iRidium for Crestron – package of tools enabling you to create an interface and a software to control the Crestron equipment.

The package contains the components for installation on PC and on various control panels. A project to control the Crestron equipment is created and customized on PC in the interface iRidium GUI Editor, and then it is uploaded to a control panel for continuous work.

Main Terms and Definitions

- **iRidium Project** – a project file created in iRidium GUI Editor. It consists of a graphic part (GUI) and a driver part (commands for controlling equipment). iRidium Projects set up in GUI Editor have *.IRP or *.IRPZ formats. Projects consisting of the interface and driver parts is processed by the iRidium Transfer application and uploaded on control panels with installed iRidium Apps.
- **Graphic interface** – the complex of items of iRidium project graphic part (project pages and popups, graphic items).
- **Page /popup** – objects which define the interface structure. They are meant for placing graphic items. You can open only one project page at a time. It is a project base over which you can place any number of popups of different size.
- **Graphic item** – an object on a project page or popup (button, level, animated item, inertial list, etc.)
- **Control panel**– an iOS, Windows, Android, OS X based device with the installed iRidium App where it is required to launch iRidium project.

- **License** (license file) – an *.irl format file which enables connection between a panel and controlled equipment. The license is uploaded onto the panel together with the iRidium project.
- **Activation key** – a set of 160 symbols which serves as an iRidium license activation code. It contains information about the acquired license and enables you to generate a license file.
- **Licensing#Activation of iRidium Licenses|Process of key activation]]** – creation of a license file with the help of the key in the MY LICENSES section of the web site.
- **Control panel identifier (HWID/UDID)** – the unique identifier of the Apple iOS (UDID) or Windows (HWID) controlled device, which is required for iRidium key activation and license file receipt.

- **Emulator** – a tool for simulation of the project launch on the control panel. It enables you to see how the project works and check communication with the equipment.

- **Driver** – a description of a protocol for equipment operation created in iRidium. It allows iRidium projects to refer to the equipment of the corresponding type and receive data from it. iRidium supports a number of native (written preliminarily and stored in iRidium Apps) drivers. There is also a possibility to create custom drivers on the basis of AV & Custom Systems with the help of IRidium DDK – it enables profound configuration of the driver with the help of the script system.
- **IRidium DDK** – a tool for creating drivers. It includes iRidium Script machine, iRidium Script API, iRidium DDK for writing drivers and examples of drivers.
- **Controlled device** – equipment (a controller, transmitter, media server, AV device, etc.) which

uses one of the drivers described either in native or script part of iRidium project.

- **Command** – an instruction for sending data to controlled equipment. The command sending is activated by pressing on a graphic item, system events or scripts. It contains information about the data type and settings specific for particular equipment. The list of instructions (commands) is stored in the Project Device Panel tree.
- **Status channels (Feedback)** – an instruction for processing data received from the controlled equipment. Received data can affect GUI items (value output on the screen, switching item states). Status channels are stored in the Project Device Panel tree.
- **[[Project Token** – a variable for saving data received from control equipment or interface. Project Tokens serve for writing, storing data or transferring them inside the project. The data can be numerical (in the DEC format) or string (in the ASCII format). After the restart of iRidium Apps or control panels information written in Project tokens stays available (for example you can write a login and password for getting access to the equipment, connection properties – IP-address, device password, etc).
- **System Tokens** – variables storing data about the control panel state (time, date, data from sensors, etc.). System tokens cannot be affected via interfaces, they can be read only.
- **Driver Tokens** – variables storing data about the state of connection to project drivers and connection properties. Driver tokens cannot be affected via interfaces, they can be read only.

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Capabilities of iRidium for Crestron

How iRidium Expands Crestron Capabilities

There are two ways of using iRidium:

1. The first way is similar to using Crestron VisionTools™ Pro-e editor.

You can create a GUI and set up communication with Crestron joins in iRidium GUI Editor. In this case you use all Crestron capabilities and additionally iRidium features such as advanced graphic effects, working with lists and control panel sensors, multiplatformity and site licensing.

1. The second expands the capabilities of the first due to using iRidium JavaScript and IRidium DDK.

These tools enable you to considerably expand capabilities of the graphic part and set up control of any other equipment (for example, KNX, XBMC, Sonos, TV, etc.) in the project for Crestron.

The present instructions review only the first (main) way of using iRidium.

How It Works



Development
create an interface
and set up drivers
in iRidium GUI Editor



Licensing
buy a license
for the required product
or try for free



Upload
upload your project on iOS/Windows/Android/OS X with the help of iRidium Transfer

Install the iRidium Software Package on PC

Creation of a project in iRidium starts with instaling the part of the software package for PC with Windows OS. This part of the software package is responsible for creation of iRidium projects - setting up graphic interfaces, communication with equipment and uploading projects on control panels.

Where to Download from

You can download iRidium Environment to your PC (on Windows XP/7) from the web site iridiummobile.net, the "Download" section.

iRidium Components for Instalation on PC

For working with iRidium you need the following components of the software package installed on your PC:

iRidium GUI Editor

the application for creating control interfaces for automation systems, configuring drivers and equipment used in automation projects and writing custom drivers with the help of IRidium DDK. It is responsible for setting up connection between graphic and driver parts of iRidium projects (iRidium Project).

iRidium Project

a project file created in iRidium GUI Editor. It consists of a graphic part (interface) and a driver part (commands for controlling equipment). iRidium projects set up in GUI Editor have the *.IRP or *.IRPZ formats. Projects consisting of the interface and driver parts are processed by the iRidium Transfer application and uploaded on control panels with installed iRidium Apps.

iRidium Transfer

the application for uploading iRidium projects and licenses on control panels.

iRidium App

a set of user applications on the AppStore, GooglePlay and application for Windows and OS X. The Apps are installed on iOS/Windows/Android/OS X control panels. They enable upload, launch and similar work of iRidium projects on all supported operating systems.

Requirements to PC for Working with iRidium

- Microsoft Windows XP/7/8 OS
- Not less than 2 Gb RAM
- Not less than 1 Gb of free space on HDD
- 3D-video adapter with memory not less than 512 Mb

> ***Important!*** *It is required to start iRidium components on PC under Administrator account or using Administrator rights for correct work.*

> ***Important!*** *The correct work of iRidium components is not guaranteed when working on* ***Windows OS Emulator*** *(for example, WineHQ). iRidium licenses might not work due to changing of virtual machine HWID .*

> ***Important!*** *When hard disks of your PC work in the* ***RAID array****, every time it generates new HWID. Do not activate licenses for your PC with the RAID array, this mode should be turned off.*

> ***Important!*** *If video card drivers do not support* ***OpenGL*** *(for Windows XP) and* ***DirectX 10*** *(for Windows 7/8) there might be errors when displaying graphics. Update your video card drivers if the graphics is displayed incorrectly.*

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Install iRidium App on Control Panel

iRidium Apps are the iRidium components required for working with the **Crestron** driver. iRidium Apps for Crestron can be downloaded from the specialized online application stores (AppStore, MacStore, GooglePlay). The choice of the store depends on the type of the control panel where you want to use iRidium.

At the moment iRidium Apps work on the following types of control panels:

- **Apple iOS** based devices - V6 and later: iPad (later than the 1st), iPhone (3Gs and later), iPod touch (4 generation and later)
- **Windows 7/8** based devices: PCs, monoblocks, tablet computers
- **Android OS** based devices – V2.3 and later: smartphones and tablet computers (your device should have a GPS module and an SD-card)
- **OS X** based devices: OS X 10.5 Leopard and later (Mac Mini, iMac, MacPro, MacBook)

Where to Download from

Install the iRidium application for controlling the Crestron driver - **i2 Crestron** on the control panel with one of the following OS:

- iRidium App for controlling **Crestron** equipment:
    - i2 Control (for iOS): link to iTunes >>
    - i2 Control (for Android):link to GooglePlay >>
    - iM Control (for Mac OS X):download >>
    - iRidium for Windows 7/8 is included in iRidium Environment for PC >>

How to Work with iRidium App

iRidium App which is responsible for upload and launch of iRidium projects is used for your project to work on control panels. The upload on your control panel can be performed from the iRidium Transfer application or directly from iRidium GUI Editor with the help of Transfer.

The "i2 for Crestron" application is installed on your panel. It connects to the iRidium Transfer application running on your PC at launch. The "i2 for Crestron" application uploads iRidium project and iRidium license which enables connection to the controlled Crestron equipment from the Transfer application.

Properties of iRidium project launch and work can be changed in the internal settings of the "i2 for Crestron" application.

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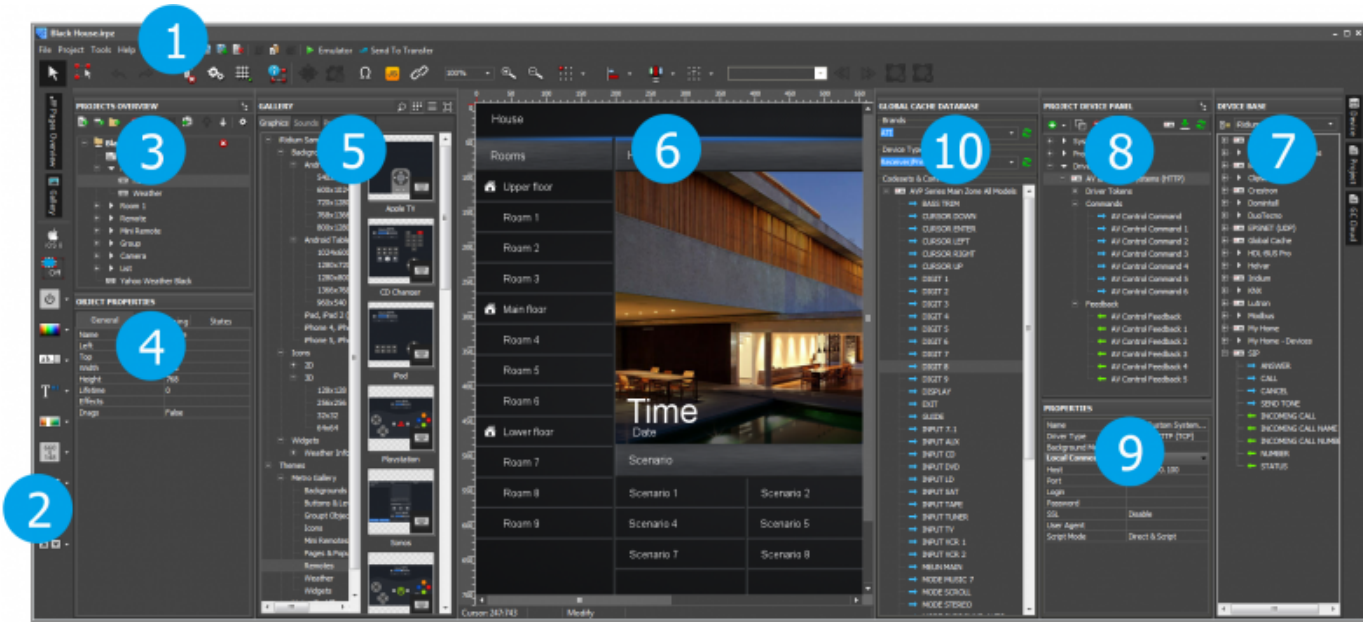
Create Projects

iRidium GUI Editor is used for creation of iRidium projects consisting of the graphic and driver parts. It has several working areas aimed to form different project components:

Workspace of iRidium GUI Editor

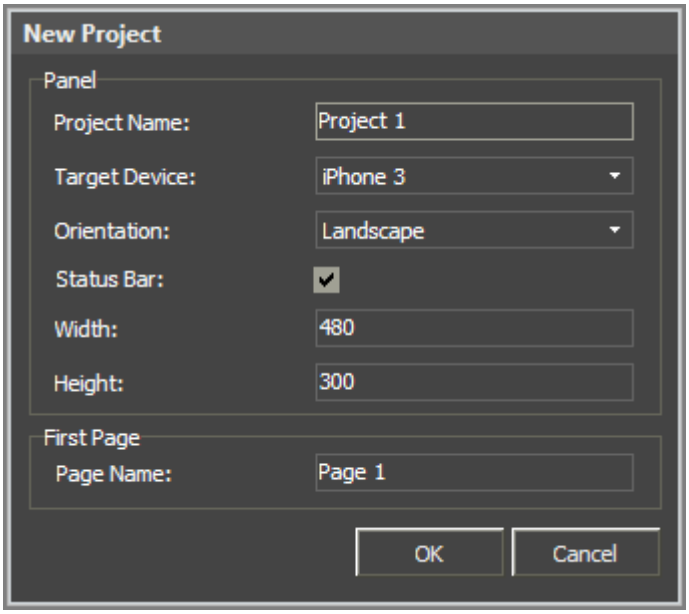
After starting iRidium GUI Editor you can see the workspace which consists of several zones:



1. **Tool Box**: contains main Editor tools and shifts to settings.
2. **Box of drawing tools**: contains tools for fast drawing of graphic items. After selecting a style and indicting the scaling possibility, you can add buttons, levels and other objects in projects fast and easy.
3. **Project Overview**: displays the structure of the project graphic part, enabling you to add new items to it (pages, popups, folders).
4. **Object Properties**: the part of the Project Overview panel. It contains information about the selected GUI object – a page, popup or graphic item.
5. **Gallery**: the gallery of images and sounds which can be used when creating an interface.
6. **Workspace**: displays appearance of pages and popups selected in Project Overview. Here graphic items for project pages and popups are placed. The commands to items are also assigned here.
7. **Device Base**: the database of built-in iRidium drivers (products). It includes tools for creating drivers for users and additional databases of script drivers.
8. **Project Device Panel**: displays the drivers used in the project and all their commands and channels. The commands can be dragged into the editor workspace (on items).
9. **Properties**: the part of the Project Device Panel. The properties of the selected driver, command or channel are set up here.
10. **Global Caché Cloud**: the database of IR commands for using with Global Caché converters.

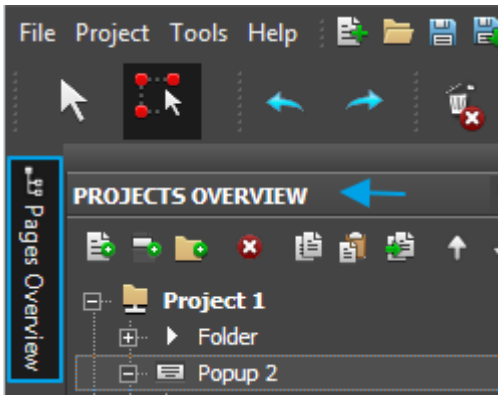
Creation of New Projects in iRidium GUI Editor

Creation of a project in iRidium GUI Editor starts with setting up its main properties such as resolution (in pixels), orientation (Portrait or Landscape), necessity of showing a standard status bar of the control device:

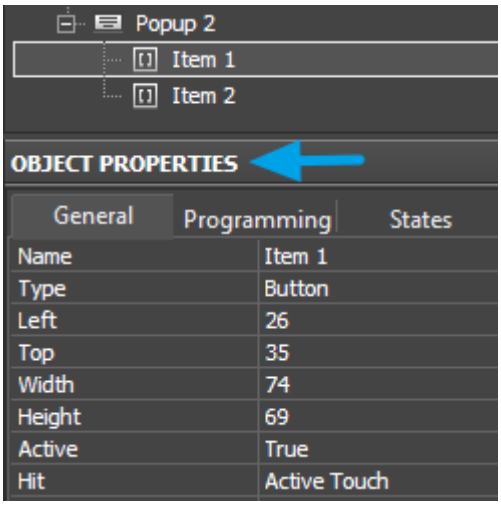


• **Project Name** – a project name, set at random.
• **Target Device** – a control device you plan to launch the project on. The choice of the device defines the resolution of the project.
• **Orientation** – orientation of the project on your control device (Landscape/Portrait).
• **Status bar** – shows if you want to display the status bar of your panel or not (affects the project resolution).
• **Width/Height** – width and height of the project defined by the properties listed above.
• **Page name** – the name of the first page of the project

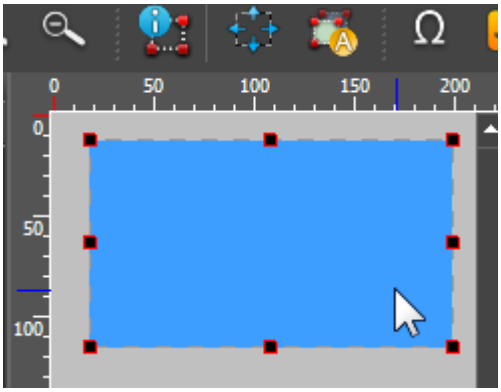
After the new project is created you can start work with the zones of the Editor working area:



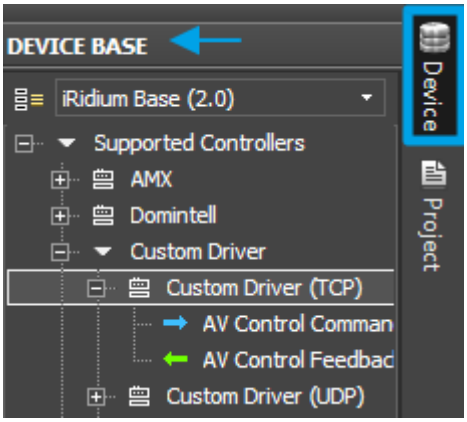
The **Project Overview** panel opened by clicking the button on the left side panel of GUI Editor) allows you to create new pages (Pages) and popups (Popup Pages) in the project. The list of pages and popups is displayed in the *Project Overview* tree. In its menu and in the right click menu you can perform some actions with tree items.



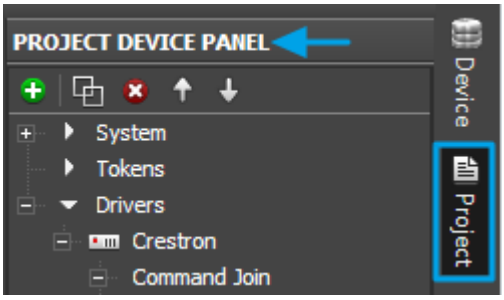
The **Object Properties** window is a part of the PROJECT OVERVIEW panel. It contains information about the selected GUI object – a page, popup or graphic item.
The window contains 3 tabs:
• *General* – main item properties (name, size, position on the page, value range, etc.);
• *Programming* – relations of the item with channels and commands to the controlled equipment (feedback type, commands and macros bound to the item); **States* – settings of the interface object appearance.



Workspace is used for positioning graphic items on GUI pages and popups. Here you can create and select an object which properties are set in the *Object Properties* window. Editor Workspace can be scaled. The objects of Workspace can be created with the help of the Draw Item tool and can be located with the*Select* tool.



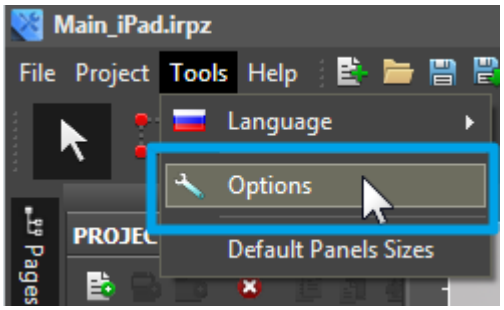
The **Device Base** panel opened by clicking the button on the right side panel of GUI Editor) contains the base of equipment and protocols supported by iRidium.
You can use a device from the base which is already supported by iRidium or you can create your own base of devices and commands which can contain the equipment you want to use in your projects.



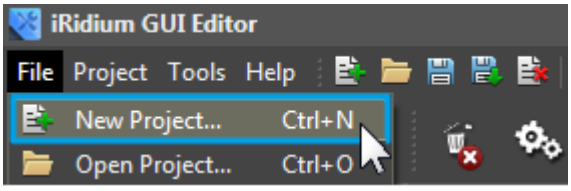
Project Device Panel is used for creating the tree of GUI devices. You can add devices selected in *Device Base* or your own base by the Drag&Drop method here. All controlled devices and GUI channels are created and set in this tree (the *Properties* window in the lower part of *Project Device Panel*).

Editor Settings

Display of information about graphic items and properties of the launched project are set in the tabs of main Editor settings.



Setting up the properties of operation for Editor and Emulator:
- indicating the path to the license file for Emulator
- starting Emulator in the full screen mode, with sound
- setting the font and font size of the Editor interface
- settings for scanning the local network
- settings for auto saving of open projects
- settings for saving the project backup copy



Setting parameters of the project launch:
- changing the project name
- changing the project resolution (resolution of pages)
- changing of project orientation on the target device
- presetting the start page and start popups

Creation of Graphic Interfaces

You can use a number of specific visualization capabilities for creating unique and user-friendly graphic interfaces in iRidium GUI Editor:

- Animated items
- Edit box
- Virtual keyboards
- Inertial lists
- Ready graphic and sound galleries
- Chameleon images
- Visualization effects of pressings
- Effects for page switching
- Passwords on actions
- Video from IP cameras
- Graphic informers
- Hyperlinks, OS commands
- Unicode support
- Emulation of projects work
- Scripts support

You can find more information about iRidium visualization capabilities in the **iRidium GUI Editor** section.

Setting up Communication with Equipment

You can find information about the setting up communication with the Crestron controller, sending data to Crestron joins and receiving them back in the following sections of the instructions for operation with iRidium for Crestron.

- Go to: Concepts of Work with iRidium for Crestron
- Go to: Examples of Communication with Joins of Crestron Equipment

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Receive Licenses

iRidium License

an *.irl format file which enables connection between a panel and controlled equipment. Graphic interfaces can work without the license but there is no communication with equipment.

When selecting the license you should consider the following parameters:
1. The number of control panels you want to control your equipment from
• **Device License** – a license for one panel. Device License is bound to the identifier of the device.
• **Site License** – a license enabling control over one Crestron controller from an unlimited number of panels. Site License is bound to the serial number of the Crestron controller.

2. Necessity to use functions of Script drivers
• iRidium Base (1 way communication) – it is possible to send commands to equipment only. There is no feedback.
• iRidium Pro (2 way communication) - it is possible to send commands to equipment and receive feedback from it.

• *Example 1:* Project for controlling Crestron equipment from one iPad.
The most suitable license is iRidium Base/Device License/Crestron.
• *Example 2:* Project for controlling Crestron equipment, Sonos media server and Global Cache transmitter (Sonos and Global Cache are script drivers) from an iPhone.
The most suitable license is iRidium Pro/Device License/Crestron
• *Example 3:* Project for controlling Crestron and Lutron equipment. Script drivers are used for controlling Sonos, Global cache equipment and a NEC projector (Sonos, NEC and Global Cache are script drivers). It is required to use 5 different panels (iPad, Android, Windows PC) for controlling the project.
The most suitable license is iRidium Pro/Site License/Crestron+Lutron

• **How to receive a license** – information about the process of receiving and activating iRidium licenses.
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Launching Projects on Control Panels

Uploading and launching of iRidium projects on control panels are performed with the help of the iRidium Transfer application installed on your PC. You can also upload your project on the panel from GUI Editor with the help of Transfer.
• Instructions for setting up properties of the iRidium project launch on control panels: **Properties for Launching iRidium Projects**
• Instructions for uploading iRidium projects on control panels: **iRidium Transfer**.
• Instructions for setting up iRidium projects on control panels: **iRidium App**
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