

Orbiter®

USER MANUAL

L5.0021106 / L03917

07 / 2022



Revision History

Date	Revision	Changes	Revisor
20-09-01		First release	mfg
20-11-05	L03649	Update Software Licence	mfg
21-05-12	L03772	Update Software Licence	mfg
22-07-04	L03917	Update Software Licence	mfg

© 2020 - 2022 Arnold & Richter Cine Technik GmbH & Co. Betriebs KG. All rights reserved.

Information subject to change without notice. ARRI and all affiliated companies disclaim liability for any injury, damage, direct or indirect loss, consequential or economic loss or any other loss occasioned by the use of, inability to use or reliance on the information contained in this document.

No part of this document may be used for distribution, reproduction, transmission, transcription, storage in a data retrieval system, or translated into any language in any form by any means without the prior written permission of ARRI. If you are downloading files from our web pages for your personal use, make sure to check for updated versions. ARRI cannot take any liability whatsoever for downloaded files, as technical data are subject to change w/o notice.

The products offered by ARRI are approved for use in a number of countries, including Canada, the European Union, Japan, and the USA. Product-specific information on approval can be found in the respective operating instruction manuals. Import and use in countries other than those mentioned in the respective operating instructions may be subject to legal, regulatory, or official requirements and regulations. Before the products are imported into these countries or used in these countries, compliance with the existing legal, regulatory, and administrative requirements and regulations must be ensured.

It is the importer's or the user's responsibility, prior to importation or use, to inform themselves of the applicable legal, regulatory, and administrative requirements and regulations and to ensure compliance with these requirements and regulations, including applying for and obtaining any necessary approvals or registrations.

As far as reasonable and legally possible, ARRI will support requests in relation to such applications by providing technical documents or declarations.

As an importer or user, you confirm that you are familiar with and comply with the legal, regulatory, and administrative requirements and regulations that apply in the countries to which you ship or use the products. You further confirm that you will arrange for any necessary registrations, enrolments, or authorizations that are required in such countries.

You release ARRI from all obligations resulting from any legislative, regulatory, or administrative requirements regarding import or use of the products, except in countries where ARRI has obtained a registration or certification. You agree to indemnify, defend, and hold ARRI harmless from any and all claims, damages, losses, liabilities, costs, and expenses (including reasonable fees of attorneys and other professionals) that may arise out of a demand on ARRI in connection with your obligations mentioned above.

Art-Net™ Designed by and Copyright Artistic Licence Holdings Ltd.

License agreement open source software

This device contains open source software. The associated license texts can be retrieved via the web interface of the device. To access the web interface of the device, please connect the Orbiter to your network and call the following address in the web browser: <http://<IP address of the Orbiter>/licenses/>.

ARRI, the ARRI Logo, ARRIMAX, ARRISUN, EB, **UOS**, L-Series, MAX Technology, M-Series, Orbiter, POCKET-PAR, Quick Lighting Mount, True Blue, SkyPanel, SKYPANEL, T 12 and T 24 are registered trademarks of Arnold & Richter Cine Technik GmbH & Co. Betriebs KG.

Content

Introduction	5
Features	5
Light Field	5
Even Light Field	5
Vibrant Colors, Full Spectrum Lighting	5
Cool Light Beam	5
Properties	5
Quick Lighting Mount Accessory Holder	5
Stirrup	6
Tilt Lock	6
Control	6
Control Panel for Orbiter	6
Control Options	6
Status LED	7
Control Panel for Orbiter	7
Overview	8
Modes	9
CCT	9
HSI	9
X,Y Coordinates	9
RGBACL	9
Gel Selection (GEL)	9
Source Matching	9
Lighting Effects	9
Color Sensor	9
Favorites	10
Ultimate DMX Mode	10
Extended Color Control (ECC)	10
To Use the Modes	11
To set the Lighting Parameters in CCT Mode	11
To set the Color in HSI Mode	11
To set the Color in X,Y Mode	11
To set the Color in RGBACL Mode	11
To set the Lighting Parameters in GEL Modes	11
To set the Light Source Type in Source Matching Mode	12
To Select a Lighting Effect and set the Parameters	12
Extended Color Control (ECC)	15
To use the Extended Color Control via DMX	15
To use the Extended Color Control via the Control Panel	15
Favorites	16
To set the Intensity in all Operating Modes	16
Control Menu „Menu“	17
Light Control	17
Host/Client Mode	17
Operational Mode	17
Dimming Curve	17
Tungsten Mode	18

- High Speed Mode 18
- Color Sensor Mode 18
- Color Sensor Calibration 18
- Calibrated RGBACL Color Space 19
- DMX 20
 - Address 20
 - Mode 20
 - Loss Behavior 20
 - To Select the DMX Modes Specification 21
 - Reduce Channels 21
 - Wireless DMX (CRMX) 21
 - CRMX Link 21
 - Transition Type 22
 - Termination 22
 - To Activate and De-activate RDM Features (RDM State) 22
 - To Activate and De-activate the DMX/RDM Gateway 23
 - Valid Filter 23
- Network Settings 24
- Art-Net & sACN 25
- Flash Drive Functions 26
 - Save and load a favorite list, fixture settings or system log 26
 - To update the firmware of the control panel 26
- Setup the Display Behavior 27
 - Auto Adjust 27
 - Display Backlight 27
 - Display Brightness 27
 - Screen Mode 28
 - Display Orientation 28
 - Zoomed-In View 28
- Read out Fixture Information 29
- Show Fixture Settings 29
- Factory Reset 29
- Software Tools and Firmware 30**
 - ARRI Lighting Service Manager (ALSM) 30
 - Firmware 30
 - Orbiter Web Portal 30
- Structure of the Fixture Menu 31**
- RDM Commands 32**
- Warning and Error Messages 33**
 - Warnings 33
 - Error Messages 35
- Equations for CCT and X,Y Calculations 37**
- Open Source Software License 38**

Introduction

The Orbiter from ARRI is a very bright LED spotlight. The spotlight features a holder for optical accessories and two stirrup holders with quick release fasteners. Similar to the ARRILITE series or the ARRI M-Series, the Orbiter is designed for direct or indirect illumination of objects. The high output allows a large distance of the light source to the object. Like all ARRI LED products, the Orbiter has a fully tunable light source.

The Orbiter produces white or colored light with adjustable color temperature and adjustable green-magenta point. The light spectrum has been optimized for excellent color reproduction and perfect interaction with digital cameras. All models can be controlled via the DMX512-A protocol, LumenRadio CRMX (wireless DMX), RDM, Art-Net protocol, sACN, web portal or the control unit for the Orbiter.

Please follow the safety and installation instructions for the Orbiter. You will find the Safety and installation instructions for free download in the download section of the ARRI website www.arri.com.

NOTICE

Please observe the safety and warning instructions in the „Orbiter Short Instruction“ and the „Safety and Installation Manual“. They are available for free download on the website www.arri.com.

Features

Light Field

Depending on the optical accessories used, the Orbiter offers the same dramatic possibilities as a conventional open-face spotlight or profile spotlight.

Even Light Field

The Orbiter allows homogeneous illumination of the scene via indirect lighting or highlighting of certain objects. It delivers natural results.

Vibrant Colors, Full Spectrum Lighting

True-to-life color rendition is an outstanding feature of the Orbiter. The fully tunable white light of the Orbiter can be adjusted for different skin tones, camera sensors and mixed light environments. Full gamut color mixing enables the rendition of all color shades. The extensive gel library and the favorite list offer a wide range of familiar colors at the user's fingertips.

Cool Light Beam

The Orbiter emits, compared to a conventional lamphead, only few heat at the front, making actors feel comfortable in the light beam.

Properties

Quick Lighting Mount Accessory Holder

The quick lighting mount accessory holder on the front of the fixture (Quick Lighting Mount) holds the optical accessories from the ARRI range of accessories for the Orbiter. The receptacle has an interface port for communication with the optical accessory and a power supply for the optical accessory when required.

Stirrup

Two stirrups are available for the Orbiter. The manual stirrup made of aluminum is stable and lightweight. The P.O. stirrup is made of steel and designed for rod operation.

The two quick-release latches on both sides of the Orbiter allow for quick mounting and removing of the stirrup or other stirrup types from ARRI. The stirrup is not included and must be ordered separately.

Tilt Lock

The high strength tilt locks on each side of the stirrup provide secure locking. It eliminates movement and slippage and ensures that the Orbiter will stay where you put it.

Control

All functions of the Orbiter are controllable through DMX (cabled), CRMX (wireless DMX) or Art-Net. The Orbiter is also fully RDM compatible (via DMX and Art-Net with suitable controllers) and is equipped with an RDM feedback channel for reporting all set parameters including system status.

The Orbiter is equipped with an integrated LumenRadio CRMX receiver for wireless DMX control and RDM data transfer.

Control Panel for Orbiter

For location use a control panel for the Orbiter is available. The control panel supports control of intensity, color temperature, green-magenta point, hue, saturation and much more parameters. The control panel can be stowed and used on the backside of the Orbiter or off the fixture via a connector cable.






Control Options

You can set up or control the Orbiter with the options listed in the table below:

Option	Control	Configuration	Information
Control Panel for Orbiter	Yes	Yes	See user manual „Control Panel“ (Download from www.arri.com)
DMX	Yes	No	See DMX Modes Specification (Download from www.arri.com)
LumenRadio CRMX (wireless DMX)	Yes	No	page 21
RDM	No	Yes	page 32
Art-Net and sACN	Yes	No	page 25
ALSM	No	Yes	page 30
Orbiter Web Portal	No	Yes	page 30
Stellar App	Yes	No	www.arri.com/stellar/

Status LED

The status LED on the back panel of the Orbiter indicates the status of the fixture:

Status LED Behaviour	Beschreibung
	Green / Always on Normal operation
	Green and blue / Always on Normal operation Art-Net, DMX, sACN traffic receiving
	Green and blue / Blinking Normal operation Wireless DMX traffic receiving
	Orange / Blinking slow (2 Hz) Warning, degraded mode
	Red / Always on Error (Fail safe)

Control Panel for Orbiter

A detailed description of the control panel for the Orbiter and the menu structure can be found in the user manual "Control Panel for Orbiter". The manual is available for free download in the download area of the ARRI website www.arri.com.

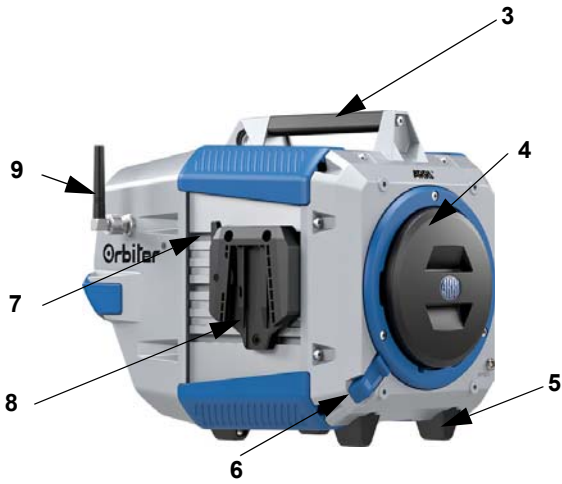
The illustration shows the designations of the operating elements of the control panel as used in the section "To Use the Modes" on page 11.

The control panel is not shipped with the fixture as a standard. It is available as an accessory.

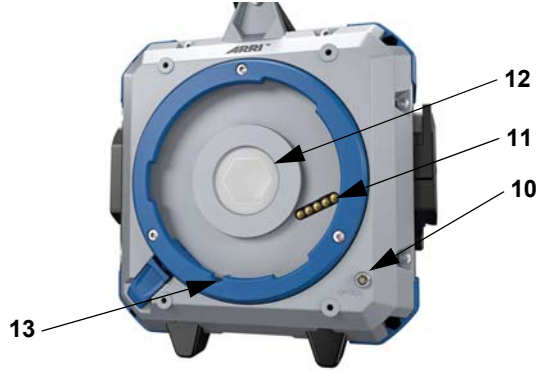


Overview

Orbiter (delivery state)

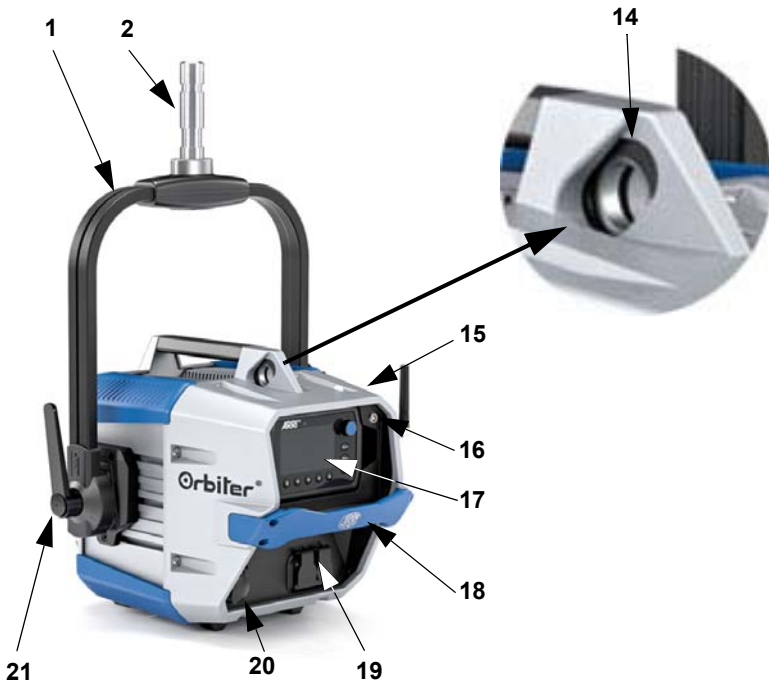


Quick Lighting Mount QLM



Orbiter with manual yoke & control panel*

Safety Loop Attachment



*Yoke & control panel must be ordered separately

- 1 Yoke
- 2 Spigot (junior pin)
- 3 Upper handle
- 4 Protective cap
- 5 Rubber feet
- 6 Locking slider
- 7 Quick release lever
- 8 Yoke bracket
- 9 Antenna (wireless DMX)
- 10 Communication interface (5-pin Lemo)
- 11 Digital optics interface (5-pin)
- 12 Light output with protective glass
- 13 Guide for locking pin
- 14 Safety loop attachment
- 15 Ambient light sensor
- 16 Connector for Control panel extension cable
- 17 Control panel
- 18 Focus handle
- 19 Mains in and out
- 20 Battery connector 48 V - 52 V \equiv
- 21 Tilt lock
- 22 SD card slot
- 23 USB ports
- 24 DMX in
- 25 DMX out
- 26 Ethernet connector (RJ45)
- 27 Ethernet connector (RJ45)
- 28 Status LED
- 29 SYN connector (SMA)
- 30 Reset button

Connector Panel



The Orbiter supports 18 operating modes when controlled via DMX. The 8-bit modes should be used for simple light control (dimmer consoles).

The 16-bit modes are used in combination with a DMX or Art-Net / sACN controller that supports 16 bit resolution. The increased resolution compared to the 8-bit modes provides for stepless dimming and continuous color adjustment.

Below you will find a short description of the supported modes. A detailed overview can be found in the document "Orbiter DMX Modes Specification", which is available for free download on the ARRI website www.arri.com.

CCT

Mode for operation with white light only when few channels are available. Control of intensity, color temperature and adjustment of the green-magenta point.

HSI

Simplified mode for control of hue, saturation and intensity. Use this mode when the control offers only a limited number of channels.

X,Y Coordinates

The X,Y mode defines the color of the light via its X,Y coordinates in the CIE-1931 diagram with 8 or 16 bit resolution. One channel defines the type of color transition.

RGBACL

Simplified mode for the generation of colored light when only few channels are available. It allows control of the overall intensity and the intensities of the colors red, green, blue, amber, cyan and lime. Please note the color space setting (see page 19).

Gel Selection (GEL)

An extensive filter library is available in GEL mode. The color temperature of the virtual white light source can be set to 3,200 K or 5,600 K. The intensity is adjustable.

Source Matching

Choose the appropriate light source for your requirements. Source Matching saves a lot of time. Choose the light source that best matches the illumination of the scene from 46 different light sources.

Lighting Effects

The Orbiter is equipped with an extensive effect generator supporting a lot of different lighting effects. Activate a lighting effect via the control panel, DMX, Art-Net or sACN and adjust the parameters. In no time you can create exactly the effect you need.

Color Sensor

In color sensor mode, the Orbiter measures the color temperature of the ambient light and adjusts the light output to the currently measured ambient light or follows the ambient light continuously.

Favorites

The user can store up to 246 favorites in the Orbiter. A favorite can freely be modified by the user and called up any time. The favorites are stored permanently, they are still available after a power cycle.

Ultimate DMX Mode

The ultimate DMX mode allows the combination of different control modes. You can pre-select two different modes and crossfade between them. This allows you to quickly select, prepare and crossfade the most suitable control modes for your needs.

Extended Color Control (ECC)

The extended color control allows the intuitive modification of a selected color tone. When the Extended Color Control is active, eight parameters are added to each control mode (see “Extended Color Control (ECC)” on page 15). Depending on the selected mode (except Lighting Effects), 8 (8-bit modes) or 16 (16-bit modes) additional DMX channels are assigned per fixture.

NOTE

Depending on the selected mode, the required address space should be reserved in the fixture patch to enable independent control of all fixtures.

To Use the Modes

This section describes the use of the operating modes via the control panel.

A complete overview of the parameters and options of the individual features and the structure of the fixture menu can be found in the Control panel user manual, which is available for free download at www.arri.com.

To set the Lighting Parameters in CCT Mode

Select the parameter to set with a quick button (Intensity, color temperature CCT, green-magenta point G/M). Press „ECC“ to open the extended color control menu (see page 15). Set the value of the selected parameter with the encoder. Press „Mode“ long to save the setting as a favorite.

To set the Color in HSI Mode

Select the parameter to set with a quick button (Intensity, hue, saturation). Press „ECC“ to access the extended color control menu (see page 15). Set the value of the selected parameter with the encoder. Press „Mode“ long to save the setting as a favorite.

To set the Color in X,Y Mode

Select the parameter to set with a quick button (Intensity, x value, y value). Press „ECC“ to access the extended color control menu (see page 15). The value range both of the x any y coordinate is from 0.0000 to 0.8000. Press „Mode“ long to save the setting as a favorite.

To set the Color in RGBACL Mode

Select the parameter to set with a quick button (Intensity, red, green, blue, amber, cyan, lime). Press „ECC“ to access the extended color control menu (see page 15). Press „Calibration“ to select the calibrated or the non-calibrated color space (see page 19). Set the value of the selected parameter with the encoder. Press „Mode“ long to save the setting as a favorite.

To set the Lighting Parameters in GEL Modes

Select the parameter to set with a quick button (Intensity, gel, brand, category, no color [remove all gels], base CCT [color temperature of the virtual white light]). Press „ECC“ to access the extended color control menu (see page 15). Press „Mode“ long to save the setting as a favorite.

The table below shows the available filter brands and categories implemented in the gel library.

Rosco	LEE
Color Correction	Color Correction
CalColor	Color Filters
Storaro Selection	600 Series
Cinelux	Cosmetic Filters
	700 Series

To set the Light Source Type in Source Matching Mode

Select the parameter to set with a quick button (Intensity, category, source). Press „ECC“ to access the extended color control menu (see page 15). Press „Mode“ long to save the setting as a favorite.

Please find a detailed overview of all supported light sources in the document „Orbiter DMX Modes Specification“, which is available for free download on the ARRI website www.arri.com.

To Select a Lighting Effect and set the Parameters

The Orbiter offers an effect library with a wide variety of lighting effects used on set or in a TV studio. The Orbiter replaces many special effect devices with its unique effect library.

You can call up all effects using the control panel or via DMX, Art-Net or sACN. Every effect offers specific parameters. A lighting effect can be stored as a favorite for quick access at a later point.

To select and activate an effect

1. Press the „Mode“ button and select „Effect“ with the encoder.
2. Select the desired effect by turning the encoder. The lighting effect starts immediately, except "Explosion". This effect starts when you press the "Trigger" quick button.
3. Set the parameters, as described below.

To stop an effect

Change the mode to stop an effect.

The Orbiter provides the following effects in DMX modes 22 (8 bit) and 23 (16 bit). Intensity is a parameter for all effects:

Candle

Low flickering of a warm light, slower than fire and less energetic. The light gently fades in CCT and brightness with periods of static behavior in between. It consists of „flutters“ and static periods.

Parameters:

- Intensity
- Speed
- CCT range

Clouds Passing

Slow variations in intensity and CCT that can be offset. The effect is most useful when using many Orbiters that are offset to prevent a simultaneous effect on different fixtures.

Parameters:

- Intensity
- Clouds passing speed
- Offset
- Sync

Club Lights

Random colors that pulse, flash and fade.

Parameters:

- Intensity
- Speed
- Color variety (3, 6, 9, 12, 15, 18, 21 or 24 colors)

Cop Car

Creates an on-board blue, blue/red, blue/white, blue/red/white, blue/orange, blue/red/orange, red/orange, orange or red flashing effect to mimic a police car, an ambulance or a fire brigade. Do not use the effect in public areas without permission.

Parameters:

- Intensity
- Color combination
- Flash pattern

Explosion

Creates a bright flash with fast increasing and slow decreasing intensity. Press the quick button „Trigger“ to trigger an explosion.

Parameters:

- Intensity
- Trigger
- Decay (Afterglow)
- Change color

Fire

Creates a flickering fire effect with randomly changing color temperature.

Parameters:

- Intensity
- Speed
- CCT range

Fireworks

Bright flashes of color and have a quick start and fade to zero intensity.

Parameters:

- Intensity
- Speed
- Colors

Fluorescent Flicker

Fluorescent color with static periods and then periods of the light flickering on and off.

Parameters:

- Intensity
- Speed
- Frequency
- Change color

Lightning

Creates an on-board flashing lightning effect. Intensity, speed and frequency of flashing can be controlled.

Parameters:

- Intensity
- Speed
- Frequency
- Sync
- Change color

Paparazzi

Effect that mimics a flash bulb or modern camera flash.

Parameters:

- Intensity
- Speed
- Flash type
- Change color

Party Effect

The Party effect calls up the color spectrum or changes the color saturation from full to less and vice versa in an endless loop.

Parameters:

- Intensity
- Speed
- Saturation

If you do not need the effect for shooting, you will need it for the party when the movie is done!

Pulsing


A pulsing or throbbing effect where the color and speed can be set.

Parameters:

- Intensity
- Frequency
- Duration
- Change color

Strobe

Generates a white or colored strobe effect with adjustable speed.

 **DANGER**

DANGER! Risk of injury or death through epileptic seizure.

Do not use the effect near stairways, in corridors or near public exits.

Provide advance notice that strobe lighting is in use. Display advisory notices on the set, at the point of ticket sales, on tickets if possible, in the program, and at the entrance(s) to the venue or studio.

Avoid extended periods of continuous flashing, particularly at frequencies of 10 to 20 flashes per second. At flash rates below 5 flashes per second, it is estimated that only 5% of flicker-sensitive persons will be at risk of seizure

Make sure that personnel at the venue are trained in the care of a person who is having an epileptic seizure and able to provide care if necessary.

If strobes are in use and a person has a seizure, switch the strobes off immediately.

Mount strobes as high above head height as practicable.

Parameters:

- Intensity
- Speed
- Color

Television

Creates an on-board TV effect. Cool CCT that changes intensity every few seconds.

Parameters:

- Intensity
- Speed
- CCT range

Welding

Quick bright flashes with a fast decay.

Parameters:

- Intensity
- Speed
- Minimum level
- Change color

When you change a parameter of the active effect via DMX or the control panel, the internal effect generator recalculates the values immediately. As a result, the effect may be stepped, stuttering or uneven for a short time. Do not change the parameters while the effect is active if it is important that the effect runs smoothly.

Extended Color Control (ECC)

The extended color control (ECC) allows the modification of the selected color in an intuitive way. It can be used both via the control panel or DMX. It is available in all modes except „Effect“ and „Favorites“.

To use the Extended Color Control via DMX

The Orbiter applies nine additional parameters to every DMX mode when the extended color control is activated. Dependent on the selected mode the Orbiter adds nine (8-bit modes) or 16 (16-bit modes) DMX channels to the DMX mode. Please find more information in the „Orbiter DMX Modes Specification“ which is available for free download on the ARRI web site www.arri.com.

To use the Extended Color Control via the Control Panel

Get access to the extended color control via the ECC quick button in a menu.

The picture below shows the color control screen.



The eight stylized rotary controls with neutral position in the middle represent the parameters of the extended color control. The crossbars show the current value of the parameter. The active parameter is marked by a light blue frame around its rotary control.

Double-clicking the encoder sets the selected parameter to the neutral position, triple-clicking sets all parameters of the extended color control to the neutral position.

When changing the mode, the current values of the parameters are stored and will be recalled the next time this mode is called up. The parameters are retained when the Orbiter is switched off.

When extended color control is active:

- The mode symbol in the display is followed by the symbol for extended color control in the main menu,
- the parameters are saved with a favorite. Favorites with parameters of the extended color control are marked with an asterisk,
- an active favorite is left when a parameter is changed,
- the calibrated RGBACL color space is activated when extended color control via DMX is active,
- the direct RGBACL color space cannot be used,
- the parameters are taken into account during crossfade,
- the parameters are not considered when an effect is activated.

Favorites

The user can store up to 246 favorites in the Orbiter. A favorite can freely be modified by the user and called up any time. The favorites are stored permanently, they are still available after a power cycle.

The favorites are erased when performing a factory reset.

To store a favorite, press the Mode button for 2 seconds in a color mode screen to add the active color to your favorites.

The favorite will be stored in the database of favorites. Each favorite includes information about:

Settings:

- Tungsten mode
- High speed mode
- Effect incl. its parameters
- Calibrated color space
- user calibrated RGBACL white point

Light data

- Color mode
- Dimmer value
- CCT
- GN
- Hue
- Saturation
- Gel filter mode data
- Light source matching
- RGBACL mode values
- Extended color control values

Favorite number

Creation date

Favorites are shown in order of their creation date.

When loading a favorite it overwrites all current settings with settings contained in the favorite. When at least one setting or value is modified after favorite load, the favorite is exited. When you want to keep the modified setting, you have to store it as a new favorite.

To set the Intensity in all Operating Modes

The encoder sets the intensity in all modes as the default setting. The current value is shown in large letters on the display when changed. The selector reacts dynamically: fast turning changes the intensity in large steps, slow turning allows very precise adjustment of the intensity. The quick buttons allow the intensity to be changed quickly at fixed intervals (+/- 1%, +/- 10%) or to absolute values (0%, 25%, 50%, 75%, 100%). „Done" leaves the intensity menu.

Control Menu „Menu“

The following section gives detailed information of the global settings of the fixture and the light.

Light Control

Host/Client Mode

When Host/Client mode is active, the fixture follows the control commands of the host fixture. For this purpose the fixtures must be connected to each other via DMX line.

By default the host/client mode is not active.

Activating and deactivating the Host/Client Mode

1. Open the menu with MENU.
2. Select the "Light Control" menu with the encoder. Push the encoder to open the menu.
3. The Host/Client mode is the first menu item of the "Light Control" menu and is therefore already selected. Push the encoder to open the menu.
4. Select the desired operating mode with a quick button or with the encoder (turn and push).
5. The menu closes automatically after a few seconds.

Operational Mode

The operational mode determines whether the Orbiter produces light with high color quality (High Color Rendering, default setting) or high brightness (High Output), or is particularly quiet in noise-critical situations (Low Noise).

To set the operational mode

1. Push MENU button to open the fixture menu.
2. Choose the menu „Light Control“ with the encoder. Push the encoder to open the menu.
3. Choose the menu „Operational Mode“ with the encoder. Push the encoder to open the menu.
4. Select the operational mode by pushing a quick button or with the encoder (turn and push).
5. The menu closes automatically after some seconds.

Dimming Curve

The Orbiter supports four dimming curves. The dimming curves are global: They affect both the intensity control via the control panel or DMX, WDMX, Art-Net and sACN.

- **Linear:** The intensity changes proportional to the encoder or the channel value.
- **Exponential:** This is the default setting. The resolution is high at lower intensity levels and low at higher intensity levels. Use this dimming curve when you need a high resolution at low intensity levels. This is the default setting.
- **Logarithmic:** The resolution is low at lower intensity levels and high at higher intensity levels. Use this dimming curve when you need a high resolution at high intensity levels.
- **„S“ curve:** The resolution is both high at lower and higher intensity levels and low at intensity levels in between. Use this dimming curve, when you need a high resolution at low and high intensity levels.

To set the dimming curve

1. Push MENU button to open the fixture menu.
2. Choose the menu „Light Control“ with the encoder. Push the encoder to open the menu.
3. Choose the menu „Dimming Curve“ with the encoder. Push the encoder to open the menu.
4. Select the dimming curve by pushing a quick button or with the encoder (turn and push).
5. The menu closes automatically after some seconds.

NOTICE

The dynamic of an effect using the intensity is very low, when you choose a basic intensity value in a flat area of the dimming curve. Choose a different effect or select another dimming curve to create a more dynamic effect.

Tungsten Mode

The Tungsten Mode mimics the dimming curve and strike on-and-off effect of a traditional tungsten lamp. The CCT warms as the light is dimmed and when the intensity drops to zero quickly there is a short after-glow of warm light. This mode is perfect for mixing the Orbiter with tungsten sources or for producing a familiar effect. The default setting is Off.

To activate and deactivate the tungsten mode

1. Push MENU button to open the fixture menu.
2. Choose the menu „Light Control“ with the encoder. Push the encoder to open the menu.
3. Choose the menu „Tungsten Mode“ with the encoder. Push the encoder to open the menu.
4. Activate or deactivate the tungsten mode by pushing a quick button or with the encoder (turn and push).
5. The menu closes automatically after some seconds.

High Speed Mode

The High Speed mode generates flicker-free light for High Speed shootings. The High Speed Mode has been tested up to 25.000 fps and down to 2° shutter angle with no flicker or roll bars. The default setting is Off.

NOTICE

Effects are deactivated in High Speed mode. When you try to call up an effect in High Speed mode, the warning „Not Possible: High Speed Active“ is displayed. When you try to activate the High Speed mode with an effect active, the warning „Not Possible: Effect Active“ is displayed. De-activate the effect or the High Speed mode to change the control mode.

To activate and deactivate the high speed mode

1. Push MENU button to open the fixture menu.
2. Choose the menu „Light Control“ with the encoder. Push the encoder to open the menu.
3. Choose the menu „High Speed Mode“ with the encoder. Push the encoder to open the menu.
4. Activate or deactivate the high speed mode by pushing a quick button or with the encoder (turn and push).
5. The menu closes automatically after some seconds.

Color Sensor Mode

In color sensor mode, the Orbiter adopts the color temperature of the current ambient light (Momentary) or follows the color temperature of ambient light (Continuous, default setting).

To set the color sensor mode

1. Push MENU button to open the fixture menu.
2. Choose the menu „Light Control“ with the encoder. Push the encoder to open the menu.
3. Choose the menu „Color Sensor Mode“ with the encoder. Push the encoder to open the menu.
4. Select the color sensor mode by pushing a quick button or with the encoder (turn and push).
5. The menu closes automatically after some seconds.

Color Sensor Calibration

The color sensor can be calibrated for different light sources to perfectly match the light produced by the headlight to the ambient light. The default setting of the color sensor calibration is "Tungsten".

To select the color sensor calibration

1. Open the menu with MENU.
2. Choose the menu "Light Control" with the encoder. Push the encoder to open the menu.
3. Choose the menu "Color Sensor Calibration" with the encoder. Push the encoder to open the menu.
4. Select the desired light type with a quick button or with the encoder (turn and push).
5. The menu closes automatically after a few seconds.

Calibrated RGBACL Color Space

When using RGBACL mode, the Orbiter by default does not generate colors in a calibrated color space (direct). The color is generated with optimized brightness within the specified tolerances. You can activate the calibrated color space Kodak Pro Photo Color Gamut / ESTA standard E1.54 to force the Orbiter to generate a calibrated color. The calibrated color space is a global setting and is active in both on-board controls and DMX.

To activate and deactivate the calibrated RGBACL color space

1. Push MENU button to open the fixture menu.
2. Choose the menu „Light Control“ with the encoder. Push the encoder to open the menu.
3. Choose the menu „RGBACL Calibrated Mode“ with the encoder. Push the encoder to open the menu.
4. Activate or deactivate the RGBACL calibrated mode by pushing a quick button or with the encoder (turn and push).
5. The menu closes automatically after some seconds.

DMX

The Orbiter can be controlled via DMX or Art-Net. When receiving different control data the Orbiter prioritizes the received data as shown in the table below.

Control Protocol	Priority
DMX	DMX commands override sACN and Art-Net commands
sACN	sACN commands override Art-Net commands, but are overwritten by DMX commands.
Art-Net	Art-Net commands are overridden by sACN and DMX commands

Address

When you control the Orbiter using DMX in a DMX data network, you must assign a DMX address to the fixture.

To assign a DMX address

1. Push MENU button to open the fixture menu.
2. Choose the menu „DMX“ with the encoder. Push the encoder to open the menu.
3. Choose the menu „Address“ with the encoder. Push the encoder to open the menu.
4. Select the DMX address by pushing a quick button or with the encoder (turn and push).
5. The menu closes automatically after some seconds.

Mode

NOTICE

The Orbiter offers different DMX modes. Please find a detailed overview of all DMX modes in the document „Orbiter DMX Modes Specification“ which is available for free download on the ARRI website www.arri.com.

To set the DMX mode

1. Push MENU button to open the fixture menu.
2. Choose the menu „DMX“ with the encoder. Push the encoder to open the menu.
3. Choose the menu „Mode“ with the encoder. Push the encoder to open the menu.
4. Select the DMX mode with the encoder (turn and push).
5. The menu closes automatically after some seconds.

Loss Behavior

You can set the behavior of the fixture when the control signal is lost. The table below shows the available options:

Option	Description
Hold Last Command (default setting)	The last received DMX values are used until the fixture is switched off or valid DMX data is received again.
Black Out	The fixtures douses to 0% intensity immediately.
Hold 2 Min. Fade Out	The last received DMX values are used for 2 minutes. After 2 minutes the fixture douses to 0% intensity. When valid DMX data is received after less than 2 minutes, these data will be used.

To set the DMX-Signal-Loss Behavior

1. Push MENU button to open the fixture menu.
2. Choose the menu „DMX“ with the encoder. Push the encoder to open the menu.
3. Choose the menu „Loss Behavior“ with the encoder. Push the encoder to open the menu.
4. Select the DMX loss behavior by pushing a quick button or with the encoder (turn and push).
5. The menu closes automatically after some seconds.

To Select the DMX Modes Specification

The Orbiter offers different DMX modes. When a mode is modified or added, a new version of the DMX mode specification will be released. To ensure compatibility with existing DMX networks, you can set which version of the DMX mode specification the fixture should use.

To set the DMX mode specification

1. Push MENU button to open the fixture menu.
2. Choose the menu „DMX“ with the encoder. Push the encoder to open the menu.
3. Choose the menu „Mode Specification“ with the encoder. Push the encoder to open the menu.
4. Select the DMX mode specification by pushing a quick button or with the encoder (turn and push).
5. The menu closes automatically after some seconds.

Reduce Channels

The Orbiter uses many DMX channels to ensure optimal fixture control and to support all functions in the best possible way. If you do not need certain functions (e.g. extended color control) for your application or your control system does not provide enough DMX channels, you can disable these functions and reduce the number of DMX channels accordingly using the "Reduce Channels" function. The functions are still available via the control panel. The default setting is Off.

To reduce channels

1. Push MENU button to open the fixture menu.
2. Choose the menu „DMX“ with the encoder. Push the encoder to open the menu.
3. Choose the menu „Reduce Channels“ with the encoder. Push the encoder to open the menu.
4. Select the setting by pushing a quick button or with the encoder (turn and push).
5. The menu closes automatically after some seconds.

Wireless DMX (CRMX)

The Orbiter is equipped with a 2,4 GHz, 2dBi antenna and a wireless DMX receiver supporting the Lumen-Radio CRMX protocol.

If there is DMX traffic received via a wired interface (DMX-512A, ArtNet or sACN) and wireless DMX is activated (CRMX State On, default setting), the Orbiter can be linked to a wireless DMX transmitter via an RDM discovery command. Once linked successfully, the Orbiter processes wireless DMX data and respond to RDM requests only via the wireless link.

The Status LED on the connector panel fades from blue to green followed by a 2 second fade from green to blue as soon as CRMX (WDMX) is active AND CRMX data is received and processed by the Orbiter.

If the CRMX State is set to OFF, no wireless DMX and no wireless RDM traffic will be processed.

CRMX Link

CRMX Link unlinks or links the fixture from or couples the fixture to a CRMX transmitter. The wireless DMX (CRMX) must be enabled (CRMX State On) to use this function.

To Link an Orbiter with a wireless DMX transmitter

1. Push MENU button to open the fixture menu.
2. Choose the menu „DMX“ with the encoder. Push the encoder to open the menu.
3. Choose the menu „CRMX State“ with the encoder. Push the encoder to open the menu.
4. Select „On“ by pushing a quick button or with the encoder (turn and push).
5. The menu closes automatically after some seconds.

To Unlink an Orbiter from a wireless DMX transmitter

1. Push MENU button to open the fixture menu.
2. Choose the menu „DMX“ with the encoder. Push the encoder to open the menu.
3. Choose the menu „CRMX State“ with the encoder. Push the encoder to open the menu.
4. Select „Off“ by pushing a quick button or with the encoder (turn and push).
5. The menu closes automatically after some seconds.

NOTICE

As soon as DMX or RDM traffic is detected via the other interfaces, any wireless DMX or RDM data will be ignored and the Orbiter processes the wired DMX/RDM traffic.

Transition Type

When fading from white light to colored light or vice versa and when fading between two colors, you can specify the fade type. The table below shows the available fade types.

To set the fade type

1. Push MENU button to open the fixture menu.
2. Choose the menu „DMX“ with the encoder. Push the encoder to open the menu.
3. Choose the menu „Transition Type“ with the encoder. Push the encoder to open the menu.
4. Select the transition type by pushing a quick button or with the encoder (turn and push).
5. The menu closes automatically after some seconds.

Fade Type	Description
Direct (default setting)	„Direct“ fades linear on the shortest distance
Through Black	„Through Black“ fades from color 1 to black to color 2.
Through White	„Through White“ fades from color 1 to white to color 2.
Over White Point	„Over White Point“ fades from color 1 to color 2 above the CIE white point.
Under White Point	„Under White Point“ fades from color 1 to color 2 below the CIE white point.

Termination

A DMX data line must be terminated with a termination resistor to prevent the data signal from being reflected at the open end of the line. The Orbiter can terminate the DMX data line internally, an additional terminating resistor is no longer required. The default setting is Off.

NOTICE

A DMX line may only be terminated at the physical end, after the last device of the data line. To avoid errors due to DMX data loss, use this function only if the Orbiter is the last physical device of the data line. DMX data lines connecting devices in host/client mode without external DMX control should be terminated at both ends.

To activate and deactivate the internal termination resistor

1. Push MENU button to open the fixture menu.
2. Choose the menu „DMX“ with the encoder. Push the encoder to open the menu.
3. Choose the menu „Termination“ with the encoder. Push the encoder to open the menu.
4. Select the desired option by pushing a quick button or with the encoder (turn and push).
5. The menu closes automatically after some seconds.

To Activate and De-activate RDM Features (RDM State)

The RDM features of the Orbiter can be activated or de-activated. The default setting is On.

NOTICE

When controlling the Orbiter using the ARRI Stellar App, the RDM features must be activated to enable communication via RDM between Stellar and the fixture.

To activate and de-activate the RDM features

1. Push MENU button to open the fixture menu.
2. Choose the menu „DMX“ with the encoder. Push the encoder to open the menu.
3. Choose the menu „RDM State“ with the encoder. Push the encoder to open the menu.
4. Select the desired option by pushing a quick button or with the encoder (turn and push).
5. The menu closes automatically after some seconds.

To Activate and De-activate the DMX/RDM Gateway

With enabled DMX/RDM gateway the Orbiter makes all 512 channels of the used universe available at its 5-pin DMX connectors. The default setting is On.

To activate and de-activate the DMX/RDM features

1. Push MENU button to open the fixture menu.
2. Choose the menu „DMX“ with the encoder. Push the encoder to open the menu.
3. Choose the menu „DMX/RDM Gateway“ with the encoder. Push the encoder to open the menu.
4. Select the desired option by pushing a quick button or with the encoder (turn and push).
5. The menu closes automatically after some seconds.

Valid Filter

In the default setting, the Orbiter checks the integrity of the received control data stream. If certain parameters of the data stream change (e.g. number of received DMX channels), the fixture will display a warning and check the data stream again before it recognizes the data stream as a valid control signal. If the length of the data stream changes frequently, the check may lead to unexpected behavior of the fixture. Therefore the function can be deactivated, the Orbiter then accepts all received data without further check.

To activate and deactivate the filter

1. Push MENU button to open the fixture menu.
2. Choose the menu „DMX“ with the encoder. Push the encoder to open the menu.
3. Choose the menu „Valid Filter“ with the encoder. Push the encoder to open the menu.
4. Select the desired option by pushing a quick button or with the encoder (turn and push).
5. The menu closes automatically after some seconds.

Network Settings

The menu „Network Settings“ contains various parameters and functions for setting up the Orbiter in a network.

Connection

Shows whether the Orbiter is connected to a network.

IP-Address

If the Orbiter is connected to a network, it shows its IP address in the display.

Network Mode

Used to set the IP mode. In DHCP mode, the IP address, gateway, DNS1 and DNS2 are automatically assigned to the Orbiter by the network. You should use this mode if possible.

The "Art-Net 2.x.x.x" and "Art-Net 10.x.x.x" parameters are used to set up the Orbiter in an Art-Net network. "Manual" allows you to assign a fixed IP address.

Subnet Mask

Shows the network mask.

Gateway Address

Shows the gateway address.

DNS1 / DNS2

DNS addresses of the fixture.

Timeserver

Timeserver address of the fixture.

Logserver

Logserver address of the fixture.

Bonjour State

The Orbiter can be found automatically in a network using the "Bonjour" application. You can activate or deactivate Bonjour in the "Bonjour State" menu. You can also set the status via RDM or the Web Portal.

If Bonjour is disabled, the fixture cannot be automatically detected by the ARRI Lighting Service Manager (ALSM).

To activate and deactivate the Bonjour function

1. Push MENU button to open the fixture menu.
2. Choose the menu „Network Settings“ with the encoder. Push the encoder to open the menu.
3. Choose the menu „Bonjour State“ with the encoder. Push the encoder to open the menu.
4. Select the desired option by pushing a quick button or with the encoder (turn and push).
5. The menu closes automatically after some seconds.

MAC Address

Shows the MAC address of the fixture.

Art-Net & sACN

The Orbiter supports Art-Net 4.0. Art-Net is a network protocol to control devices. The Orbiter supports the sACN protocol (ANSI E1.31). It acts as a responder.

Here is a brief explanation of some basic terms being used by Art-Net. For more detailed information, please visit the web site of the Art-Net developers: www.artisticlicence.com.

The Orbiter is capable of processing Art-Net for up to ten universes with one sender and three universes with two senders.

Generals rules of thumb:

- Maximum of 4 universes of Art-Net Art-DMX unless you really have to.
- All universes of sACN.

Please find more information about sACN in the standard ANSI E1.31. Please observe all information given there to set up a proper network.

The menus „Network Settings“ and „Art-Net & sACN“ give access to all parameters you need to use Art-Net and sACN in a proper way.

Art-Net/sACN State

Sets the behavior of the fixture when a network signal is received. The fixture can automatically detect the network signal (Automatic), accept only Art-Net (Art-Net Only) or only sACN (sACN Only) or accept no network data (Off).

To select the accepted network protocols

1. Push MENU button to open the fixture menu.
2. Choose the menu „Art-Net & sACN“ with the encoder. Push the encoder to open the menu.
3. Choose the menu „Art-Net/sACN State“ with the encoder. Push the encoder to open the menu.
4. Select the desired option by pushing a quick button or with the encoder (turn and push).
5. The menu closes automatically after some seconds.

Art-Net Universe

Selects the Art-Net universe.

Art-Net Net Sub Uni

Shows the sub-universe used.

Merge Mode

The Art-Net protocol supports the use of multiple transmitters or nodes transmitting Art-DMX in the same universe. Merging is limited to two sources, other sources are ignored. The default setting is HTP (Highest Takes Precedence).

sACN Universe

Selects the sACN Universe.

Flash Drive Functions

The Orbiter is equipped with two USB A ports (load capacity 1500 mA and 500 mA) and one USB C port. The USB A ports support the features described below. The Orbiter accepts FAT32 formatted USB 1.0 / 2.0 flash drives or SD / SDHC Cards.

The USB C port can be used for service purpose.

Save and load a favorite list, fixture settings or system log

The list of favorites, fixture settings and system logs available in the fixture can be saved on a USB storage medium. Favorite lists and fixture settings can be loaded from another fixture. You can update the firmware.

To save and load a favorite list, fixture settings or system log

1. Connect an USB storage medium to an USB-A port or an SD card to the SD slot of the Orbiter.
2. Push the MENU button to open the fixture menu.
3. Choose the menu „Flash Drive Functions“ with the encoder. Push the encoder to open the menu.
4. Select the desired option by pushing a quick button or with the encoder (turn and push).
5. The menu closes automatically after some seconds.

To update the firmware

1. Copy the Orbiter Update file into the root directory of a USB storage medium.
2. Push the MENU button to open the fixture menu.
3. Choose the menu „Flash Drive Functions“ with the encoder. Push the encoder to open the menu.
4. Choose the option „Update Firmware“ with the encoder. Push the encoder to open the menu.
5. Wait until the process is finished and the Orbiter restarts.
6. Remove the USB storage medium.

To update the firmware of the control panel

The firmware of the control panel is automatically updated by the Orbiter when the control panel is connected to the Orbiter and the firmware versions of the Orbiter and the control panel are different.

NOTICE

Disconnect all DMX cables from the fixture before using an USB storage medium or an SD card. The data transfer between the fixture and the USB storage medium or the SD card might be disturbed due to interferences.

Do not remove the USB storage medium or SD card stick during an update or data transfer. The file system might be corrupted. You might need to perform a recovery update to return the fixture to a functional state.

Setup the Display Behavior

You can set the intensity of the background illumination, the contrast, the behavior of the background illumination and the orientation of the display content.

Auto Adjust

When this function is active (default setting), the backlight of the control unit automatically adapts to the ambient brightness. If the function is not active, the brightness value of the "Display Brightness" setting is used.

To activate and deactivate the Auto Adjust function

1. Push MENU button to open the fixture menu.
2. Choose the menu „Display Setup“ with the encoder. Push the encoder to open the menu.
3. Choose the menu „Auto Adjust“ with the encoder. Push the encoder to open the menu.
4. Select the desired option by pushing a quick button or with the encoder (turn and push).
5. The menu closes automatically after some seconds.

Display Backlight

With the setting "Always On" (default setting), the backlight of the control panel remains on. "10 sec off" switches the lighting off 10 seconds after the last keypress.

To set the backlight behaviour:

1. Push MENU button to open the fixture menu.
2. Choose the menu „Display Setup“ with the encoder. Push the encoder to open the menu.
3. Choose the menu „Display Backlight“ with the encoder. Push the encoder to open the menu.
4. Select the desired option by pushing a quick button or with the encoder (turn and push).
5. The menu closes automatically after some seconds.

Display Brightness

This function adjusts the brightness of the control panel backlight. Select a value between 0% (dark) and 100% (bright, default).

To set the display brightness:

1. Push MENU button to open the fixture menu.
2. Choose the menu „Display Setup“ with the encoder. Push the encoder to open the menu.
3. Choose the menu „Display Brightness“ with the encoder. Push the encoder to open the menu.
4. Select the desired option by pushing a quick button or with the encoder (turn and push).
5. The menu closes automatically after some seconds.

Screen Mode

This function switches between white text on dark background (dark, default setting), dark text on light background (light) or automatic switching, depending on the ambient brightness.

To set the screen mode:

1. Push MENU button to open the fixture menu.
2. Choose the menu „Display Setup“ with the encoder. Push the encoder to open the menu.
3. Choose the menu „Screen Mode“ with the encoder. Push the encoder to open the menu.
4. Select the desired option by pushing a quick button or with the encoder (turn and push).
5. The menu closes automatically after some seconds.

Display Orientation

This function sets the orientation of the display content. You can choose between „Automatic“ (display orientation depending on the control orientation, default setting), „Normal“ (normal display when the control is upright, i.e. the encoder is in the upper right corner) or „Upside Down“ (display content rotated 180°).

To set the display orientation

1. Push MENU button to open the fixture menu.
2. Choose the menu „Display Setup“ with the encoder. Push the encoder to open the menu.
3. Choose the menu „Display Orientation“ with the encoder. Push the encoder to open the menu.
4. Select the desired option by pushing a quick button or with the encoder (turn and push).
5. The menu closes automatically after some seconds.

Zoomed-In View

This function activates (Enable, default setting) or deactivates (Disable) the display of enlarged views of certain functions. An example is the enlarged display of the brightness value when adjusting the brightness. When this function is active, the brightness value is shown in a large size on a separate screen. When it is deactivated, the separate screen will not be shown.

To set the zoomed-in view:

1. Push MENU button to open the fixture menu.
2. Choose the menu „Display Setup“ with the encoder. Push the encoder to open the menu.
3. Choose the menu „Zoomed-In View“ with the encoder. Push the encoder to open the menu.
4. Select the desired option by pushing a quick button or with the encoder (turn and push).
5. The menu closes automatically after some seconds.

Read out Fixture Information

1. Push MENU button to open the fixture menu.
2. Choose the menu „Fixture Info“ with the encoder. Push the encoder to open the menu.
3. The Orbiter shows several fixture settings:
 - Status: Fixture status
 - Data: Shows if and which data is received
 - Power: mains voltage, voltage of the battery pack
 - Errors: Error list, if available
 - Light Engine Temperature: Temperature of the Light Engine
 - Fixture Orientation: Orientation of the fixture
 - Light Engine Hours: Operating hours of the Light Engine
 - System Hours: Operating hours of the fixture
 - Fixture Firmware Version: Firmware version of the fixture
 - Fixture Serial Number: Serial number of the fixture
 - Control Panel Serial Number: Serial number of the control panel
 - Optics: Type of optics detected by Quick Lighting Mount.
4. Push MENU button to close the fixture settings menu.

Show Fixture Settings

1. Push MENU button to open the fixture menu.
2. Choose the menu „Fixture Settings“ with the encoder. Push the encoder to open the menu.
3. Select the desired language with the encoder (turn and push).
4. Push MENU button to close the fixture settings menu.

Factory Reset

1. Push MENU button to open the fixture menu.
2. Choose „Factory Reset“ with the encoder. Push the encoder to perform a factory reset.
3. Confirm your selection by selecting „Reset“ or cancel the selection by selecting „Cancel“.
4. The Orbiter reboots after successful factory reset.

Software Tools and Firmware

ARRI Lighting Service Manager (ALSM)

Please find information about the features and the functionality of the ARRI Lighting Service Manager in the user manual for the ARRI Lighting Service Manager. You can download it from the ARRI web site www.ari.com/lighting/alsm free of charge.

Firmware

Please find the latest firmware in the download area of the LiOS web site www.ari.com/lios for free download.

NOTICE

Check regularly on the ARRI Orbiter website if a new firmware version is available for the Orbiter. For best performance we strongly recommend to use the luminaire with the latest firmware available.

Orbiter Web Portal

The Orbiter provides a web page accessible via http, when connected to a network. Type in the IP address of the Orbiter in your web browser to open the web portal and change the settings listed below. The web portal can also be found by using a Bonjour service to discover the fixture and open the web portal without needing to know the IP address.

NOTICE

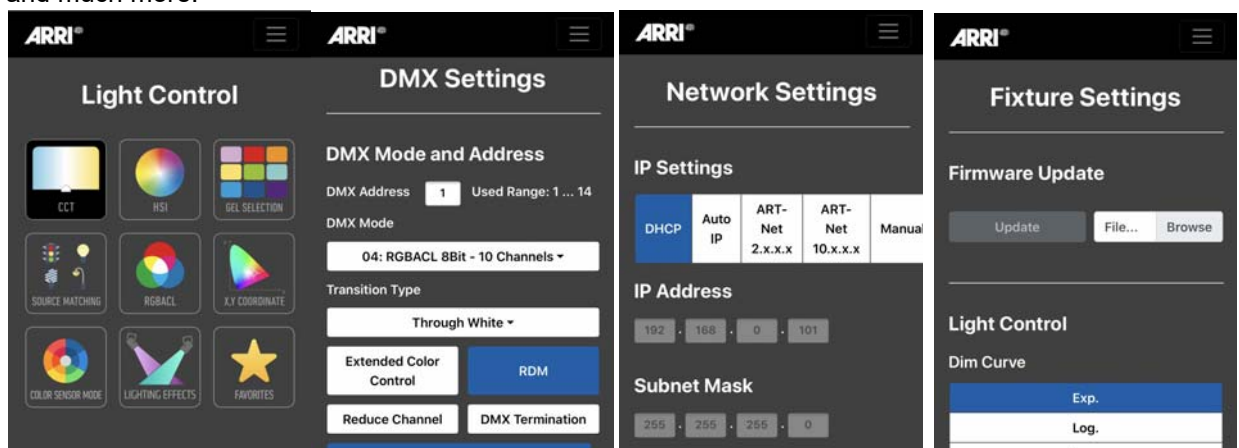
Always use the latest version of your web browser. Earlier versions might not be compatible to the web portal of the Orbiter.

Avoid access to the web portal during shots or a show. The data exchange with the web portal can lead to delayed reaction time to changes in the control signal or internal calculation routines and to unexpected reactions of the fixture.

The web portal features:

- Select the operating mode
- Read and modify DMX settings
- Read and modify network settings
- Read and modify fixture settings

and much more.



Structure of the Fixture Menu

Please find a detailed overview and explanation of the structure of the fixture menu in the control panel user manual which is available for free download on the ARRI web site www.arri.com.

Main Menu	Sub Menu
MODE	CCT Set intensity, color temperature and green-magenta point.
	HSI Set intensity, hue and saturation.
	X,Y Coordinates Set intensity and x,y coordinates of the light color.
	RGBACL Set intensity and RGBACL portions of the light.
	Gel Selection Set intensity and color filter from the gel library.
	Source Matching Set intensity and type of light source.
	Effect Choose lighting effect.
	Color Sensor Set intensity and behaviour of the color sensor.
	Favorites Choose a favorite.
MENU	Light Control Several settings regarding the emitted light.
	DMX DMX settings
	Network Settings Network settings
	Art-Net & sACN Network protocol settings
	Flash Drive Functions
	Display Setup Setup of display parameters
	Fixture Info Displays information about fixture parameters.
	Fixture Settings Displays fixture settings
	Factory Reset Performs a factory reset.
USER	User Button 1 - 10

RDM Commands

Please find a detailed overview and explanation of the available RDM commands in the RDM implementation specification which is available for free download on the ARRI web site www.arri.com.

Warning and Error Messages

The table below shows all warning and error messages of the Orbiter. Errors are divided into categories. Dependent from its category, errors can be fixed as shown below:

Error Category	Description and Remedy
Auto	Can be fixed by the user. The error message disappears after fixing the problem.
Reboot	Can be fixed by power cycling the fixture.
User	The user has to fix the error by change of intensity or dialog.
Service	The user must contact the ARRI service.

All errors and warning are logged. Some errors and warning are not shown as **message** on the control panel but via the status **LED**.

Fixture Behavior	Description
Log	Warning / Error is logged.
CP/LED	Warning / Error is displayed on the control panel and via the status LED.
Light Output	Light output is enabled after or during warning / error state.Orbiter
Error reset	See table above.

Warnings

Warnings activate the degraded mode (no light output), until the reason for the warning is fixed.

Code	Warning	Log	CP/LED	Light Output	Cat.	Description / Remedy
E.002	Config Files Missing. Default values are applied	X	X	X	Auto	Perform a reset by pressing the Reset button (5 s). If warning persists, contact a certified service partner or ARRI service.
E.008	Light Engine Temperature high	X	X	X	Auto	Reduce intensity level to avoid misfunction or failure due to overtemperature. Avoid mounting or setup conditions that might block the air-flow.
E.009	LED Driver Temperature high	X	X	X	Auto	Reduce intensity level to avoid misfunction or failure due to overtemperature. Avoid mounting or setup conditions that might block the air-flow.
E.010	Mainboard Temperature high	X	X	X	Auto	Reduce intensity level to avoid misfunction or failure due to overtemperature. Avoid mounting or setup conditions that might block the air-flow.
E.011	Power Supply Temperature high	X	X	X	Auto	Reduce intensity level to avoid misfunction or failure due to overtemperature. Avoid mounting or setup conditions that might block the air-flow
E.012	NTC Temperature sensor deviation	X	X	X	Auto	Reduce intensity level to avoid misfunction or failure due to overtemperature. If problems persists, contact a certified service partner or ARRI service.
E.013	Fan speed Issue	X	X	X	Auto	Turn off the fixture and try to clean the fan e.g. with a soft brush. If problems persists, contact a certified service partner or ARRI service.

Code	Warning	Log	CP/ LED	Light Output	Cat.	Description / Remedy
E.014	DC input voltage low	X	X	X	Auto	DC input voltage too low. Increase voltage or switch to mains power supply.
E.015	Flash drive power supply not detected	X	-/X	X	Service	Restart fixture or reset by pressing the Reset button (5 s). If warning persists, contact a certified service partner or ARRI service.
E.016	Flash drive not found	X	X	X	Auto	Remove the USB stick, wait some seconds and reconnect it. If the problem persists, format to FAT or try another USB stick.
E.017	Flash drive read/write not possible	X	X	X	User	Remove the USB stick, wait some seconds and reconnect it. If the problem persists, format to FAT or try another USB stick.
E.018	Factory default values not found.	X	X	X	Auto	Perform a reset by pressing the Reset button (5 s). If warning persists, contact a certified service partner or ARRI service.
E.019	DMX signal lost	X	X	X	Auto	Check DMX network incl cables or enable DMX termination. Only manual control via Control Panel possible.
E.020	DMX data collision	X	X	X	Auto	External gateway or host (Host/Client mode) detected. Fixture stops function as gateway or host.
E.021	PSU communication lost	X	X	X	Auto	Reduce intensity level to avoid misfunction or failure due to overtemperature. If problems persists, contact a certified service partner or ARRI service.
E.022	LiOS upate failed	X	X	X	User	Perform a firmware update. If warning persists, contact a certified service partner or ARRI service.
E.023	PWM values invalid	X	X	X	User	The fixture can be used on.
E.024	Fan power supply not detected	X	-/X	X	Service	Restart fixture or reset by pressing the Reset button (5 s). If warning persists, contact a certified service partner or ARRI service.
E.025	Color sensor defect	X	X	-/X	Service	Color Sensor mode can't be used. Use different mode. Contact a certified service partner or ARRI service to replace sensor.
E.026	Sensor defect magnetometer or accelerometer	X	X	X	Service	No storage of meta data of magnetometer or accelerometer. Contact a certified service partner or ARRI service to replace sensor.
E.027	Drop detected	X	X	X	User	Restart fixture. If warning persists, contact a certified service partner or ARRI service.
E.029	TBD				Service	Contact a certified service partner or ARRI service.
E.030	Color sensor calibration loss	X	X	X	Service	Color Sensor mode can't be used. Use different mode. Contact a certified service partner or ARRI service to replace sensor.

Error Messages

Error messages switch off the light engine until the problem is fixed.

Code	Error	Log	CP/LED	Light Output	Cat.	Description / Remedy
E.001	Filesystem not found	X	X		Reboot	Restart fixture or reset by pressing the Reset button (5 s). If error persists, contact a certified service partner or ARRI service.
E.002	Config files not found	X	X		Service	Restart fixture or reset by pressing the Reset button (5 s). If error persists, contact a certified service partner or ARRI service.
E.003	LED supply voltage not detected	X			Service	Contact a certified service partner or ARRI service.
E.004	PWM driver not found	X	X		Service	Restart fixture or reset by pressing the Reset button (5 s). If error persists, contact a certified service partner or ARRI service.
E.005	Light engine not found	X	X		Service	Restart fixture or reset by pressing the Reset button (5 s). If error persists, contact a certified service partner or ARRI service.
E.006	LED channel fault	X	X		Service	Restart fixture or reset by pressing the Reset button (5 s). If error persists, contact a certified service partner or ARRI service.
E.007	Calibration fault	X	X		Service	Restart fixture or reset by pressing the Reset button (5 s). If error persists, contact a certified service partner or ARRI service.
E.008	Light engine temperature critical	X	X		User	Turn the fixture off or set intensity to "0%" via Control Panel or DMX to start cool down process. Restart or increase intensity after some minutes.
E.009	PWM driver temperature critical	X	X		User	Turn the fixture off or set intensity to "0%" via Control Panel or DMX to start cool down process. Restart or increase intensity after some minutes.
E.010	Controller temperature critical	X	X		User	Turn the fixture off or set intensity to "0%" via Control Panel or DMX to start cool down process. Restart or increase intensity after some minutes.
E.011	PSU temperature critical	X			User	Turn the fixture off or set intensity to "0%" via Control Panel or DMX to start cool down process. Restart or increase intensity after some minutes.
E.012	NTC temperature sensor(s) defect	X	X		User	Restart fixture or reset by pressing the Reset button (5 s). If error persists, contact a certified service partner or ARRI service.
E.014	DC input voltage dropped / too low	X			User	DC input voltage dropped under 48 VDC. Check DC source, increase voltage or switch to mains power supply.
E.028	Optics recognition failed	X	X		User	Check pin/contacts of accessory and QLM. Clean or dry contacts and insert again. If error persists, contact certified service partner or ARRI service.
E.031	Protection cap attached	X	X		User	Remove protection cap and attach original ARRI optics or accessory. To activate light output, first dim down to 0%.

Equations for CCT and X,Y Calculations

Equations for calculation

To calculate the CCT value

8 bit

$$DMX_{Value} = \frac{CCT_{Value} - 2000}{70588}$$

$$CCT_{Value} = (DMX_{Value} \times 70588) + 2000$$

16 bit

$$DMX_{Value} = \frac{CCT_{Value} - 2000}{0.27466239}$$

$$CCT_{Value} = (DMX_{Value} \times 0.27466239) + 2000$$

To calculate the x,y coordinate

8 bit

$$DMX_{x-Value} = \frac{x_{Coordinate} \times 255}{0.8}$$

$$DMX_{y-Value} = \frac{y_{Coordinate} \times 255}{0.8}$$

16 bit

$$DMX_{x-Value} = \frac{x_{Coordinate} \times 65535}{0.8}$$

$$DMX_{y-Value} = \frac{y_{Coordinate} \times 65535}{0.8}$$

Open Source Software License

For the operation and control of the fixture, ARRI uses its own or third-party software, which is not covered by a so-called open source license condition. This software / software components are protected by copyright. The copyright rights of ARRI and third parties must be respected.

Furthermore, the present fixture contains software components which are passed on under open source license conditions. You can find the open source components contained in the device together with the associated copyright notices, copies of the applicable license conditions and, if applicable, further information in the documents in the appendix. The liability and warranty provisions of the open source license terms stated there apply only in relation to the respective rights owners.

ARRI 

Orbiter

OPEN SOURCE SOFTWARE LICENSES

L5.0038985 / L03917
07 / 2022

Overview

This part provides the license texts of most Open Source Software (OSS) products used on the ARRI Orbiter. Licenses, which do not require to be shipped with binary distributions of the software, may be omitted.

Offer for all GPLv2/LGPLv2.1 licensed software:

You can get a complete machine-readable copy of the corresponding source code. You can download the source code for free from the Orbiter download page. This offer is valid for 3 years, starting from when you purchased your Orbiter or downloaded the latest software update.

Common licenses used by multiple open source packages

Apache License, Version 2.0

Apache License
Version 2.0, January 2004
<http://www.apache.org/licenses/>

TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION

1. Definitions.

"License" shall mean the terms and conditions for use, reproduction, and distribution as defined by Sections 1 through 9 of this document.

"Licensor" shall mean the copyright owner or entity authorized by the copyright owner that is granting the License.

"Legal Entity" shall mean the union of the acting entity and all other entities that control, are controlled by, or are under common control with that entity. For the purposes of this definition, "control" means (i) the power, direct or indirect, to cause the direction or management of such entity, whether by contract or otherwise, or (ii) ownership of fifty percent (50%) or more of the outstanding shares, or (iii) beneficial ownership of such entity.

"You" (or "Your") shall mean an individual or Legal Entity exercising permissions granted by this License.

"Source" form shall mean the preferred form for making modifications, including but not limited to software source code, documentation source, and configuration files.

"Object" form shall mean any form resulting from mechanical transformation or translation of a Source form, including but not limited to compiled object code, generated documentation, and conversions to other media types.

"Work" shall mean the work of authorship, whether in Source or Object form, made available under the License, as indicated by a copyright notice that is included in or attached to the work (an example is provided in the Appendix below).

"Derivative Works" shall mean any work, whether in Source or Object form, that is based on (or derived from) the Work and for which the editorial revisions, annotations, elaborations, or other modifications represent, as a whole, an original work of authorship. For the purposes of this License, Derivative Works shall not include works that remain separable from, or merely link (or bind by name) to the interfaces of, the Work and Derivative Works thereof.

"Contribution" shall mean any work of authorship, including the original version of the Work and any modifications or additions to that Work or Derivative Works thereof, that is intentionally submitted to Licensor for inclusion in the Work by the copyright owner or by an individual or Legal Entity authorized to submit on behalf of the copyright owner. For the purposes of this definition, "submitted" means any form of electronic, verbal, or written communication sent to the Licensor or its representatives, including but not limited to communication on electronic mailing lists, source code control systems, and issue tracking systems that are managed by, or on behalf of, the Licensor for the purpose of discussing and improving the Work, but excluding communication that is conspicuously marked or otherwise designated in writing by the copyright owner as "Not a Contribution."

"Contributor" shall mean Licensor and any individual or Legal Entity on behalf of whom a Contribution has been received by Licensor and

subsequently incorporated within the Work.

2. Grant of Copyright License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, sublicense, and distribute the Work and such Derivative Works in Source or Object form.

3. Grant of Patent License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable (except as stated in this section) patent license to make, have made, use, offer to sell, sell, import, and otherwise transfer the Work, where such license applies only to those patent claims licensable by such Contributor that are necessarily infringed by their Contribution(s) alone or by combination of their Contribution(s) with the Work to which such Contribution(s) was submitted. If You institute patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Work or a Contribution incorporated within the Work constitutes direct or contributory patent infringement, then any patent licenses granted to You under this License for that Work shall terminate as of the date such litigation is filed.

4. Redistribution. You may reproduce and distribute copies of the Work or Derivative Works thereof in any medium, with or without modifications, and in Source or Object form, provided that You meet the following conditions:

(a) You must give any other recipients of the Work or Derivative Works a copy of this License; and

(b) You must cause any modified files to carry prominent notices stating that You changed the files; and

(c) You must retain, in the Source form of any Derivative Works that You distribute, all copyright, patent, trademark, and attribution notices from the Source form of the Work, excluding those notices that do not pertain to any part of the Derivative Works; and

(d) If the Work includes a "NOTICE" text file as part of its distribution, then any Derivative Works that You distribute must include a readable copy of the attribution notices contained within such NOTICE file, excluding those notices that do not pertain to any part of the Derivative Works, in at least one of the following places: within a NOTICE text file distributed as part of the Derivative Works; within the Source form or documentation, if provided along with the Derivative Works; or, within a display generated by the Derivative Works, if and wherever such third-party notices normally appear. The contents of the NOTICE file are for informational purposes only and do not modify the License. You may add Your own attribution notices within Derivative Works that You distribute, alongside or as an addendum to the NOTICE text from the Work, provided that such additional attribution notices cannot be construed as modifying the License.

You may add Your own copyright statement to Your modifications and may provide additional or different license terms and conditions for use, reproduction, or distribution of Your modifications, or for any such Derivative Works as a whole, provided Your use, reproduction, and distribution of the Work otherwise complies with the conditions stated in this License.

5. Submission of Contributions. Unless You explicitly state otherwise, any Contribution intentionally submitted for inclusion in the Work by You to the Licensor shall be under the terms and conditions of this License, without any additional terms or conditions. Notwithstanding the above, nothing herein shall supersede or modify the terms of any separate license agreement you may have executed with Licensor regarding such Contributions.

6. Trademarks. This License does not grant permission to use the trade names, trademarks, service marks, or product names of the Licensor, except as required for reasonable and customary use in describing the origin of the Work and reproducing the content of the NOTICE file.

7. Disclaimer of Warranty. Unless required by applicable law or agreed to in writing, Licensor provides the Work (and each Contributor provides its Contributions) on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express

or

implied, including, without limitation, any warranties or conditions of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR

A

PARTICULAR PURPOSE. You are solely responsible for determining the appropriateness of using or redistributing the Work and assume any risks associated with Your exercise of permissions under this License.

8. Limitation of Liability. In no event and under no legal theory, whether in tort (including negligence), contract, or otherwise, unless required by applicable law (such as deliberate and grossly negligent acts) or agreed to in writing, shall any Contributor be liable to You for damages, including any direct, indirect, special, incidental, or consequential damages of any character arising as a result of this License or out of the use or inability to use the Work (including but not limited to damages for loss of goodwill, work stoppage, computer failure or malfunction, or any and all other commercial damages or losses), even if such Contributor has been advised of the possibility of such damages.
9. Accepting Warranty or Additional Liability. While redistributing the Work or Derivative Works thereof, You may choose to offer, and charge a fee for, acceptance of support, warranty, indemnity, or other liability obligations and/or rights consistent with this License. However, in accepting such obligations, You may act only on Your own behalf and on Your sole responsibility, not on behalf of any other Contributor, and only if You agree to indemnify, defend, and hold each Contributor harmless for any liability incurred by, or claims asserted against, such Contributor by reason of your accepting any such warranty or additional liability.

END OF TERMS AND CONDITIONS

APPENDIX: How to apply the Apache License to your work.

To apply the Apache License to your work, attach the following boilerplate notice, with the fields enclosed by brackets "[]" replaced with your own identifying information. (Don't include the brackets!) The text should be enclosed in the appropriate comment syntax for the file format. We also recommend that a file or class name and description of purpose be included on the same "printed page" as the copyright notice for easier identification within third-party archives.

Copyright [yyyy] [name of copyright owner]

Licensed under the Apache License, Version 2.0 (the "License"); you may not use this file except in compliance with the License. You may obtain a copy of the License at

<http://www.apache.org/licenses/LICENSE-2.0>

Unless required by applicable law or agreed to in writing, software distributed under the License is distributed on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.

See the License for the specific language governing permissions and limitations under the License.

GNU General Public License, Version 2

GNU GENERAL PUBLIC LICENSE

Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301, USA

Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users. This General Public License applies to most of the Free Software Foundation's software and to any other program whose authors commit to using it. (Some other Free Software Foundation software is covered by the GNU Lesser General Public License instead.) You can apply it to your programs, too.

When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities for you if you distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must give the recipients all the rights that you have. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

We protect your rights with two steps: (1) copyright the software, and (2) offer you this license which gives you legal permission to copy, distribute and/or modify the software.

Also, for each author's protection and ours, we want to make certain that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the program proprietary. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and modification follow.

TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License applies to any program or other work which contains a notice placed by the copyright holder saying it may be distributed under the terms of this General Public License. The "Program", below, refers to any such program or work, and a "work based on the Program" means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the term "modification".) Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running the Program is not restricted, and the output from the Program is covered only if its contents constitute a work based on the Program (independent of having been made by running the Program). Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and give any other recipients of the Program a copy of this License along with the Program.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.

b) You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of this License.

c) If the modified program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the most ordinary way, to print or display an announcement including an appropriate copyright notice and a notice that there is no warranty (or else, saying that you provide a warranty) and that users may redistribute the program under these conditions, and telling the user how to view a copy of this License. (Exception: if the Program itself is interactive but does not normally print such an announcement, your work based on the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Program, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Program, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Program.

In addition, mere aggregation of another work not based on the Program with the Program (or with a work based on the Program) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may copy and distribute the Program (or a work based on it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you also do one of the following:

a) Accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

b) Accompany it with a written offer, valid for at least three years, to give any third party, for a charge no more than your cost of physically performing source distribution, a complete machine-readable copy of the corresponding source code, to be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

c) Accompany it with the information you received as to the offer to distribute corresponding source code. (This alternative is allowed only for noncommercial distribution and only if you received the program in object code or executable form with such an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for making modifications to it. For an executable work, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the executable. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

If distribution of executable or object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution of the source code, even though third parties are not compelled to copy the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Program or works based on it.

6. Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if a patent license would not permit royalty-free redistribution of the Program by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Program under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

9. The Free Software Foundation may publish revised and/or new versions of the General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of this License, you may choose any version ever published by the Free Software Foundation.

10. If you wish to incorporate parts of the Program into other free programs whose distribution conditions are different, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

one line to give the program's name and an idea of what it does.
Copyright (C) yyyy name of author

This program is free software; you can redistribute it and/or modify it under the terms of the GNU General Public License as published by the Free Software Foundation; either version 2 of the License, or (at your option) any later version.

This program is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU General Public License for more details.

You should have received a copy of the GNU General Public License along with this program; if not, write to the Free Software Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston, MA 02110-1301, USA.

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this when it starts in an interactive mode:

Gnomovision version 69, Copyright (C) year name of author
Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type `show w'. This is free software, and you are welcome to redistribute it under certain conditions; type `show c' for details.

The hypothetical commands `show w' and `show c' should show the appropriate parts of the General Public License. Of course, the commands you use may be called something other than `show w' and `show c'; they could even be mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your school, if any, to sign a "copyright disclaimer" for the program, if necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the program `Gnomovision' (which makes passes at compilers) written by James Hacker.

signature of Ty Coon, 1 April 1989
Ty Coon, President of Vice

This General Public License does not permit incorporating your program into proprietary programs. If your program is a subroutine library, you may consider it more useful to permit linking proprietary applications with the library. If this is what you want to do, use the GNU Lesser General Public License instead of this License.

GNU Lesser General Public License, Version 2.1

GNU LESSER GENERAL PUBLIC LICENSE

Version 2.1, February 1999

Copyright (C) 1991, 1999 Free Software Foundation, Inc.
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA
Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.

[This is the first released version of the Lesser GPL. It also counts as the successor of the GNU Library Public License, version 2, hence the version number 2.1.]

Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public Licenses are intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users.

This license, the Lesser General Public License, applies to some specially designated software packages--typically libraries--of the Free Software Foundation and other authors who decide to use it. You can use it too, but we suggest you first think carefully about whether this license or the ordinary General Public License is the better strategy to use in any particular case, based on the explanations below.

When we speak of free software, we are referring to freedom of use, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish); that you receive source code or can get it if you want it; that you can change the software and use pieces of it in new free programs; and that you are informed that you can do these things.

To protect your rights, we need to make restrictions that forbid distributors to deny you these rights or to ask you to surrender these rights. These restrictions translate to certain responsibilities for you if you distribute copies of the library or if you modify it.

For example, if you distribute copies of the library, whether gratis or for a fee, you must give the recipients all the rights that we gave you. You must make sure that they, too, receive or can get the source code. If you link other code with the library, you must provide complete object files to the recipients, so that they can relink them with the library after making changes to the library and recompiling it. And you must show them these terms so they know their rights.

We protect your rights with a two-step method: (1) we copyright the library, and (2) we offer you this license, which gives you legal permission to copy, distribute and/or modify the library.

To protect each distributor, we want to make it very clear that there is no warranty for the free library. Also, if the library is modified by someone else and passed on, the recipients should know that what they have is not the original version, so that the original author's reputation will not be affected by problems that might be introduced by others.

Finally, software patents pose a constant threat to the existence of any free program. We wish to make sure that a company cannot effectively restrict the users of a free program by obtaining a restrictive license from a patent holder. Therefore, we insist that any patent license obtained for a version of the library must be consistent with the full freedom of use specified in this license.

Most GNU software, including some libraries, is covered by the ordinary GNU General Public License. This license, the GNU Lesser General Public License, applies to certain designated libraries, and is quite different from the ordinary General Public License. We use this license for certain libraries in order to permit linking those libraries into non-free programs.

When a program is linked with a library, whether statically or using a shared library, the combination of the two is legally speaking a combined work, a derivative of the original library. The ordinary General Public License therefore permits such linking only if the entire combination fits its criteria of freedom. The Lesser General Public License permits more lax criteria for linking other code with the library.

We call this license the "Lesser" General Public License because it does Less to protect the user's freedom than the ordinary General Public License. It also provides other free software developers Less of an advantage over competing non-free programs. These disadvantages are the reason we use the ordinary General Public License for many libraries. However, the Lesser license provides advantages in certain special circumstances.

For example, on rare occasions, there may be a special need to encourage the widest possible use of a certain library, so that it becomes a de-facto standard. To achieve this, non-free programs must be allowed to use the library. A more frequent case is that a free library does the same job as widely used non-free libraries. In this case, there is little to gain by limiting the free library to free software only, so we use the Lesser General Public License.

In other cases, permission to use a particular library in non-free programs enables a greater number of people to use a large body of free software. For example, permission to use the GNU C Library in non-free programs enables many more people to use the whole GNU operating system, as well as its variant, the GNU/Linux operating system.

Although the Lesser General Public License is Less protective of the users' freedom, it does ensure that the user of a program that is linked with the Library has the freedom and the wherewithal to run that program using a modified version of the Library.

The precise terms and conditions for copying, distribution and modification follow. Pay close attention to the difference between a "work based on the library" and a "work that uses the library". The former contains code derived from the library, whereas the latter must be combined with the library in order to run.

TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License Agreement applies to any software library or other program which contains a notice placed by the copyright holder or other authorized party saying it may be distributed under the terms of this Lesser General Public License (also called "this License"). Each licensee is addressed as "you".

A "library" means a collection of software functions and/or data prepared so as to be conveniently linked with application programs (which use some of those functions and data) to form executables.

The "Library", below, refers to any such software library or work which has been distributed under these terms. A "work based on the Library" means either the Library or any derivative work under copyright law: that is to say, a work containing the Library or a portion of it, either verbatim or with modifications and/or translated straightforwardly into another language. (Hereinafter, translation is included without limitation in the term "modification".)

"Source code" for a work means the preferred form of the work for making modifications to it. For a library, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the library.

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running a program using the Library is not restricted, and output from such a program is covered only if its contents constitute a work based on the Library (independent of the use of the Library in a tool for writing it). Whether that is true depends on what the Library does and what the program that uses the Library does.

1. You may copy and distribute verbatim copies of the Library's complete source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and distribute a copy of this License along with the Library.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Library or any portion of it, thus forming a work based on the Library, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

- The modified work must itself be a software library.
- You must cause the files modified to carry prominent notices stating that you changed the files and the date of any change.
- You must cause the whole of the work to be licensed at no charge to all third parties under the terms of this License.
- If a facility in the modified Library refers to a function or a table of data to be supplied by an application program that uses the facility, other than as an

argument passed when the facility is invoked, then you must make a good faith effort to ensure that, in the event an application does not supply such function or table, the facility still operates, and performs whatever part of its purpose remains meaningful.

(For example, a function in a library to compute square roots has a purpose that is entirely well-defined independent of the application. Therefore, Subsection 2d requires that any application-supplied function or table used by this function must be optional: if the application does not supply it, the square root function must still compute square roots.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Library, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Library, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Library.

In addition, mere aggregation of another work not based on the Library with the Library (or with a work based on the Library) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may opt to apply the terms of the ordinary GNU General Public License instead of this License to a given copy of the Library. To do this, you must alter all the notices that refer to this License, so that they refer to the ordinary GNU General Public License, version 2, instead of to this License. (If a newer version than version 2 of the ordinary GNU General Public License has appeared, then you can specify that version instead if you wish.) Do not make any other change in these notices.

Once this change is made in a given copy, it is irreversible for that copy, so the ordinary GNU General Public License applies to all subsequent copies and derivative works made from that copy.

This option is useful when you wish to copy part of the code of the Library into a program that is not a library.

4. You may copy and distribute the Library (or a portion or derivative of it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange.

If distribution of object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place satisfies the requirement to distribute the source code, even though third parties are not compelled to copy the source along with the object code.

5. A program that contains no derivative of any portion of the Library, but is designed to work with the Library by being compiled or linked with it, is called a "work that uses the Library". Such a work, in isolation, is not a derivative work of the Library, and therefore falls outside the scope of this License.

However, linking a "work that uses the Library" with the Library creates an executable that is a derivative of the Library (because it contains portions of the Library), rather than a "work that uses the library". The executable is therefore covered by this License. Section 6 states terms for distribution of such executables.

When a "work that uses the Library" uses material from a header file that is part of the Library, the object code for the work may be a derivative work of the Library even though the source code is not. Whether this is true is especially significant if the work can be linked without the Library, or if the work is itself a library. The threshold for this to be true is not precisely defined by law.

If such an object file uses only numerical parameters, data structure layouts and accessors, and small macros and small inline functions (ten lines or less in length), then the use of the object file is unrestricted, regardless of whether it is legally a derivative work. (Executables containing this object code plus portions of the Library will still fall under Section 6.)

Otherwise, if the work is a derivative of the Library, you may distribute the object code for the work under the terms of Section 6. Any executables containing that work also fall under Section 6, whether or not they are linked directly with the Library itself.

6. As an exception to the Sections above, you may also combine or link a "work that uses the Library" with the Library to produce a work containing portions of the Library, and distribute that work under terms of your choice, provided that the terms permit modification of the work for the customer's own use and reverse engineering for debugging such modifications.

You must give prominent notice with each copy of the work that the Library is used in it and that the Library and its use are covered by this License. You must supply a copy of this License. If the work during execution displays copyright notices, you must include the copyright notice for the Library among them, as well as a reference directing the user to the copy of this License. Also, you must do one of these things:

a) Accompany the work with the complete corresponding machine-readable source code for the Library including whatever changes were used in the work (which must be distributed under Sections 1 and 2 above); and, if the work is an executable linked with the Library, with the complete machine-readable "work that uses the Library", as object code and/or source code, so that the user can modify the Library and then relink to produce a modified executable containing the modified Library. (It is understood that the user who changes the contents of definitions files in the Library will not necessarily be able to recompile the application to use the modified definitions.)

b) Use a suitable shared library mechanism for linking with the Library. A suitable mechanism is one that (1) uses at run time a copy of the library already present on the user's computer system, rather than copying library functions into the executable, and (2) will operate properly with a modified version of the library, if the user installs one, as long as the modified version is interface-compatible with the version that the work was made with.

c) Accompany the work with a written offer, valid for at least three years, to give the same user the materials specified in Subsection 6a, above, for a charge no more than the cost of performing this distribution.

d) If distribution of the work is made by offering access to copy from a designated place, offer equivalent access to copy the above specified materials from the same place.

e) Verify that the user has already received a copy of these materials or that you have already sent this user a copy.

For an executable, the required form of the "work that uses the Library" must include any data and utility programs needed for reproducing the executable from it. However, as a special exception, the materials to be distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

It may happen that this requirement contradicts the license restrictions of other proprietary libraries that do not normally accompany the operating system. Such a contradiction means you cannot use both them and the Library together in an executable that you distribute.

7. You may place library facilities that are a work based on the Library side-by-side in a single library together with other library facilities not covered by this License, and distribute such a combined library, provided that the separate distribution of the work based on the Library and of the other library facilities is otherwise permitted, and provided that you do these two things:

a) Accompany the combined library with a copy of the same work based on the Library, uncombined with any other library facilities. This must be distributed under the terms of the Sections above.

b) Give prominent notice with the combined library of the fact that part of it is a work based on the Library, and explaining where to find the accompanying uncombined form of the same work.

8. You may not copy, modify, sublicense, link with, or distribute the Library except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense, link with, or distribute the Library is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

9. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Library or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Library (or any work based on the Library), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Library or works based on it.

10. Each time you redistribute the Library (or any work based on the Library), the recipient automatically receives a license from the original licensor to copy, distribute, link with or modify the Library subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties with this License.

11. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Library at all. For example, if a patent license would not permit royalty-free redistribution of the Library by all those who receive copies directly or indirectly through you, then the only way you could satisfy

both it and this License would be to refrain entirely from distribution of the Library.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply, and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

12. If the distribution and/or use of the Library is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Library under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

13. The Free Software Foundation may publish revised and/or new versions of the Lesser General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Library specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Library does not specify a license version number, you may choose any version ever published by the Free Software Foundation.

14. If you wish to incorporate parts of the Library into other free programs whose distribution conditions are incompatible with these, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

15. BECAUSE THE LIBRARY IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE LIBRARY, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE LIBRARY "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE LIBRARY IS WITH YOU. SHOULD THE LIBRARY PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

16. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE LIBRARY AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE LIBRARY (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE LIBRARY TO OPERATE WITH ANY OTHER SOFTWARE), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.
END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Libraries

If you develop a new library, and you want it to be of the greatest possible use to the public, we recommend making it free software that everyone can redistribute and change. You can do so by permitting redistribution under these terms (or, alternatively, under the terms of the ordinary General Public License).

To apply these terms, attach the following notices to the library. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

one line to give the library's name and an idea of what it does.
Copyright (C) year name of author

This library is free software; you can redistribute it and/or modify it under the terms of the GNU Lesser General Public License as published by the Free Software Foundation; either

version 2.1 of the License, or (at your option) any later version.

This library is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU Lesser General Public License for more details.

You should have received a copy of the GNU Lesser General Public License along with this library; if not, write to the Free Software Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA

Also add information on how to contact you by electronic and paper mail.

You should also get your employer (if you work as a programmer) or your school, if any, to sign a "copyright disclaimer" for the library, if necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the library 'Frob' (a library for tweaking knobs) written by James Random Hacker.

signature of Ty Coon, 1 April 1990
Ty Coon, President of Vice

That's all there is to it!

Mozilla Public License, Version 2.0

Mozilla Public License Version 2.0

=====

1. Definitions

- 1.1. "Contributor"
means each individual or legal entity that creates, contributes to the creation of, or owns Covered Software.
- 1.2. "Contributor Version"
means the combination of the Contributions of others (if any) used by a Contributor and that particular Contributor's Contribution.
- 1.3. "Contribution"
means Covered Software of a particular Contributor.
- 1.4. "Covered Software"
means Source Code Form to which the initial Contributor has attached the notice in Exhibit A, the Executable Form of such Source Code Form, and Modifications of such Source Code Form, in each case including portions thereof.
- 1.5. "Incompatible With Secondary Licenses"
means
 - (a) that the initial Contributor has attached the notice described in Exhibit B to the Covered Software; or
 - (b) that the Covered Software was made available under the terms of version 1.1 or earlier of the License, but not also under the terms of a Secondary License.
- 1.6. "Executable Form"
means any form of the work other than Source Code Form.
- 1.7. "Larger Work"
means a work that combines Covered Software with other material, in a separate file or files, that is not Covered Software.
- 1.8. "License"
means this document.
- 1.9. "Licensable"
means having the right to grant, to the maximum extent possible, whether at the time of the initial grant or subsequently, any and all of the rights conveyed by this License.
- 1.10. "Modifications"
means any of the following:
 - (a) any file in Source Code Form that results from an addition to, deletion from, or modification of the contents of Covered Software; or
 - (b) any new file in Source Code Form that contains any Covered Software.
- 1.11. "Patent Claims" of a Contributor
means any patent claim(s), including without limitation, method, process, and apparatus claims, in any patent Licensable by such

Contributor that would be infringing, but for the grant of the License, by the making, using, selling, offering for sale, having made, import, or transfer of either its Contributions or its Contributor Version.

1.12. "Secondary License"

means either the GNU General Public License, Version 2.0, the GNU Lesser General Public License, Version 2.1, the GNU Affero General Public License, Version 3.0, or any later versions of those licenses.

1.13. "Source Code Form"

means the form of the work preferred for making modifications.

1.14. "You" (or "Your")

means an individual or a legal entity exercising rights under this License. For legal entities, "You" includes any entity that controls, is controlled by, or is under common control with You. For purposes of this definition, "control" means (a) the power, direct or indirect, to cause the direction or management of such entity, whether by contract or otherwise, or (b) ownership of more than fifty percent (50%) of the outstanding shares or beneficial ownership of such entity.

2. License Grants and Conditions

2.1. Grants

Each Contributor hereby grants You a world-wide, royalty-free, non-exclusive license:

- (a) under intellectual property rights (other than patent or trademark) Licensable by such Contributor to use, reproduce, make available, modify, display, perform, distribute, and otherwise exploit its Contributions, either on an unmodified basis, with Modifications, or as part of a Larger Work; and
- (b) under Patent Claims of such Contributor to make, use, sell, offer for sale, have made, import, and otherwise transfer either its Contributions or its Contributor Version.

2.2. Effective Date

The licenses granted in Section 2.1 with respect to any Contribution become effective for each Contribution on the date the Contributor first distributes such Contribution.

2.3. Limitations on Grant Scope

The licenses granted in this Section 2 are the only rights granted under this License. No additional rights or licenses will be implied from the distribution or licensing of Covered Software under this License.

Notwithstanding Section 2.1(b) above, no patent license is granted by a Contributor:

- (a) for any code that a Contributor has removed from Covered Software; or
- (b) for infringements caused by: (i) Your and any other third party's modifications of Covered Software, or (ii) the combination of its Contributions with other software (except as part of its Contributor Version); or
- (c) under Patent Claims infringed by Covered Software in the absence of its Contributions.

This License does not grant any rights in the trademarks, service marks, or logos of any Contributor (except as may be necessary to comply with the notice requirements in Section 3.4).

2.4. Subsequent Licenses

No Contributor makes additional grants as a result of Your choice to distribute the Covered Software under a subsequent version of this License (see Section 10.2) or under the terms of a Secondary License (if permitted under the terms of Section 3.3).

2.5. Representation

Each Contributor represents that the Contributor believes its Contributions are its original creation(s) or it has sufficient rights to grant the rights to its Contributions conveyed by this License.

2.6. Fair Use

This License is not intended to limit any rights You have under applicable copyright doctrines of fair use, fair dealing, or other equivalents.

2.7. Conditions

Sections 3.1, 3.2, 3.3, and 3.4 are conditions of the licenses granted in Section 2.1.

3. Responsibilities

3.1. Distribution of Source Form

All distribution of Covered Software in Source Code Form, including any Modifications that You create or to which You contribute, must be under the terms of this License. You must inform recipients that the Source Code Form of the Covered Software is governed by the terms of this License, and how they can obtain a copy of this License. You may not attempt to alter or restrict the recipients' rights in the Source Code Form.

3.2. Distribution of Executable Form

If You distribute Covered Software in Executable Form then:

(a) such Covered Software must also be made available in Source Code Form, as described in Section 3.1, and You must inform recipients of the Executable Form how they can obtain a copy of such Source Code Form by reasonable means in a timely manner, at a charge no more than the cost of distribution to the recipient; and

(b) You may distribute such Executable Form under the terms of this License, or sublicense it under different terms, provided that the license for the Executable Form does not attempt to limit or alter the recipients' rights in the Source Code Form under this License.

3.3. Distribution of a Larger Work

You may create and distribute a Larger Work under terms of Your choice, provided that You also comply with the requirements of this License for the Covered Software. If the Larger Work is a combination of Covered Software with a work governed by one or more Secondary Licenses, and the Covered Software is not Incompatible With Secondary Licenses, this License permits You to additionally distribute such Covered Software under the terms of such Secondary License(s), so that the recipient of the Larger Work may, at their option, further distribute the Covered Software under the terms of either this License or such Secondary License(s).

3.4. Notices

You may not remove or alter the substance of any license notices (including copyright notices, patent notices, disclaimers of warranty, or limitations of liability) contained within the Source Code Form of the Covered Software, except that You may alter any license notices to the extent required to remedy known factual inaccuracies.

3.5. Application of Additional Terms

You may choose to offer, and to charge a fee for, warranty, support, indemnity or liability obligations to one or more recipients of Covered Software. However, You may do so only on Your own behalf, and not on behalf of any Contributor. You must make it absolutely clear that any such warranty, support, indemnity, or liability obligation is offered by You alone, and You hereby agree to indemnify every Contributor for any liability incurred by such Contributor as a result of warranty, support, indemnity or liability terms You offer. You may include additional disclaimers of warranty and limitations of liability specific to any jurisdiction.

4. Inability to Comply Due to Statute or Regulation

If it is impossible for You to comply with any of the terms of this License with respect to some or all of the Covered Software due to statute, judicial order, or regulation then You must: (a) comply with the terms of this License to the maximum extent possible; and (b) describe the limitations and the code they affect. Such description must be placed in a text file included with all distributions of the Covered Software under this License. Except to the extent prohibited by statute or regulation, such description must be sufficiently detailed for a recipient of ordinary skill to be able to understand it.

5. Termination

5.1. The rights granted under this License will terminate automatically if You fail to comply with any of its terms. However, if You become compliant, then the rights granted under this License from a particular Contributor are reinstated (a) provisionally, unless and until such Contributor explicitly and finally terminates Your grants, and (b) on an ongoing basis, if such Contributor fails to notify You of the non-compliance by some reasonable means prior to 60 days after You have come back into compliance. Moreover, Your grants from a particular Contributor are reinstated on an ongoing basis if such Contributor notifies You of the non-compliance by some reasonable means, this is the first time You have received notice of non-compliance with this License from such Contributor, and You become compliant prior to 30 days after Your receipt of the notice.

5.2. If You initiate litigation against any entity by asserting a patent infringement claim (excluding declaratory judgment actions, counter-claims, and cross-claims) alleging that a Contributor Version directly or indirectly infringes any patent, then the rights granted to You by any and all Contributors for the Covered Software under Section 2.1 of this License shall terminate.

5.3. In the event of termination under Sections 5.1 or 5.2 above, all end user license agreements (excluding distributors and resellers) which have been validly granted by You or Your distributors under this License prior to termination shall survive termination.

```
*****
*                                     *
* 6. Disclaimer of Warranty           *
* -----                           *
*                                     *
* Covered Software is provided under this License on an "as is" *
* basis, without warranty of any kind, either expressed, implied, or *
* statutory, including, without limitation, warranties that the *
* Covered Software is free of defects, merchantable, fit for a *
* particular purpose or non-infringing. The entire risk as to the *
* quality and performance of the Covered Software is with You. *
* Should any Covered Software prove defective in any respect, You *
* (not any Contributor) assume the cost of any necessary servicing, *
* repair, or correction. This disclaimer of warranty constitutes an *
* essential part of this License. No use of any Covered Software is *
* authorized under this License except under this disclaimer. *
*                                     *
*****
```

```
*****
*                                     *
* 7. Limitation of Liability         *
* -----                           *
*                                     *
* Under no circumstances and under no legal theory, whether tort *
* (including negligence), contract, or otherwise, shall any *
* Contributor, or anyone who distributes Covered Software as *
* permitted above, be liable to You for any direct, indirect, *
* special, incidental, or consequential damages of any character *
* including, without limitation, damages for lost profits, loss of *
* goodwill, work stoppage, computer failure or malfunction, or any *
* and all other commercial damages or losses, even if such party *
* shall have been informed of the possibility of such damages. This *
* limitation of liability shall not apply to liability for death or *
* personal injury resulting from such party's negligence to the *
* extent applicable law prohibits such limitation. Some *
* jurisdictions do not allow the exclusion or limitation of *
* incidental or consequential damages, so this exclusion and *
* limitation may not apply to You. *
*                                     *
*****
```

8. Litigation

Any litigation relating to this License may be brought only in the courts of a jurisdiction where the defendant maintains its principal place of business and such litigation shall be governed by laws of that jurisdiction, without reference to its conflict-of-law provisions. Nothing in this Section shall prevent a party's ability to bring cross-claims or counter-claims.

9. Miscellaneous

This License represents the complete agreement concerning the subject matter hereof. If any provision of this License is held to be unenforceable, such provision shall be reformed only to the extent necessary to make it enforceable. Any law or regulation which provides that the language of a contract shall be construed against the drafter shall not be used to construe this License against a Contributor.

10. Versions of the License

10.1. New Versions

Mozilla Foundation is the license steward. Except as provided in Section 10.3, no one other than the license steward has the right to modify or publish new versions of this License. Each version will be given a distinguishing version number.

10.2. Effect of New Versions

You may distribute the Covered Software under the terms of the version of the License under which You originally received the Covered Software, or under the terms of any subsequent version published by the license steward.

10.3. Modified Versions

If you create software not governed by this License, and you want to create a new license for such software, you may create and use a modified version of this License if you rename the license and remove any references to the name of the license steward (except to note that such modified license differs from this License).

10.4. Distributing Source Code Form that is Incompatible With Secondary Licenses

If You choose to distribute Source Code Form that is Incompatible With Secondary Licenses under the terms of this version of the License, the notice described in Exhibit B of this License must be attached.

Exhibit A - Source Code Form License Notice

This Source Code Form is subject to the terms of the Mozilla Public License, v. 2.0. If a copy of the MPL was not distributed with this file, You can obtain one at <http://mozilla.org/MPL/2.0/>.

If it is not possible or desirable to put the notice in a particular file, then You may include the notice in a location (such as a LICENSE file in a relevant directory) where a recipient would be likely to look for such a notice.

You may add additional accurate notices of copyright ownership.

Exhibit B - "Incompatible With Secondary Licenses" Notice

This Source Code Form is "Incompatible With Secondary Licenses", as defined by the Mozilla Public License, v. 2.0.

Orbiter main unit

Apache License

[CMSIS CPU core / compiler support](#)
Copyright (c) 2009-2017 ARM Limited. All rights reserved.

SPDX-License-Identifier: Apache-2.0

Licensed under the Apache License, Version 2.0 (the License); you may not use this file except in compliance with the License. You may obtain a copy of the License at

www.apache.org/licenses/LICENSE-2.0

Unless required by applicable law or agreed to in writing, software distributed under the License is distributed on an AS IS BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied. See the License for the specific language governing permissions and limitations under the License.

OpenSSL

Apache License, Version 2.0, refer to section "Common licenses used by multiple open source packages" earlier in this document.

BSD license

[glib-2.0](#)

Copyright (c) 1997-2012 University of Cambridge

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

- * Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
- * Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
- * Neither the name of the University of Cambridge nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS

INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

libbc

This license applies to all files in directory and its subdirectories, unless otherwise noted in individual files.

Some files are derived from files copyrighted by the Regents of The University of California, and are available under the following license:

Note: The advertising clause in the license appearing on BSD Unix files was officially rescinded by the Director of the Office of Technology Licensing of the University of California on July 22 1999. He states that clause 3 is "hereby deleted in its entirety."

Copyright (c)

The Regents of the University of California. All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
3. All advertising materials mentioning features or use of this software must display the following acknowledgement:

This product includes software developed by the University of California, Berkeley and its contributors.

4. Neither the name of the University nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE REGENTS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE REGENTS OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

libcap

Unless otherwise *explicitly* stated, the following text describes the licensed conditions under which the contents of this libcap release may be used and distributed:

Redistribution and use in source and binary forms of libcap, with or without modification, are permitted provided that the following conditions are met:

1. Redistributions of source code must retain any existing copyright notice, and this entire permission notice in its entirety, including the disclaimer of warranties.
2. Redistributions in binary form must reproduce all prior and current copyright notices, this list of conditions, and the following disclaimer in the documentation and/or other materials provided with the distribution.
3. The name of any author may not be used to endorse or promote products derived from this software without their specific prior written permission.

ALTERNATIVELY, this product may be distributed under the terms of the GNU General Public License (v2.0 - see below), in which case the provisions of the GNU GPL are required INSTEAD OF the above restrictions. (This clause is necessary due to a potential conflict between the GNU GPL and the restrictions contained in a BSD-style copyright.)

THIS SOFTWARE IS PROVIDED "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE AUTHOR(S) BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)

HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

libkcap

Copyright (C) 2016 - 2021, Stephan Mueller <smueller@chironox.de>

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

1. Redistributions of source code must retain the above copyright notice, and the entire permission notice in its entirety, including the disclaimer of warranties.
2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
3. The name of the author may not be used to endorse or promote products derived from this software without specific prior written permission.

ALTERNATIVELY, this product may be distributed under the terms of the GNU General Public License, in which case the provisions of the GPL2 are required INSTEAD OF the above restrictions. (This clause is necessary due to a potential bad interaction between the GPL and the restrictions contained in a BSD-style copyright.)

THIS SOFTWARE IS PROVIDED "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ALL OF WHICH ARE HEREBY DISCLAIMED. IN NO EVENT SHALL THE AUTHOR BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF NOT ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

libpcre

PCRE LICENCE

PCRE is a library of functions to support regular expressions whose syntax and semantics are as close as possible to those of the Perl 5 language.

Release 8 of PCRE is distributed under the terms of the "BSD" licence, as specified below. The documentation for PCRE, supplied in the "doc" directory, is distributed under the same terms as the software itself. The data in the testdata directory is not copyrighted and is in the public domain.

The basic library functions are written in C and are freestanding. Also included in the distribution is a set of C++ wrapper functions, and a just-in-time compiler that can be used to optimize pattern matching. These are both optional features that can be omitted when the library is built.

THE BASIC LIBRARY FUNCTIONS

Written by: Philip Hazel
Email local part: ph10
Email domain: cam.ac.uk

University of Cambridge Computing Service,
Cambridge, England.

Copyright (c) 1997-2021 University of Cambridge
All rights reserved.

PCRE JUST-IN-TIME COMPILATION SUPPORT

Written by: Zoltan Herczeg
Email local part: hzmester
Email domain: freemail.hu

Copyright(c) 2010-2021 Zoltan Herczeg
All rights reserved.

STACK-LESS JUST-IN-TIME COMPILER

Written by: Zoltan Herczeg
Email local part: hzmester
Email domain: freemail.hu

Copyright(c) 2009-2021 Zoltan Herczeg
All rights reserved.

THE C++ WRAPPER FUNCTIONS

Contributed by: Google Inc.

Copyright (c) 2007-2012, Google Inc.
All rights reserved.

THE "BSD" LICENCE

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

- * Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
- * Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
- * Neither the name of the University of Cambridge nor the name of Google Inc. nor the names of their contributors may be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

End

newlib

Parts of libc/misc:

Copyright (C) 2004,2010 CodeSourcery, LLC

Permission to use, copy, modify, and distribute this file for any purpose is hereby granted without fee, provided that the above copyright notice and this notice appears in all copies.

This file is distributed WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.

libc/machine/arm (most assembler files):

Copyright (c) 2008,2013-2015 ARM Ltd
All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
3. The name of the company may not be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY ARM LTD "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL ARM LTD BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

protobuf

Copyright 2008 Google Inc. All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

- * Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
- * Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the

distribution.

* Neither the name of Google Inc. nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

Code generated by the Protocol Buffer compiler is owned by the owner of the input file used when generating it. This code is not standalone and requires a support library to be linked with it. This support library is itself covered by the above license.

STM32F7xx CMSIS + HAL driver

© COPYRIGHT(c) 2016,2017,2018,2020 STMicroelectronics

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
3. Neither the name of STMicroelectronics nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT HOLDER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

util-linux-libuuid

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

1. Redistributions of source code must retain the above copyright notice, and the entire permission notice in its entirety, including the disclaimer of warranties.
2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
3. The name of the author may not be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ALL OF WHICH ARE HEREBY DISCLAIMED. IN NO EVENT SHALL THE AUTHOR BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF NOT ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

MIT license

Expat

Copyright (c) 1998-2000 Thai Open Source Software Center Ltd and Clark Cooper

Copyright (c) 2001-2019 Expat maintainers

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the

Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

libc

This license applies to all files in directory and its subdirectories, unless otherwise noted in individual files.

Some files are derived from files derived from the include/ directory of the Linux kernel, and are licensed under the terms of the GNU General Public License, version 2, as released by the Free Software Foundation, Inc.; incorporated herein by reference.

For all remaining files, the following license applies:

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

Any copyright notice(s) and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

libfdcpp

The MIT License (MIT)

Copyright (c) <2015> Steffen Nüssle

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

libffi

libffi - Copyright (c) 1996-2021 Anthony Green, Red Hat, Inc and others. See source files for details.

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS

OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

Musl libc

musl as a whole is licensed under the following standard MIT license:

Copyright © 2005-2020 Rich Felker, et al.

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

Authors/contributors include:

A. Wilcox
Ada Worcester
Alex Dowad
Alex Suykov
Alexander Monakov
Andre McCurdy
Andrew Kelley
Anthony G. Basile
Aric Belsito
Arvid Picciani
Bartosz Brachaczek
Benjamin Peterson
Bobby Bingham
Boris Brezillon
Brent Cook
Chris Spiegel
Clément Vasseur
Daniel Micay
Daniel Sabogal
Daurnimator
David Carlier
David Edelsohn
Denys Vlasenko
Dmitry Ivanov
Dmitry V. Levin
Drew DeVault
Emil Renner Berthing
Fangrui Song
Felix Fietkau
Felix Janda
Gianluca Anzolin
Hauke Mehrtens
He X
Hiltjo Posthuma
Isaac Dunham
Jaydeep Patil
Jens Gustedt
Jeremy Huntwork
Jo-Philipp Wich
Joakim Sindholt
John Spencer
Julien Ramseier
Justin Cormack
Kaarle Ritvanen
Khem Raj
Kylie McClain
Leah Neukirchen
Luca Barbato
Luka Perkovic
M Farkas-Dyck (Strake)
Mahesh Bodapati
Markus Wichmann
Masanori Ogino
Michael Clark
Michael Forney
Mikhail Kremnyov
Nataanael Copa



Nicholas J. Kain
orc
Pascal Cuoq
Patrick Oppenlander
Petr Hosek
Petr Skocik
Pierre Carrier
Reini Urban
Rich Felker
Richard Pennington
Ryan Fairfax
Samuel Holland
Segev Finer
Shiz
sin
Solar Designer
Stefan Kristiansson
Stefan O'Rear
Szabolcs Nagy
Timo Teräs
Trutz Behn
Valentin Ochs
Will Dietz
William Haddon
William Pitcock

Portions of this software are derived from third-party works licensed under terms compatible with the above MIT license:

The TRE regular expression implementation (`src/regex/reg*` and `src/regex/tre*`) is Copyright © 2001-2008 Ville Laurikari and licensed under a 2-clause BSD license (license text in the source files). The included version has been heavily modified by Rich Felker in 2012, in the interests of size, simplicity, and namespace cleanliness.

Much of the math library code (`src/math/*` and `src/complex/*`) is Copyright © 1993,2004 Sun Microsystems or Copyright © 2003-2011 David Schultz or Copyright © 2003-2009 Steven G. Kargl or Copyright © 2003-2009 Bruce D. Evans or Copyright © 2008 Stephen L. Moshier or Copyright © 2017-2018 Arm Limited and labelled as such in comments in the individual source files. All have been licensed under extremely permissive terms.

The ARM memcpy code (`src/string/arm/memcpy_el.S`) is Copyright © 2008 The Android Open Source Project and is licensed under a two-clause BSD license. It was taken from Bionic libc, used on Android.

The implementation of DES for crypt (`src/crypt/crypt_des.c`) is Copyright © 1994 David Burren. It is licensed under a BSD license.

The implementation of blowfish crypt (`src/crypt/crypt_blowfish.c`) was originally written by Solar Designer and placed into the public domain. The code also comes with a fallback permissive license for use in jurisdictions that may not recognize the public domain.

The smoothsort implementation (`src/stdlib/qsort.c`) is Copyright © 2011 Valentin Ochs and is licensed under an MIT-style license.

The x86_64 port was written by Nicholas J. Kain and is licensed under the standard MIT terms.

The mips and microblaze ports were originally written by Richard Pennington for use in the ellcc project. The original code was adapted by Rich Felker for build system and code conventions during upstream integration. It is licensed under the standard MIT terms.

The mips64 port was contributed by Imagination Technologies and is licensed under the standard MIT terms.

The powerpc port was also originally written by Richard Pennington, and later supplemented and integrated by John Spencer. It is licensed under the standard MIT terms.

All other files which have no copyright comments are original works produced specifically for use as part of this library, written either by Rich Felker, the main author of the library, or by one or more contributors listed above. Details on authorship of individual files can be found in the git version control history of the project. The omission of copyright and license comments in each file is in the interest of source tree size.

In addition, permission is hereby granted for all public header files (`include/*` and `arch/*bits/*`) and crt files intended to be linked into applications (`crt/*`, `ldso/dlstart.c`, and `arch/*crt_arch.h`) to omit the copyright notice and permission notice otherwise required by the license, and to use these files without any requirement of attribution. These files include substantial contributions from:

Bobby Bingham
John Spencer

Nicholas J. Kain
Rich Felker
Richard Pennington
Stefan Kristiansson
Szabolcs Nagy

all of whom have explicitly granted such permission.

This file previously contained text expressing a belief that most of the files covered by the above exception were sufficiently trivial not to be subject to copyright, resulting in confusion over whether it negated the permissions granted in the license. In the spirit of permissive licensing, and of not having licensing issues being an obstacle to adoption, that text has been removed.

nlohmann-json
MIT License

Copyright (c) 2013-2022 Niels Lohmann

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

swupdate

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

tlap

Copyright (c) 2003-2012 Michael E. Smoot
Copyright (c) 2004-2016 Daniel Aarno
Copyright (c) 2017-2021 Google Inc.

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

Openembedded / Yocto

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:



The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

Mozilla Public License

[plog](#)

Copyright (c) 2016 Sergey Podobry (sergey.podobry at gmail.com). Mozilla Public License, Version 2.0, refer to section "Common licenses used by multiple open source packages" earlier in this document. For source code please visit www.arri.com/contact and get in touch with your regional ARRI contact.

zlib license

[nanopb](#)

Copyright (c) 2011 Petteri Aimonen <jpa at nanopb.mail.kapsi.fi>

This software is provided 'as-is', without any express or implied warranty. In no event will the authors be held liable for any damages arising from the use of this software.

Permission is granted to anyone to use this software for any purpose, including commercial applications, and to alter it and redistribute it freely, subject to the following restrictions:

1. The origin of this software must not be misrepresented; you must not claim that you wrote the original software. If you use this software in a product, an acknowledgment in the product documentation would be appreciated but is not required.
2. Altered source versions must be plainly marked as such, and must not be misrepresented as being the original software.
3. This notice may not be removed or altered from any source distribution.

[zlib](#)

This software is provided 'as-is', without any express or implied warranty. In no event will the authors be held liable for any damages arising from the use of this software.

Permission is granted to anyone to use this software for any purpose, including commercial applications, and to alter it and redistribute it freely, subject to the following restrictions:

1. The origin of this software must not be misrepresented; you must not claim that you wrote the original software. If you use this software in a product, an acknowledgment in the product documentation would be appreciated but is not required.
2. Altered source versions must be plainly marked as such, and must not be misrepresented as being the original software.
3. This notice may not be removed or altered from any source distribution.

Jean-loup Gailly Mark Adler
jloup@gzip.org madler@alumni.caltech.edu

Orbiter web page

BSD license

[Web IDL Type Conversions on JavaScript Values](#)
The BSD 2-Clause License

Copyright (c) 2014, Domenic Denicola
All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT HOLDER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

MIT license

[@nuxt/opencollective](#)
MIT License

Copyright (c) 2018 Nuxt Community

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

[ansi-styles](#)
MIT License

Copyright (c) Sindre Sorhus <sindresorhus@gmail.com> (sindresorhus.com)

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

[axios](#)
Copyright (c) 2014-present Matt Zabriskie

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

[BootstrapVue](#)
The MIT License (MIT)



Copyright (c) 2016-2020 - BootstrapVue

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

Bootstrap

The MIT License (MIT)

Copyright (c) 2011-2021 Twitter, Inc.

Copyright (c) 2011-2021 The Bootstrap Authors

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

CHALK

see ansi-styles above

color-convert

Copyright (c) 2011-2016 Heather Arthur <fayearthur@gmail.com>

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

Console

MIT License

Copyright (c) 2018 By Nuxt.js team!

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR

OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

ES6-Promise

Copyright (c) 2014 Yehuda Katz, Tom Dale, Stefan Penner and contributors

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

Follow Redirects

Copyright 2014-present Olivier Lalonde <olalonde@gmail.com>, James Talmage <james@talmage.io>, Ruben Verborgh

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

has-flag

see ansi-styles above

Moment.js

Copyright (c) JS Foundation and other contributors

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

Node Fetch

The MIT License (MIT)

Copyright (c) 2016 David Frank

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE

WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NON-INFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

Popper.js
The MIT License (MIT)

Copyright © 2016 Federico Zivolo and contributors

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NON-INFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

PortalVue
MIT License

Copyright (c) 2017 Thorsten Lünborg

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NON-INFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

supports-color
see ansi-styles above

tr46
The MIT License (MIT)

Copyright (c) Sebastian Mayr

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NON-INFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

uuid
The MIT License (MIT)

Copyright (c) 2010-2020 Robert Kieffer and other contributors

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the

Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NON-INFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

vue-functional-data-merge
The MIT License (MIT)

Copyright (c) 2017 Alex Regan

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NON-INFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

vue-router
MIT License

Copyright (c) 2013-present Evan You

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NON-INFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

vue-slider-component
The MIT License (MIT)

Copyright (c) 2016 NightCatSama.

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NON-INFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

Vue Switches

Vue 2
The MIT License (MIT)

Copyright (c) 2013-present, Yuxi (Evan) You

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

[whatwg-url](#)

The MIT License (MIT)

Copyright (c) 2015-2016 Sebastian Mayr

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

Contact:

If license information may be incomplete, wrong or missing entirely, please visit <http://www.arri.com/contact> and get in touch with your regional ARRI contact.