting and video effects bound to DMX channel 400
海阔天空	DMX: 401	Automatically triggers lighting and video effects bound to DMX channel 401
ginsky Jr - Sexy Lucky Charm (Skyway Bootleg)	Offset: 00:06:01	Automatically triggers the timecode offset 00:06:01

The song name must match the name shown on the CDJ exactly (including case and spaces). Song names and offsets take effect immediately after entry; no restart is needed. Priority: Time Trigger > Song Match > Phrase Trigger.

4. Special Notes

1. CDJ players must support Pioneer PRO DJ Link.
2. Music played on CDJs should be analyzed in rekordbox 6/7 in advance. When analyzing, enable: **High Precision Analysis** (if available), **Key**, and **Phrase/CUE** options.
3. Before a show, turn on the CDJ players first, then start NightShift; and launch it online at least once.
4. On multi-NIC computers, make sure the DMX Output Interface and ArtNet IP in Settings point to the NIC connected to the lighting network.
5. The timecode frame rate must match the console's follow setting (default 30).

Version Information

Item	Information
Software Versio	n NightShift V0.26.0
Manual Version	v1.0
Release Date	April 2025
Website	https://nightshift-dj.cn
Technical Suppo	rt nightshiftdj@163.com

NightShift is a commercial adaptation of Beat Link Trigger (licensed by Deep Symmetry).