

BEYOND Registration and Licensing

- [Check out the Registration and licensing FAQ](#)

License and Registration Overview

Understanding Pangolin's Licensing System - Past, Present, and Future

LD2000 was one of Pangolin's flagship software products and has served the laser entertainment industry well for over two decades. Pangolin's BEYOND software built upon LD2000's success, and provided a newer generation of software, built for the changing needs of our customers around the globe. At its inception, BEYOND was included for FREE with LD2000 software purchases (tied to QM2000 boards serial number 10400, and higher). This allowed existing LD2000 clients, to familiarize themselves with the new BEYOND software.

The core of the LD2000 software, was the QM2000 hardware platform. The QM2000 was an incredibly advanced piece of laser control hardware, which acted as a computer in many ways, overseeing the calculation and output processes, while the software (LD2000) served as the user interface of the product. With LD2000 software, the QM2000 was programmed and defined the version of the LD2000 software that would run on it (Intro, Basic, Pro). In essence, LD2000 software was ultimately tied and bound to the QM2000 hardware.

BEYOND thus inherited a similar logic, in so much as having three versions of the software (Essentials, Advanced, Ultimate) and in so much as the BEYOND software is bound to a piece of Pangolin hardware (currently an FB3QS, FB4, or QM2000). In short, the software was and currently is never sold "separately" from a Pangolin hardware device, and a software license is not able to be transferred or moved, from one piece of hardware to another.

As a result of this historical model, which is also deployed presently, there are some fundamental consequences: First, once a license is issued, it technically cannot be taken away or moved away from that hardware unless the originally licensed hardware is destroyed (i.e. broken). There are no technical tools in BEYOND software (all versions) which allow us to "stop" a license from being used, or to delete the license from existence.

Before version 5.0

Here is a detailed overview of how the licensing for BEYOND software works before version 5.0:

- BEYOND is a professional level laser and multimedia control software.
- It gets licensed to an FB3QS, FB4, or QM2000 and works in a typical master / slave setup.
- So when you purchase BEYOND, you give us the serial number of your Pangolin hardware device.
- We then license the BEYOND software to that device. Then, that hardware becomes your "master".
- Anytime you want to run BEYOND, just make sure that the licensed hardware (your master) is connected to your control computer.

- Once the master controller is connected to your computer, you can also connect other Pangolin hardware in the setup as well, to use as additional output devices (slaves). But, if the master is not connected, then your slaves will simply run the original software they came with (in most cases QuickShow or LD2000).

Currently we often get questions about moving a license from one hardware device to another. Here we explain why this is technically not possible. When we move a file from a hardware disk to a flash drive, lets think about what actually happens... The computer copies the data to the flash disk, and then deletes the file on the hard disk. If we cannot delete the file on a hard disk, you can thus see why we cannot "move" or "delete" a license, as we have no means to prevent a license from being copied, transferred, etc., and we also have no means to be able to permanently delete it either.

In relation to the hardware, if the hardware the software is licensed too is not functional, then the license is also not functional (because, as explained above, the license is tied to the hardware device). Basically, a license's life, is tied to the hardware. And if the hardware dies, so does the license. NOTE: If hardware dies in the field, and cannot be repaired, in such cases Pangolin can work with a client, to move a license. As the concern that there would be a duplicate license in use, is no longer existent. As it's originally licensed hardware, is no longer usable.

We hope this helps explain why we cannot move a Pangolin software license, from one hardware to another.

BEYOND License Lifecycle - How It works

In all previous versions of BEYOND (up until 5.0), the software has been bound to a Pangolin hardware device (generally an FB3QS, FB4, or QM2000).

With BEYOND 5.0, we are adding new functionality to the software, which allows for a "PC-internet" license option to be chosen. This new feature allows clients - when ordering a new BEYOND license, to choose if they want the software tied to their Pangolin hardware device, or to their PC (NOTE: if a PC license is chosen, temporary connection to the internet is required to validate the license file).

Existing licenses received prior to BEYOND 5.0, will continue to work and function as they historically have, and will still be bound to the Pangolin hardware controller they were originally licensed too.

NOTE: If a Pangolin hardware device with an existing BEYOND license tied to it malfunctions due to a manufacturer's defect, or if it presents issues and cannot be repaired, Pangolin's Repair and Service Center will work with you to move the license over to a different hardware device or to a new PC-internet license. * The originally licensed hardware will be terminated in such cases.

NOTE FOR QM2000 CLIENTS (with serial numbers 10400 or higher): Existing licenses bundled with QM2000 hardware (serial numbers 10400 and higher) were granted for FREE to clients with those purchases. These licenses can continue to be used with BEYOND 5.0 and prior versions, without any limitations given the lifetime of the QM2000 hardware.

If a QM2000 board (serial number 10400 or higher) with a BEYOND license fails and cannot be repaired, or if a client with a BEYOND license on a QM2000 board (serial number 10400 or higher) wants to use

future versions of BEYOND (6.0 or higher), the license can be transferred to a new PC-internet license or hardware license, for 70% of the normal purchase price of the associated BEYOND license.

Terms and Definitions

Registration - validation of various system components such as license files, hardware, exe. BEYOND/QS will send this information to the registration server. The server checks it and sends back signed/encrypted confirmations for each part. BEYOND/QS can operate with these signed components only. Components can be used without registration for up to 7 days. You can save files and output to laser during this period. Registration is not related to ownership; additionally, hardware and software can be registered on multiple computers.

Licensing - as a way to bind and deliver the rights to use the software. Licensing is a right to use. We keep licensing information in centralized storage system. The licensing rights must be confirmed. It can be by hardware (serials, etc.), by PCID, by internal login on exact PC, etc. The method is not important, only that there is authentication. (Licensing uses the registration as a transport method.

Activation - let's use this word for "just purchased a license". Pangolin provides a "license code", which is binding to the new license. The user enters this "license code", click the button, and starts to use their own the license. In other words, Pangolin sells the "license code", the client enters it into the software, and it allows them to use their associated license.

BEYOND Registration Concept

BEYOND Registration

The BEYOND registration system was added in version 5.0. It is a "check in" for the control hardware to ensure that the hardware is genuine. This also allows for pangolin to help customers keep track of their hardware, and hopefully recover lost or stolen hardware. This process is done over the internet or done over email. If your show computer is connected to the internet, this is done automatically, and you will not even notice it happening. If you wish to keep your show computer offline, you will need to use email on a separate computer to complete registration manually. Registration is based on hardware and computer, so registration will only need to be done once for any specific setup, or hardware-pc combination.

What do we register?

1. Application (EXE file)
2. Pangolin hardware
3. Pangolin License files (detected automatically)

The Registration file sent to the Client PC is for the exact computer and cannot be used on another PC. Registration files also have auto increment numbers; the use of an old registration files is not possible.

Only the most recent registration file can be used by the PC. Registration files are automatically saved by BEYOND into C:\Pangolin folder where the file is managed automatically.

4 in 1

Registration requests and responses are also used for 4 type of actions:

1. Registration
2. License delivery and replacement
3. Internet logins, sessions, etc.
4. Activation of a new license (in New purchase case)

Registration work as a transport method for the data required for licensing, activations, and logins.

Activation overview ("license code")

Pangolin introduces a classic method used by many software companies. The company sends an "activation code" to the client, the client enters the "activation code" into the application, and clicks an "Activate" button, which triggers the online process. The company servers validate the code, and issues a license according to the code. Such a process simplifies and speeds up the purchase process.

License delivery overview

During registration, we check the hardware, and If the hardware has a purchased license registered, the server will put a license into returned registration file. BEYOND/QS will extract the new license file into the C:\Pangolin folder. Such a process simplifies the setup for Users who have a PC connected to the internet. You just need to start the software, connect the hardware, and click one button to get the license file(s) installed.

Internet login overview

Another classic approach to licensing control is using an internet login for authentication. Pangolin software now offers such a feature too. Let us consider how it work. You have a big show coming and you need to use BEYOND on 5 computers. And you have 5 "internet licenses". In such case you need to take 1st PC, login into your account, select one of the licenses and start "session". "Session" means "I am using this license on this PC".

What does it mean for me?

In short, **if you have the internet on the show computer, you will have no problem**. Registration and licensing being handled on the internet will only add convenience if having internet on your show

computer isn't a problem for your application.

If you do not want your show computer to ever have internet, you will need a **separate computer to connect to the internet** in some way and have an email client.

As well, the license type you will want to use is **hardware-based licenses** if you are okay with verifying the hardware once and carrying hardware around, or **PCID** if you only ever want to register a PC once and not carry hardware, even if this means if the pc is broken or lost your license goes with it.

Ways to get internet almost everywhere:

Phone tethering: Most phones and plans these days allow for wireless tethering to your phones, QS and BEYOND registration requires rather low file sizes so this will not affect your data plan's limits much.

Mobile Hotspots: Many services offer global mobile hotspots which will use the cell towers data plan, one of the ones we use at pangolin is Skyroam, they offer day passes for \$10 globally and is relatively low cost overall, with access in 100+ countries.

Satellite internet: Companies like ViaSat offer global internet coverage, while not the fastest, it will be sufficient for registration. And with companies like SpaceX and Amazon building global high speed internet satellite plants, these may become options in the future.

If internet just is not an option

I'm doing a laser show in the Sahara Desert, on a small island in the Pacific Ocean, or on the south pole in the winter etc.

1. There is a 7 Day grace period where registration will not be required for connected hardware (this does not count for your license, so register that licensed hardware at home). This is for any computer seeing a piece of hardware for the first time, so if you used this grace period a few months before for a piece of hardware, it will have expired and require registration.
2. If you change computers this will reset. So, you can bring multiple PC's to push the time limit off, (just transfer settings) and you can keep operating. (keep in mind the grace period is only for first time seeing hardware)
3. Prepare your show beforehand, gather all the equipment you will be using in shop (including spares) and register before equipment is shipped off. Do this for all hardware and computers you may use on the show.

Best practices based on company size: (If you do not want to connect show computers to the internet)

1. Small Laser Company, up to 10 lasers, 2 PC Stations
 1. Generally, a smaller company has their fleet of lasers and computers able to be brought back to their shop.
 2. Best practices is whenever a new laser/FB4/FB3 is added to the fleet, you should register this hardware with all the PC's you have, and similarly when you add a PC, you should register all

the hardware with the new PC.

2. Medium laser company, 10 lasers to 40 lasers 3-10 PC Stations
 1. If possible, you can try and register all lasers and hardware together in shop whenever new equipment is added, this may be difficult.
 2. It is recommended to carry a non-show computer device which can handle email and transferring of files, which you will connect to the internet, in case a pc has yet to have seen any of the hardware connected.
 3. If you know which equipment you will bring for your show, you can get all the equipment out and connected to the PC(s) you will be using and register at your shop, this will ensure you wont need internet on the show site.
3. Large laser company, 40+ Lasers 10+ PC Stations
 1. In this case you may have way to many combinations of PCs, and control hardware to get it all together at once to do, and you may be adding, replacing hardware, PCs all the time.
 2. It is recommended to ship with a pack of hardware a way to connect to the internet (any way described above) Likely a global hotspot, and a separate pc device to do email registration.
 3. Use company-based registration. We have a system of company-based registration, where once you register, you can send all that info to the server, then download that info on any computer in your fleet. This will require large file sizes, but will collectively register all hardware in your fleet, and share that data with all your pc's.

If registration fails; License or Hardware issues with registration.

If your classic hardware-based license isn't found by the server when registering, you will get a warning. There is two reasons why this may happen.

1. We missed your license. While we made all the best efforts to collect ever license file over the past 10 years, we may have missed some, email support@pangolin.com with your license, and hardware serial number and information about where and when you got it, and we will fix it.
2. Your license is counterfeit or licensed to counterfeit hardware. Please email support@pangolin.com with your license, hardware serial number, and information about where and when you got it and we will work with you to get you genuine hardware and license.

If hardware like FB3 or FB4 fails to register and is marked with an X, this hardware has two possible situations:

1. This hardware is counterfeit and will never work again, if you bought this hardware in good faith, contact support@pangolin.com with the info about where you bought it, when, and we will ask you to send the hardware in, and we will work with you to get you genuine pangolin hardware.
2. The hardware was marked as stolen. If you bought this hardware in good faith, contact support@pangolin.com with details about how you acquired this hardware, we will work with you to return this to its proper owner, and get you into a new piece of pangolin hardware.
 1. Similarly, if your hardware is stolen and you have an official police report and the serial number of the hardware, we can mark it as stolen so if it is ever used again, we can refuse it to work, and hopefully recover and return to the owner.

Pangolin Internet License (and other license options)

Pangolin BEYOND Internet license

In addition to our original hardware-based license, BEYOND 5 offers a new option - a license managed by internet or "internet license". Let's take a look at the process for this new license system. When you purchase a license for an application from Pangolin, the purchase gives you the right to use the software. That's it; it is as simple as that. We have two parts - "you" and "software". When the software starts, it wants to ensure that it is you who is using it, and you have the right to use that software. Indeed simple. How can you indicate to the software that you are the one using the application? In our daily life we use multiple methods for identification, driver license, passport, accounts to access resources or services, a dongle to open software, a key for a car, etc. All these things are about authorization and authentication, but it all comes down to the identification of you and your right to do something.

So, the license file is a right to use, a right to do something. We will use a well-known approach - you create a license management account, purchase a new license, and add it to your account. After that, you can start to use the software on your computer. You will need an active internet connection to do this. Internet access is 100% required to perform license management. Let's call it activation.

"Activation" means that you start to use the software on the computer you activate it on; "deactivate" means - you stop using the software on the computer you activated it on. You can do it as many times as you want, and on any computer that you want; this is your right and the responsibility to start and stop (activate, deactivate) the software on specific PCs is yours. As you will see - we have a two-step model: you login, then activate or deactivate the license. Our goal is to make it as simple as possible and hope it indeed simple. Two steps are needed in case you have multiple licenses. For example, if you want to use a backup laptop. In this case, you need second license. Additionally, you may have BEYOND Essentials, but you would like to do some 3D work in BEYOND 3D. Here, you can now rent a license from Pangolin for a "time" based situation. In this situation, you have two license files (during the rental of BEYOND Ultimate); you will need to select which license you are going to use. This means, that after you login, you will see the list of licenses on your account, and you can choose which one to use. Of course, you need to have internet license at the moment of time management.

Basically, now you know all the main things required to know about the new Pangolin license option. A license gives you the right to use the software; for this, you need to have account, a license on your account, and internet access so you are able to activate or deactivate the license on your computer. We made this license exactly for such a scenario of use. There are multiple related details which we will consider in upcoming chapters.

Internet

Internet is 100% required at time of license management. This is "must have" condition. The Pangolin server supplies a special file made for your computer. This file is different every time and made for your exact computer. This is same as you cannot do online banking if you do not have internet access. You cannot do a call if you are out of mobile coverage. This is not a bank fault that you cannot manage your account if you do not have internet access. This is your responsibility to have internet access at the time of license management. Do I always need to have internet access? No. You do not. We want you to be

comfortable. Nobody can have 100% reliable internet access and we do not want you to have problems because of internet connection drops. That is why we kindly ask you to manage your license according to the importance of your work. This is important to all of us.

Emergency license

Let consider one especially important scenario. For example, if you start the license and your laptop fails catastrophically, such as a hard drive failure. What can you do in such case? We offer you an "**emergency**" license. This is ability to start same license second time on another computer. It means – you can login and start same license a second time, and be up and running. This is a native feature of the new internet license – to have ready to use as a solution in an emergency.

The typical next question is – what if second laptop also fails? Will you give me a third license? No, we do not give unlimited number of emergency licenses but instead offer you a way to manage your license's lifecycle. However, you may contact Pangolin Support, we always glad to help.

Note, the emergency license is just a second use of same license, performed with same login, same license, etc. The only difference – the second use is allowed only for emergency cases. You use same Manage Internet License and click the "Start Use" button. As a result, you will see information about both uses of the license.

License lifecycle

As a way to solve the problem of a failed laptop is to limit license lifetime by a short period of time (from hours to days) and let the software refresh the license information for a period of time, in the background. If a laptop fails, then the license becomes unused as soon the time out period occurs. In other words – instead of grabbing a whole license lifetime and binding it to your laptop, you do it piece by piece, and if something happens to your laptop, then you lose not much; only a piece of requested life cycle, and most possibly, the piece will be covered by the Emergency license. We have this system implemented, and we offer you to control the refresh period yourself. At the time of this writing, the range of regeneration is from 2 hours, up to 2 months. A shorter time gives you maximum mobility; a longer period increases the time you can be without a connection to the internet.

In fact, this is critical point. I would indeed recommend using a long regeneration if you do important job. It is good to be independent from internet and do not worry about it. In silent periods you may operate with short regeneration times. For long regeneration – as a backup plan, you have emergency license and may want to buy short rental license (week, or month) and keep the activation code for emergency cases only. The plans may change, but at time of writing of this text, Pangolin preparing to introduce time limited licenses. Of course, the cost will be much lower than permanent license, and you may want to have it for emergency situation.

One is one

Emergency license does not mean you have a second license, which can be used in same time.

Technically it is, but, it does not mean you can use emergency license for backup purpose or give it to somebody else. This is out of agreement. If you need a backup system, or second operator – please consider buying or renting license. We do technical actions to detect and prevent multiple use of single license.

Sessions

When you start (activate) the license we create a “session” on our servers, which indicate your wish to use the license on this computer. When session created, it allows BEYOND to do license regeneration in background. Technically, we have a loop of steps – you start a license, BEYOND receive a response from server, which allow to use the software during period of time defined by you (see **lifecycle**). When period comes to end, BEYOND will try to receive the update license information. If the session is still present, then approval will be granted. If there is newer session, then this PC will not get approval to continue. Newer session means you started emergency license, and you want to stop use the license on previous PC. Overall rule is pretty simple – regeneration will pass successfully if this PC has youngest session. If there is younger, or no session at all - then this PC will be approved to use this license. Session created as soon as you click “start” to use the license and removed when you click “stop” button. Lifecycle managed by you, please manage time of your licenses responsibly.

Conflicting situations

Hopefully, it never happens but expected reason of problem are computers with active long sessions that out of control and internet connection. When computer out of internet access we cannot do anything about. The only way to control lifecycle of license. If PC is out of internet, we cannot update license information on it. In other words – disconnected computers are out of our control.

Hardware vs Internet license

The truth is – there is no one solution which cover all cases. That is why we offer a few options now. Internet licenses offer some flexibility – you can start and stop it and move from PC to PC as many times as you want. Also, there is no dependency from exact hardware. You do not need to have exact FB3/FB4 with you which act like a dongle. At same time, license require internet connection from time, which adds some dependency. In opposite, hardware-based license permanently binds to exact hardware. No need to do periodic checkups, no timeouts, basically no internet dependency. If hardware broken and Pangolin Repair Center cannot fix it – Pangolin move the license to another hardware. This is great if you do permanent installation.

Hardware based license has pre-registration period which allow to install BEYOND on new PC, copy license, connected corresponding hardware use BEYOND in pre-registration mode. This can be done without internet. In opposite, internet license require internet from the 1st moment. However, you can do license management and automatically receive registration data and disconnect from internet.

Hardware based license follow the hardware. If you share the hardware in your company then having FB3 reduce mess which can appear during sharing account data between several people. Overall, internet

license designed to be a personal license which you keep for your use, on your computers. The hardware license is more professional. Having FB3 acting like a dongle simplify control and decrease dependence from internet. The Internet license can only be used for newly purchased software.

What license Is right for me?

1. Hardware License

1. This is similar to how the old system works, except the license is served and bound inside of BEYOND instead of through email. You will receive your code in your email immediately after purchase, and when your hardware comes in you will want to plug it into beyond and use either “add new hardware license online” or “add new hardware license by email” if you wish to keep your PC offline.
2. Who is this for?
 1. Installs who are offline.
 2. Large companies who don’t want their licenses bound in an account.
 3. Licenses that are regularly sub-rented out, outside of your company.
 4. Users who do not want to rely on internet ever.

2. Internet License

1. Internet licenses do not require hardware and are bound instead to a login. You can have many different licenses inside one account, and you can manage which pc has which licenses, and move licenses between computers at your leisure. Internet license computers require a maximum of 60 days between seeing the internet. These licenses can be activated immediately after purchase and added to your account. All PCs logged into that account can now access that license. Computers can “start use” of the license and use it to activate that license on that pc, to transfer use, “stop use” to make the license available again. Obviously during these “start” and “stop” use cases the computer needs to be connected to the internet.
2. Who is this for?
 1. Programming machines, testing, personal use, where carrying a piece of hardware is annoying or increases cost.
 2. Companies with lots of licenses who don’t want to try and track down which hardware has which licenses, and may have 3 essentials and 1 ultimate, no need to ship that ultimate FB4 across the world if someone else needs it.
 3. Freelancers traveling with their own license.

3. PCID license

1. PCID licenses are licenses bound to a specific computer, it is the most cost effective and simple but most volatile. No internet is needed, and no hardware is needed. However, if the PC is broken, lost, stolen, or you just want to upgrade your PC, the license will be lost and is unrecoverable. A PCID license is for that exact PC and that PC only. Small changes like RAM upgrades and hard drive upgrades will not affect this license, but CPU and Motherboard changes will change a PC enough for the PCID license to become deactivated.
2. Who is this for?
 1. Ultra-budget conscious applications
 2. Where immediate convenience is paramount
 3. Applying a “set and forget” license to a brand-new show computer that will always be a show computer.

4. Development purposes and Demonstration purposes

Startup Sequence and Demo Mode

BEYOND start up

The logic of start changed to more simple and easy manner. BEYOND will start independently from presence of license file or Pangolin controllers. Application start and then connect hardware, check presence of license file locally. If required, application will perform registration automatically in background, deliver and install license files. The end goal - to be automated as much as possible.

For BEYOND we require connected FB3 or FB4 hardware (for BEYOND - connected hardware and related license file). If condition is not met, then software disable Output and Saving. Basically, it is in demo version. Software is active, wait for hardware connection to run. It will allow output as soon as hardware connection and registration is passed.

Required action - connect your Pangolin controller, connect to PC to internet, open «Registration and License Manager» by click on «Registration» menu, and in Registration tab select «Register online» from the list in «I want to» field. Click on «Register online now» button. System will pass registration and install license files automatically. After that you can disconnect PC from internet and keep PC offline as you want. Registration will be required only if something changed. Pangolin does not require you to stay online and do not force checks. Updates not required too. Registration will be required for new parts (new hardware, license or software version).

Notification on exit

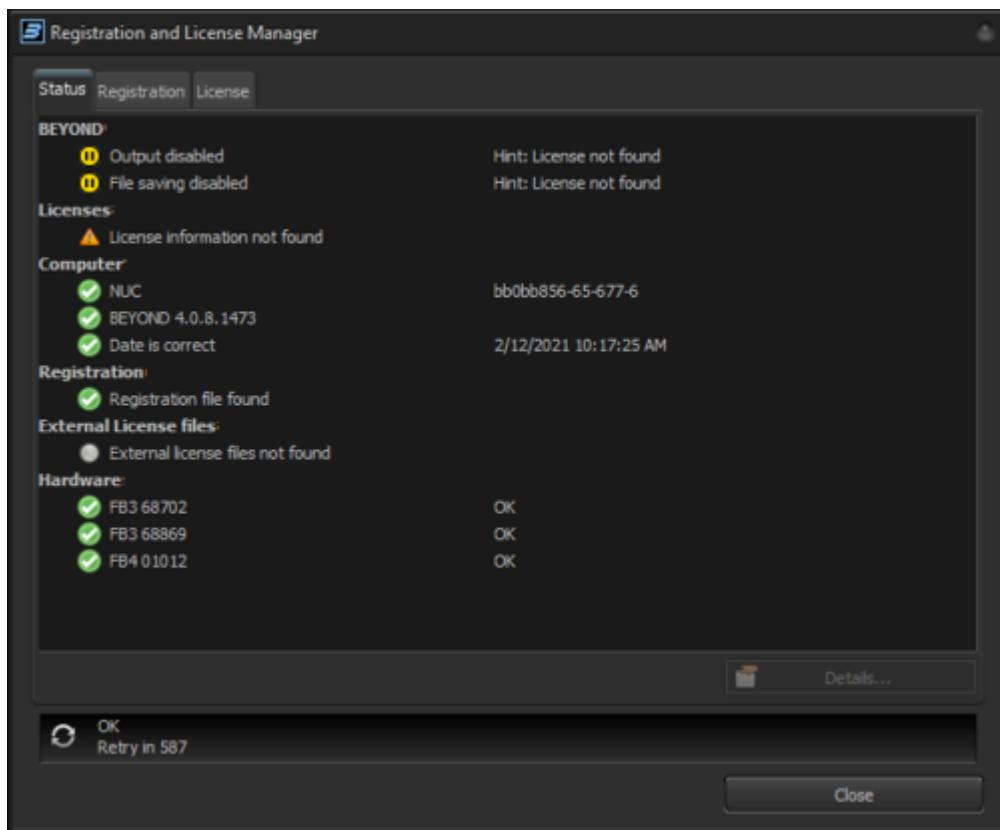
If any of components require registration, then the software will try to make registration automatically (over internet). If some of component is not registered, then software will show notification window at application exit. We do not want to bother you with messages and will try to make it automatically for you. However, if we cannot then we must remind about and offer to look at registration window.

BEYOND Registration and License Manager: Status Tab

The BEYOND Registration and License Manager is a window accessible from the top bar of beyond under "registration", this window has 3 tabs. the Status tab gives an overview of all registration and license statuses. the Registration tab has all tools to complete registration manually (over internet or email). The license tab has all license related options, from redeeming codes to managing internet licenses. Bottom panel shows the current status of any actions happening.

Status Tab

The first tab is the status tab, it gives a quick overview of all parts involved in registration and licensing. Any item in the list marked with a green check mark means there is no problems with that item.



You can select any of the line items and click “Details...” to learn more about an item, especially if it is not marked with a green check.

Bottom panel indicates any requests to the server, normally this says “okay” if there is no connection, you may see a “refresh” button, to have BEYOND Initiate communication to the server. “Retry In” and a number is the seconds until the next time the server attempts to contact the registration and license servers.

Section overview

BEYOND – section indicates the state of the two main permissions – output and saving. Such permissions result of license control. More details in following chapter. If these have a yellow “pause” icon, this means that BEYOND is operating in “Demo Mode” and wont allow saving or output to hardware.

Licenses – list of all licenses found on the PC, this could be Hardware license files, PCID licenses, or Internet licenses currently in use on this PC.

Computer – indicate state of computer registration, Application EXE file, and PC clock.

Registration – presence of registration file, and if registration is valid.

External license files – list of discovered license files. License file has license information which appear in License section if file valid and confirmed by registration.

Hardware – list of connected Pangolin hardware and its registration state.

BEYOND Permissions

Let us say you have a hardware-bound license. As example an FB3. You connect FB3 to BEYOND and can use all the features. Now you disconnect FB3 and what should happen? It might be not intentional disconnect. For such cases software give 40 minutes. It should be enough to connect FB3 back. If FB3 will not be connected back, then software will stop output to hardware. Software requires hardware with license to be connected to confirm your right to use the software. So, when licensed FB3 connect then software has permission to output. If no, then **output** will be suspended. Permission appears after connection of licensed hardware to software. You disconnect licensed hardware and permission will be removed.

Similar story happens with permission to **save**. We call it “Airplane mode.” Software gives you permission to edit BEYOND files within 2 weeks after last connect licensed hardware. This is handy because you can leave equipment but still have ability to work on your show in airplane or in hotel room. So, permission is simple thing. If permission on pause, then software want you connect hardware with a license, or start internet license. As soon as license confirmed – permission granted. If permission disabled, then you will see corresponding message when you try to save the file or click button “Enable Laser Output”.

When permission not granted then BEYOND show “pause” icon. When permission granted – green check mark.



Such set of icons appear when licensed hardware disconnected, and software in “airplane mode”.



When permission granted then all icons are green:



Hardware section

Hardware checks (in registration) are to decrease piracy and protect clients against theft of hardware. Registration is online check of the hardware information on a server. As a result, our data center return information back to BEYOND about connected hardware. If hardware recognized as non-genuine product or is our list of stolen gear, then it will not pass registration process. Software will not output to such

hardware.

Registration will need to be completed within 7 days of the 1st connection of this hardware to the specific PC. This gives a “grace period” for one off shows where rental of hardware is expected. Registration must be completed, within the “grace period” as after it ends, output will be suspended to that hardware. Registration is not related to ownership, licensing, etc. This is just a check of the hardware’s legitimacy and doesn’t “bind” hardware to a PC.

Hardware section use several icons

Hardware:	
● FB3 68702	Disconnected
✓ FB3 68869	OK
✓ FB4 01012	OK
⚠ FB3 68868	Pre Registration, Time remaining: 7 days, 23 hours
⚠ FB3 64305	Pre Registration, Time remaining: 7 days, 23 hours

- Gray circle - hardware disconnected now.
- Green checkmark – hardware passed registration successfully.
- Orange warning sign – hardware is not registered yet. Software also shows how much remains to do registration.

If the hardware problem detected, then it will be indicated by “red x” icon.

Hardware:	
● FB3 68702	Disconnected
✓ FB3 68869	OK
✓ FB4 01012	OK
✓ FB3 68868	OK
✗ FB3 64305	Off

External license files

BEYOND uses a new format of license files. Majority of license's are already in our datacenters. As soon as you connect Pangolin hardware which has a license bound to it, then new file will be downloaded and installed automatically over internet. Basically – connect your Pangolin hardware, connect PC to internet and BEYOND will download and install license for you, automatically. The migration from old style license to the new license is automatic with this process.

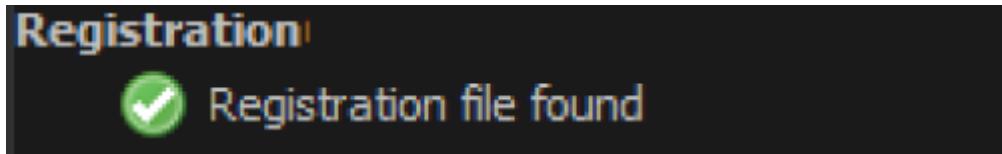
External License files:	
 License FB3 68702 BE 43CD2E62.bmp	

License files stored in folder C:\Pangolin. This is one uniform location for all setups. Folder keep registration and license files. No need to keep license into folder with BEYOND.EXE. Old license files are not supported by BEYOND. BEYOND will not even try to load them. BEYOND operates with new license files only. It will only attempt to match old licenses to hardware and create new license automatically.

If these old licenses are unnecessary, why do we still show them? This confirms that software sees the file. It helps to solve the question – “my license does not work”. If file structure is valid then BEYOND will load the file and show in the list. Please note, new licensing system has time-based options, and license may become expired. Also, if license change then BEYOND will replace file to newer version automatically. Software tends to manage files automatically based on up-to-date information on Pangolin data center.

Registration

The “registration” section indicates presence of, or the lack of registration file. This registration file is specific for every PC, do not try and copy it to other computers, the file will be rejected. Registration file is located in folder C:\Pangolin. File keep information about registered hardware, license files and applications (executable files). System keeps track of sequence of registration, please do not replace new version of file with old versions. It will be considered as missed registration. Also, please do not delete registration file. Just leave it alone, and it will be fine. When PC connected to internet then registration is automated or can be initiated by you in a click of a button.



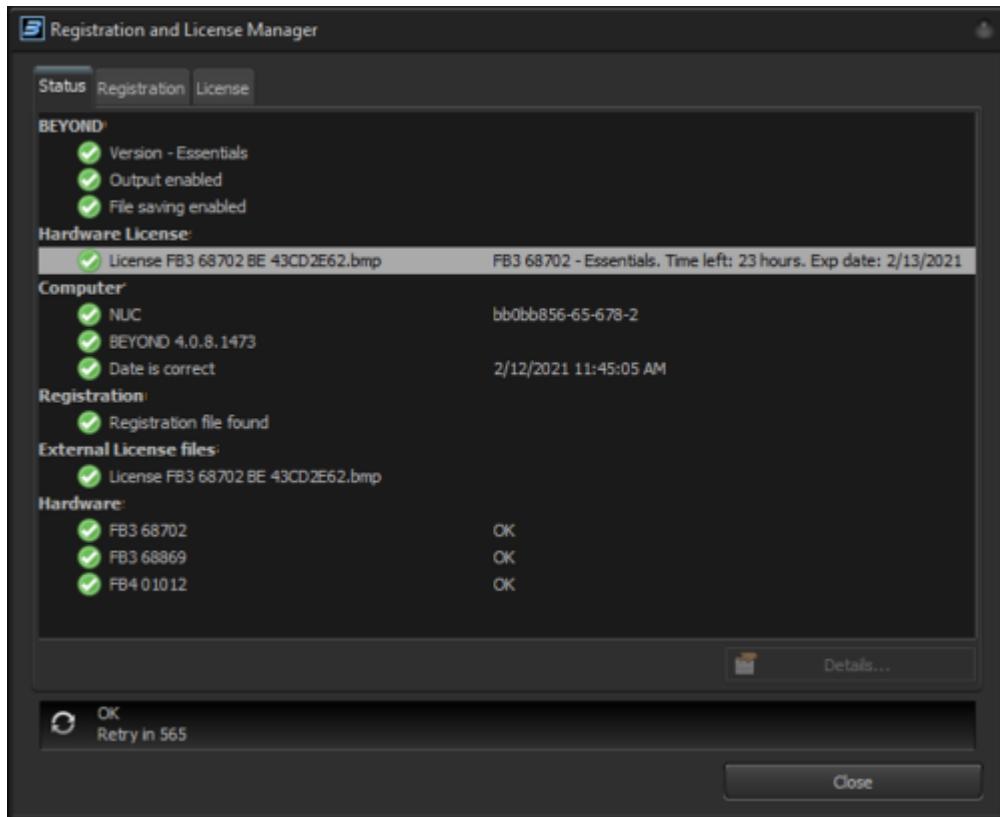
Computer

- **PC** – indicate overall registration status.
- **Application version** – indicate status of BEYOND.EXE (or QS.EXE) registration.
- **Date** – indicate status of clock. Please do not change PC clock back. Some of the licenses are time based, and we must ensure that PC clock is correct. If you had to change PC clock, and BEYOND recognized it and saved modified time – it can be fixed by re-registration. File has time information from server, and it allow us reset BEYOND time based on fresh data. As a note, if you change time zones your temporary licenses won't be extended, its based on UTC time registered, which is constant.



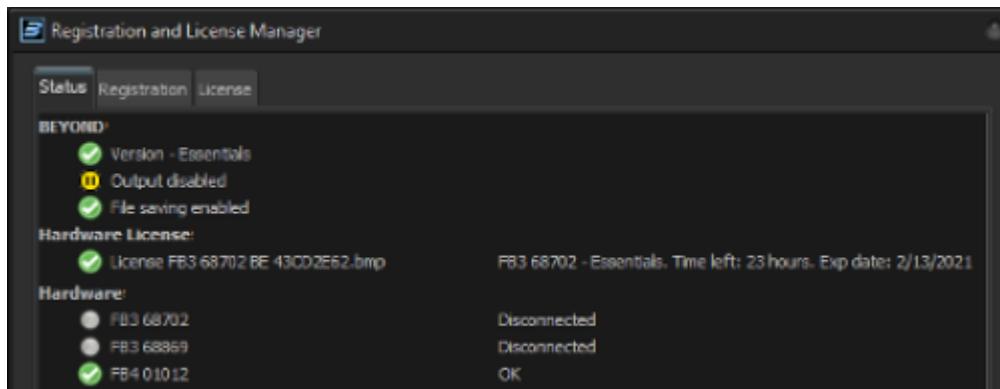
Hardware Licenses

License list of installed and valid licenses bind to hardware. If license is time limited, then expiration time will be at right side of the line.



Left side of line has file name. Right side – version information and expiration date (is applicable). When license expires, it moved to section “Expired licenses”.

If licensed hardware is disconnected, and software is restarted, you will see this. (40 minute grace period for disconnected hardware is reset on software restart)



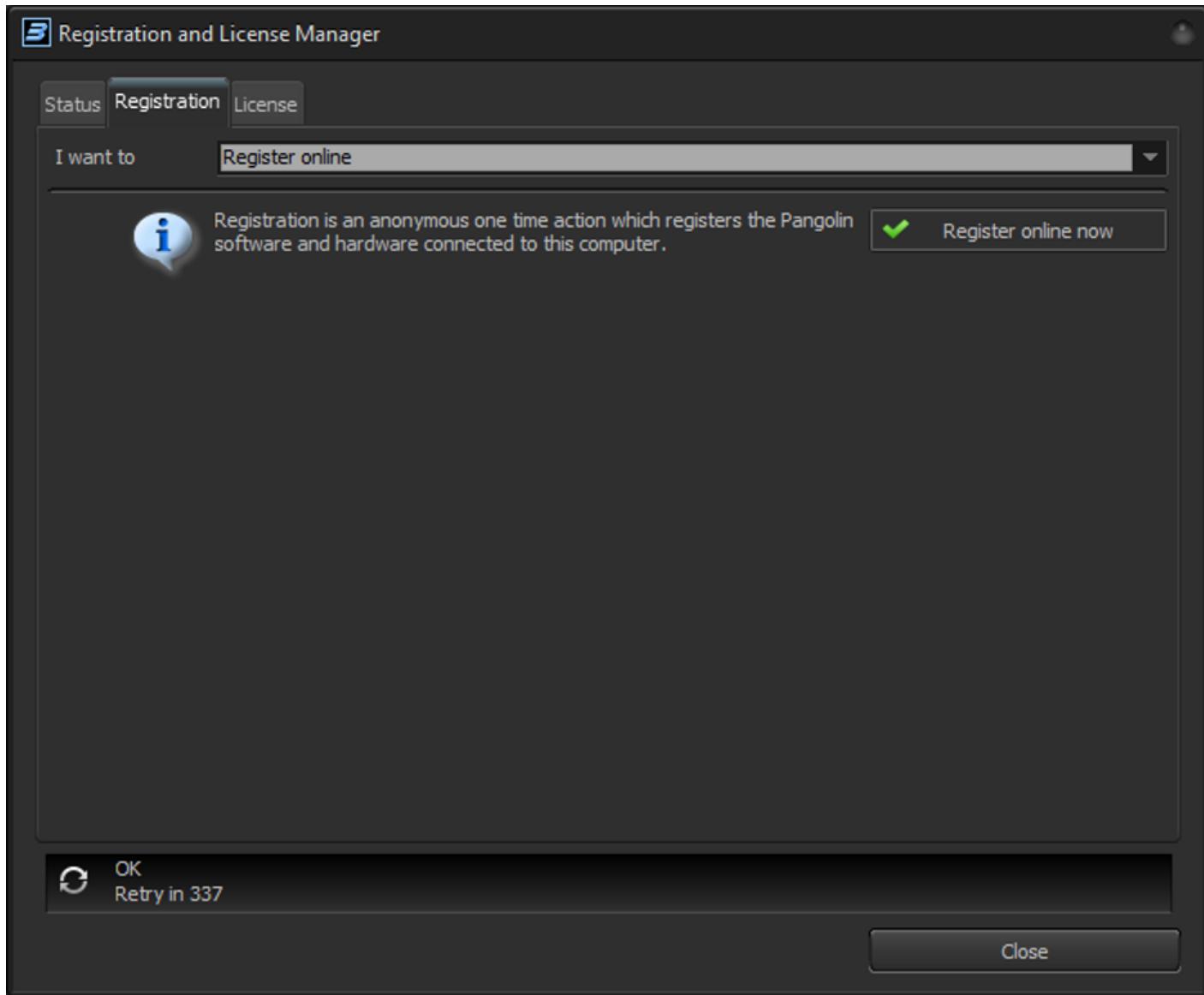
BEYOND Registration and License Manager: Registration Tab

Second tab of the window concentrated on one single purpose – for registration.

IMPORTANT. Please connect your Pangolin hardware before making registration. It is required, otherwise hardware will not be accepted by BEYOND.

Online registration

Online registration is the simplest and most comfortable way to do registration. Select “Register online” as shown on screenshot and click button “Register online now”. Please be patient and give software a few moments.



At the end process software will offer to review registration report. We recommend doing this. If server will detect some problem, then it will be reflected in report.

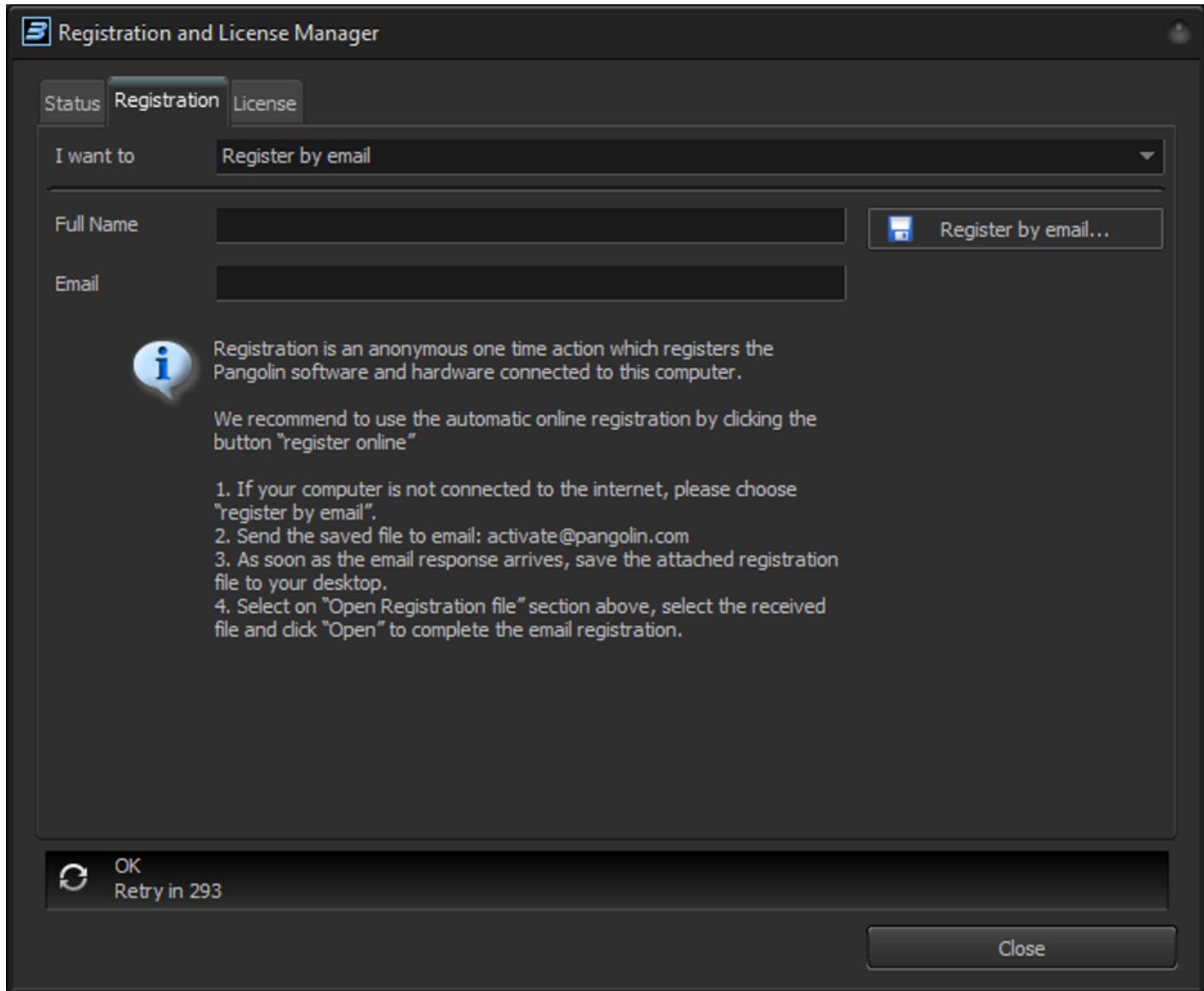
Please review Status tab after registration.

It's important to note that online registration is completed automatically every once and a while, but if you wish to register manually or immediately if you added new hardware, you can do it manually here.

Register by email

If you wish to keep your show PC offline, and never connect It to the internet, you can register by email.

Connect Pangolin hardware you want to be registered before making registration request file. Choose “Register by email” as shown on screenshot below. Sections for your Full Name and Email are optional. Click button “Register by email...”, save the file to your pc, transfer it to another device and send to the email of our automated registration system: activate@pangolin.com

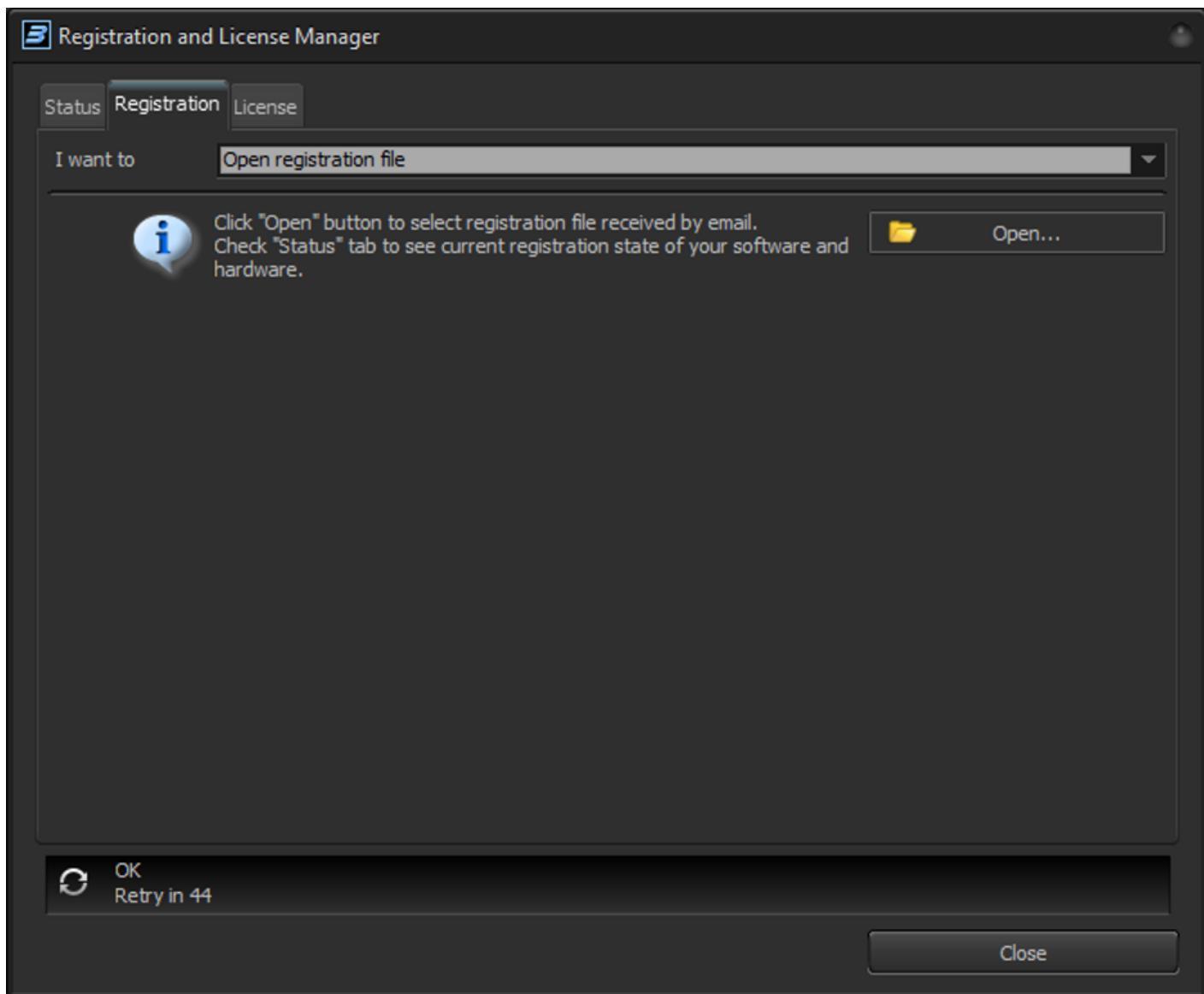


In a few minutes automated system will send a response back with an attachment, save this attachment and transfer back to your offline show PC.

Opening registration file

Choose “Open registration file” after getting a response from automated system. Click button “Open...”

and selected received file. Check Status tab to see current registration status of software and hardware.



Online registration and registration by email use same files. The only difference is transport method. The rest is 100% the same.

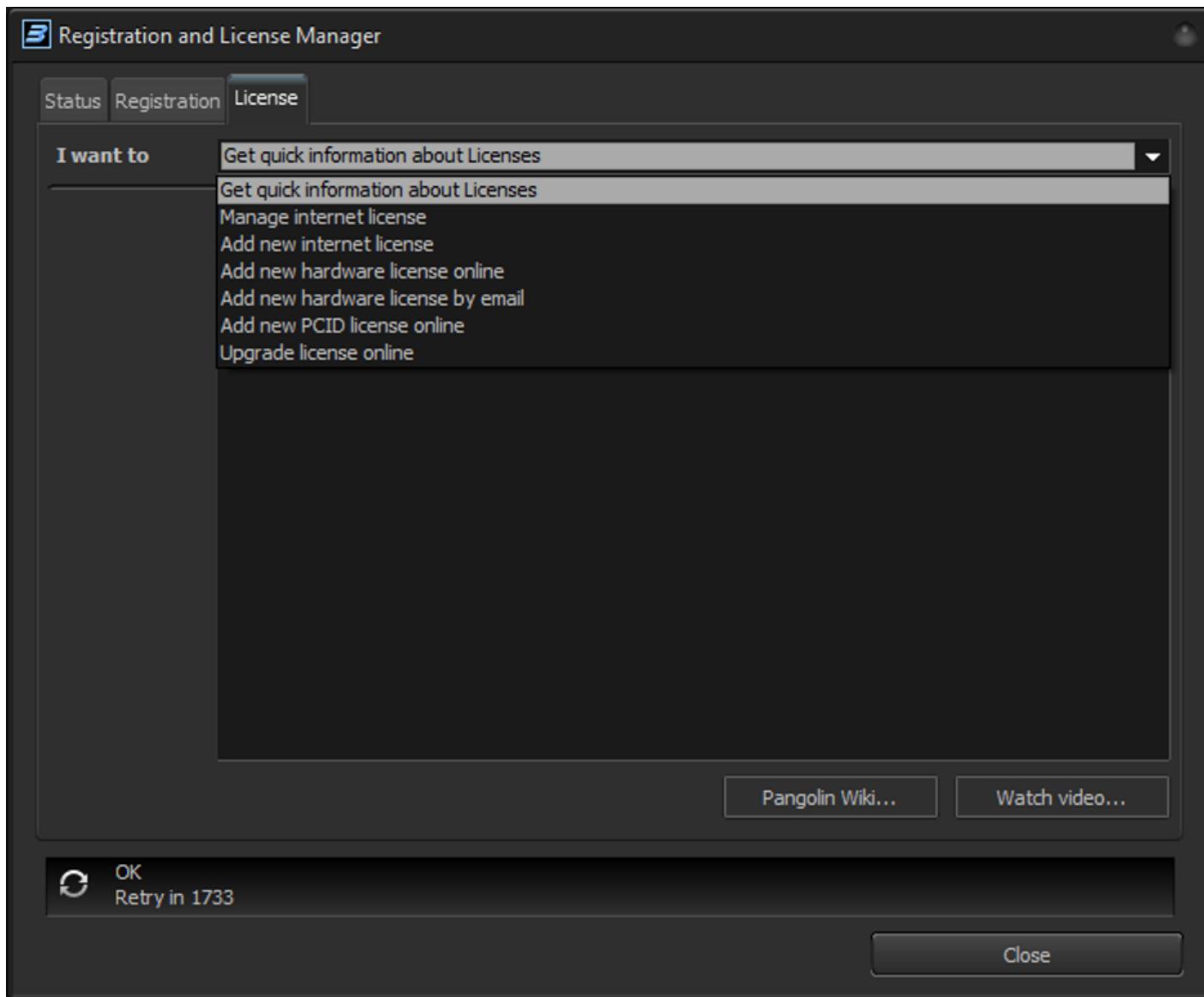
Software keeps the track of registration sequence. Please use only the latest registration file. Previous version will be rejected.

If software detects manipulations to these files, then it will lock you out.

BEYOND Registration and License Manager: License Tab

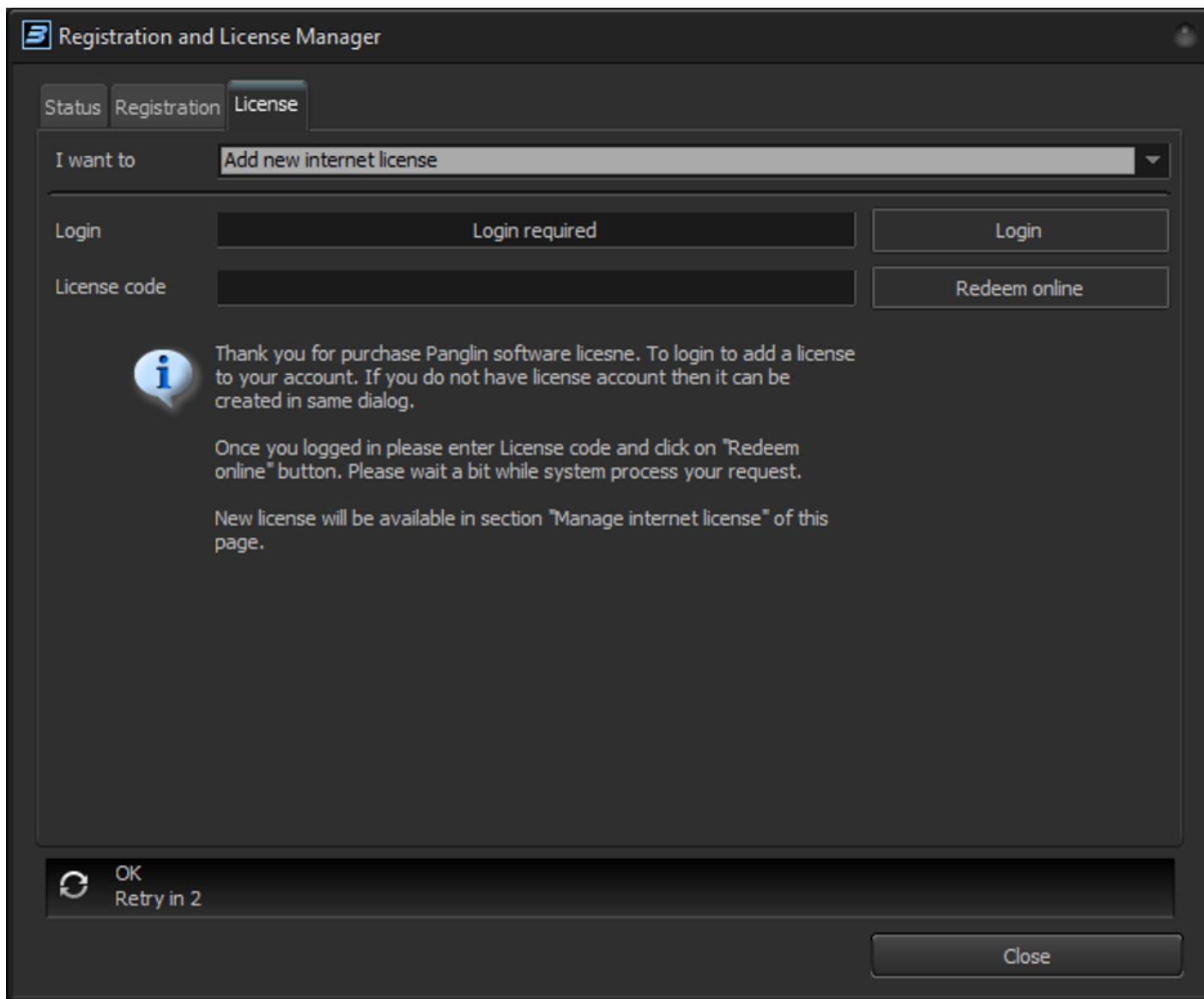
License tab is similar to Registration tab. "I want to" section allow you quickly go to section related to new purchase (activation of new license), license upgrade and internet license management. Management page will be described at the end of chapter.

Pangolin use different license codes for new internet and hardware as well as for upgraded. In general, the process is similar for all types of license codes.

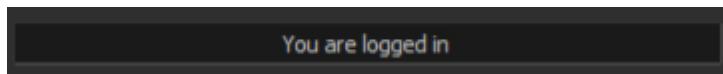


Activation of new internet license

Choose “Add new internet license” to activate new code. Ensure that PC has internet and that BEYOND has communication with the server – status bar should show OK like shown on screenshot.



Internet licenses require Account. Currently Licensing server use own separated accounts. Click on Login button to login into your account. If you do not have account yet – it can be created in same window. Text of Login panel will change to



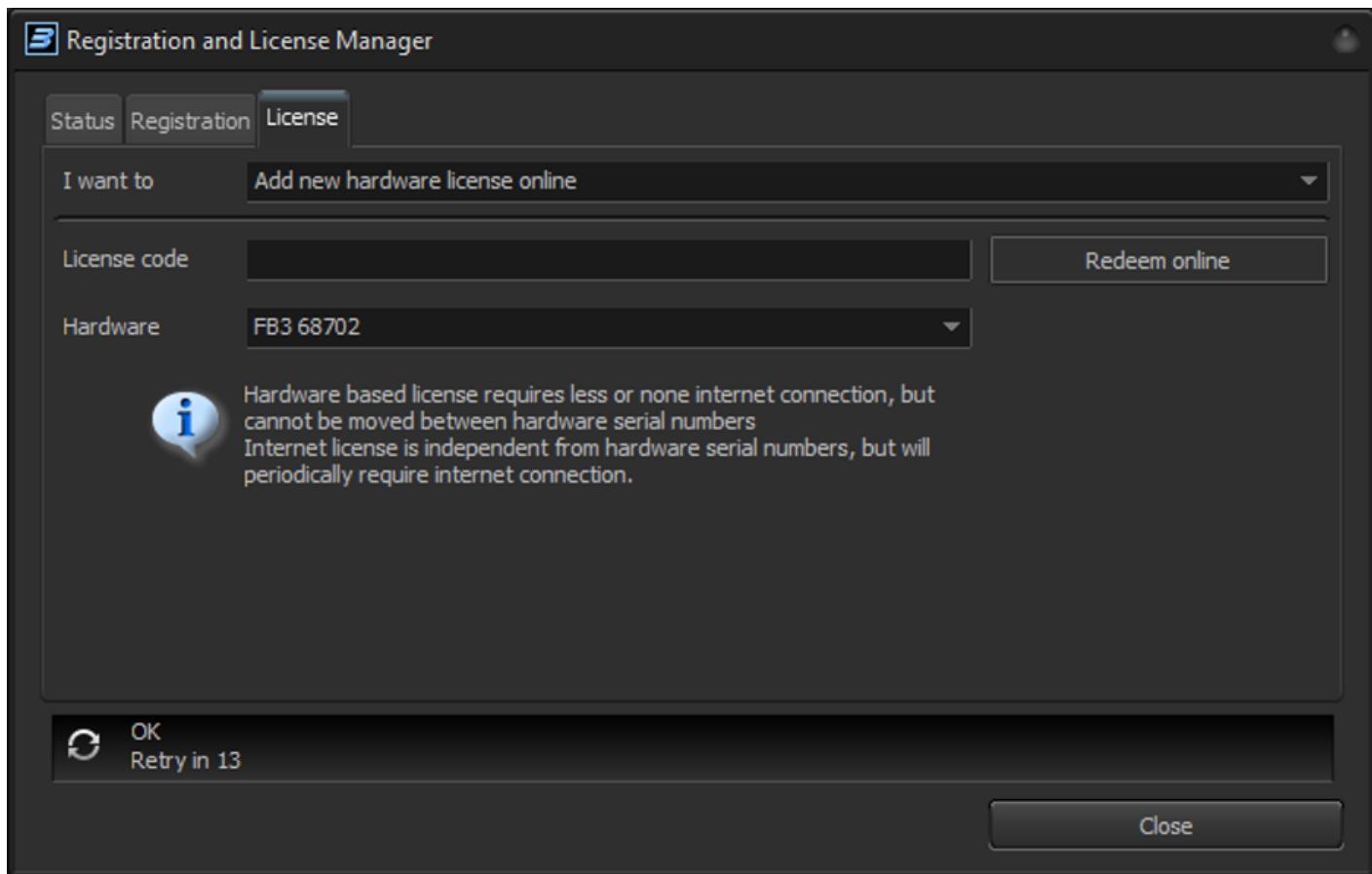
Enter license code and click button “Redeem online”. Select “Manager internet license” to start use newly added license to your account.

New hardware license online

Prior to BEYOND 5.0, Pangolin asked you serial number of the hardware that will act like dongle for software. Starting now with BEYOND 5 you will do this yourself, by selecting the connected hardware to bind the license to. To activate new hardware license please enter License code, select hardware in drop down list and only when you are sure you chose the right hardware, the click button “Redeem online”.

Active internet connection required. Hardware license do not require account, and in fact it is an anonymous license.

Important If you want moveable license, which is not dependent from hardware, then buy “internet license”. This license binds to you, not to the hardware. The cost of mobility and hardware independence - you need internet for license management. The hardware license is at opposite side – it binds to hardware and DOES NOT HAVE ANY TIME LIMIT AND DOES NOT REQUIRE THE INTERNET. It basically is not controllable by us. Once you get it – you can install it, disconnect from internet, and run the system as long as you need. No updates, no checks, nothing like that. The cost of this freedom – license bind to hardware permanently. The only exception - when FB3 or FB4 cannot be repaired by official Pangolin repair center then we gladly move the license to other hardware or internet. This rule is not applicable to QM2000.



Check Status tab after clicking Redeem online. BEYOND 5 automatically download and install license file into folder C:\Pangolin\.

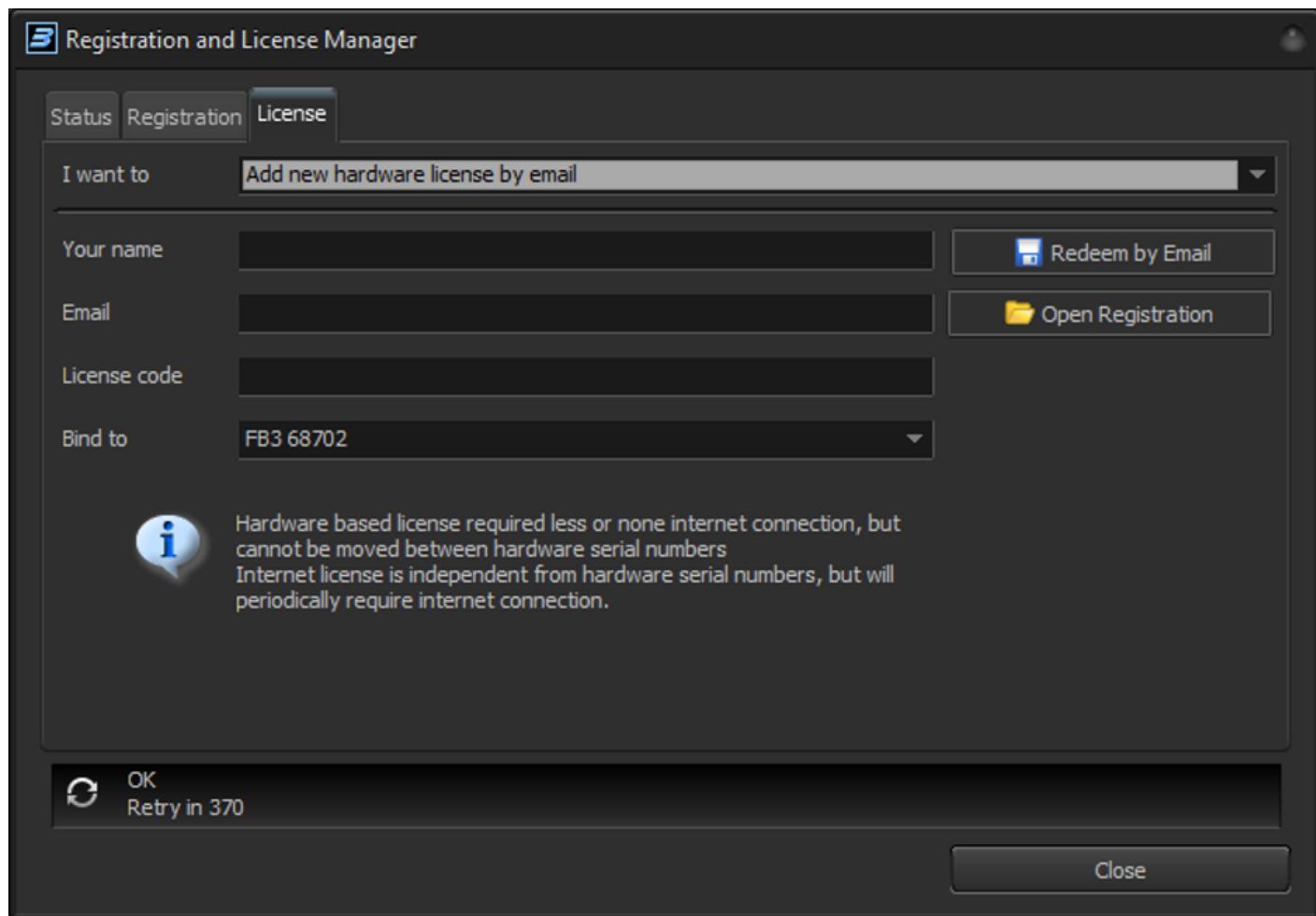
BEYOND 5 operate with new license file. Old license files are not accepted, no need to put them into folder with BEYOND or C:\Pangolin\

New hardware license by email

BEYOND allows you to use the registration process for license activation. It exactly same process as registration by email with one addition – registration file includes license code and your serial number of

the hardware. This offline method added only for clients who want to keep their PC off the internet at all costs. We found a way how to activate hardware license for such clients. However, for obvious reasons, we cannot use "Internet" licenses without the internet, and you will need to use either hardware licenses, or PCID licenses.

To active hardware license please enter license code, select Hardware serial and click "Redeem by Email".



BEYOND will save registration file. Please read Registration section because process is the same. Once registration file received then open it using "Open Registration" button. New license file stored inside of registration file. Technically this is "two in one" operation – generation of new license and registration.

We recommend using online version when possible, as it is more convenient.

Managing internet license

Quick overview

Internet licenses are based on your account and licenses you have on it. Life cycle is simple – you create account and add license. After that you can start use of a license to use BEYOND. You may have multiple licenses on your account. As example you have Essentials and just bought short term Ultimate license for

important job. You select license you want to use, click "Start use" button and server generates new registration file for you which include your internet license. License use will continue till you click "Stop use" button, or session will expire. We will discuss "sessions" a bit later in this section. Main idea is that you have a license on your account, you can start it and stop it. You need to stop the license if you need to use in some other PC.

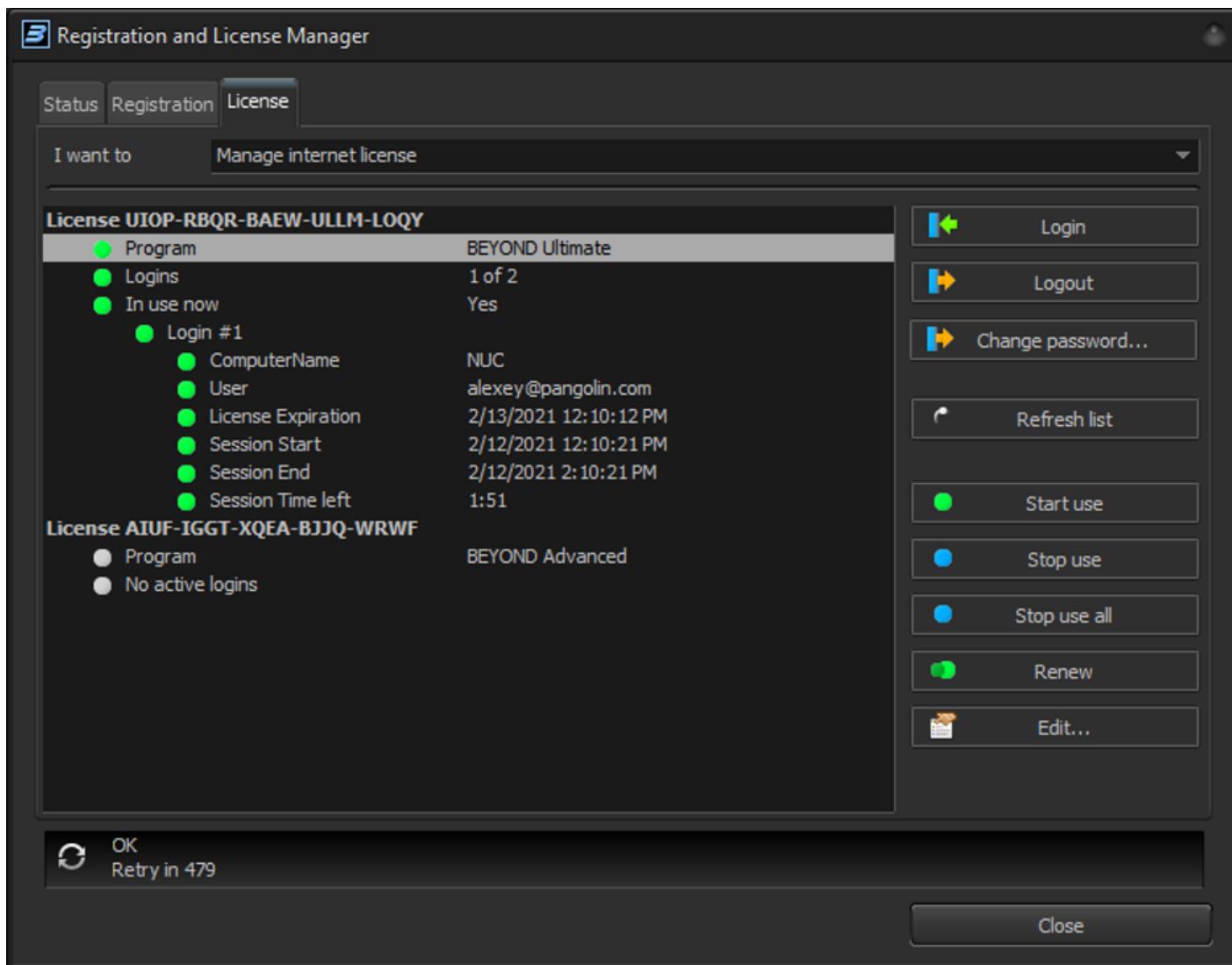
Let's talk more about "stop use" of the license. In real world we need to turn off light, turn off water when we stop use it, look doors, lock cars, etc. Everything with value, we have control of access to it. Access to BEYOND is not an exception. You have a license, you need to "start use" it at the beginning of use and stop when you done. When do I need to stop use of the license? If you plan to use BEYOND on another PC, or if you plan to use BEYOND on same PC tomorrow, then probably no need to stop the license on your current PC. Can BEYOND stop use license as soon as I close application? No, because this is bad idea. We want you to have peace of mind and know that you will not lose the show if internet drops, or some unexpected things happen. What we offer is "time out". Set the end date/time after which PC need to be connected to internet and grab a new file for new time frame. The time frame can be short (2 hours minimum) or long up to 2 months (60 days). Within the time frame there is no need to connect to the internet. License is in use on your computer. However, if you need to use it on another PC then you need to stop it on current. What happens if my PC brakes? We give you a right of **emergency** use of license. When your license is in use on PC you cannot access then you may use one more "start use" on another PC. Let's us make accent on definition of emergency. The "**emergency** use" does NOT mean you can use it a second license, or as backup license. This is not a backup or a second license you can use at same time. **One license means one use**. Using it as a "second license" goes against the user agreement.

Longer timeouts decrease independence from internet, however, increase chance of lost access if PC broke or stolen. I would say for 1st use of license it makes sense to choose most comfortable timeout, longer is not bad. If bad thing happened, you still have emergency license, and it this case shorter timeout should be taken into consideration. In case of two problems in a row... there might be at two solutions - Pangolin support might be able to help (losing two PCs is not a typical thing) or you may want to consider having short time license ("scratch code"/ "rental license") for emergency cases. The cost of short-term license is significantly smaller than permanent license and give you chance to be up and running immediately (of course with a connection to the internet).

Internet license management tab

Central part of window has list of available licenses on your account. To see the list of licenses you must log in (use Login button). You must be logged in to manage your licenses. Once done - click on Logout button to block ability of somebody else to manage licenses. Logout does impact ability to use started licenses. Also, you are not required to login every time - only when you manage licenses.

Buttons Login, Logout and Change Password manage access to account data. Button "Refresh list" gather new information from the server about current state of license use. Usually no need to use it, but same like in web browsers - is it good to have a way to ensure you have up to date data.



Look at screenshot above. When license in use it indicated by green coloured icons. License, which is not used anywhere marked as light gray. You can “start use” such license at any time.

“Start use” – start use the license on this PC now. It creates so called “session” on a server, which allow us to keep track of where you use the license. “Stop use” required to stop the license. After stop license will be shown with “light gray” icon. “Stop all” – terminated use of all internet licenses on this PC. Helpful if you have many licenses.

“Renew” – refresh licenses use and grabs new license time frame from server. Use this button if you need to be offline and want to ensure you have time for offline work.

“Edit” button call license settings dialog. License name is a name you want to give to a license. By default, we use license-code used to create the license.

Most important thigh is “Refresh rate” which defines timeout time frame, or how long you can use the license without refresh over internet.

Edit license

Information

License ID: 3997
License GUID: {B6FB26A6-18EA-4FA5-B41D-53996ADC9DBF}
Max logins: 2
Regeneration 0
Programs: UK
Content:
Creation date 4/21/2021 6:15:53 PM
Expiration date 3/29/2021 6:15:53 PM

General

License name **UIVQ-NNGU-HIDU-YVIY-AAYA**

Refresh period

Duration after start of use Days 0 Hours 2

Max refresh period is 60 days

 We want you to be able to work offline with peace of mind. However, we want you to have mobility of your license which require internet connection for license management.

Refresh rate defines how long computer can be offline without internet. Internet required to license regeneration (refresh). The longer refresh rate values recommended when you do important work and need to be independent from internet. However keeping long refresh rate is not recommended because you will be unable to log in in other PC until you stop license use in this PC. License CANNOT be used in multiple PC at the same time. If you get a license for long time then the only way to log in in other PC is to stop it on this PC, or wait till current session will expire.

Please manage refresh rate in a smart way!

OK **Cancel**

Main thing to keep in mind is, this is an “internet license” and internet will be required from time to time, specifically, the time to time you set in this window.

Pangolin License Codes

License codes are used for newly purchased licenses. These are received automatically from our server after making a purchase on the pangolin.com website. These codes are used inside BEYOND to activate your new license, no matter if it is hardware, internet, PCID or an upgrade of any of those. This code consists of two parts, first is the prefix, this tells you what type of license it is, the rest is just random characters for the code.

Codes appear like so: EHGB-JYJK-ETYN-YUNB-GASG

First character can be:

E	New Essentials license
A	New Advanced license
U	New Ultimate license
X	Upgrade from Essentials to Advanced
Y	Upgrade from Essentials to Ultimate
Z	Upgrade from Advanced to Ultimate

Second character:

H	Hardware based license
I	Internet based license
U	Upgrade
P	Pangolin special license, not used in production

Codes consist of 5 groups of 4 characters. Code must be entered into BEYOND as given, including dashes. Only the first two characters have any predefined meaning, which allows the software to initially check the license, and allow the user to know what code is for which type of license. All other characters are random in the code.

License code can only be used once. Once a code is entered into BEYOND in the Registration and License Manager window, it will be “redeemed” and the server will take this code and exchange it for a “license” this code is then marked as used on the server and cannot be used again. If you order multiple copies of BEYOND at once, you will receive multiple codes, no code will ever be useable more than once.

To avoid unexpected problems, buy codes directly from Pangolin. Also due to the length of code, it is impossible to guess a code, and due to its true randomness, no math will achieve a correct code.

BEYOND Registration Status Bar

The Service and Registration status indicator is a small icon at the bottom left most part of the BEYOND window. This indicates a few things as follows:



Top Line indicates “service discovery” status, notifying if BEYOND can contact Pangolin servers.

RED	No internet Connection or service not available
GREEN	Connection established

Middle Line indicates Registration status.

RED	Registration missing, please register or check registration.
YELLOW	Your licensed hardware is not connected or your internet session expired. Saving files and laser output is disabled.
GREEN	Registration found and correct, BEYOND is registered and fully operational with saving and laser output enabled.

Bottom Line indicates Pangolin “Assistance server” connection, For future use.

GREY	No connection to assistance service.
GREEN	Connected to assistance service.

Registration File

All registration files when either automatic registration is completed, or manual loading of registration file will be stored on your pic in C:\Pangolin for simplicity. This folder is created automatically by BEYOND and you will see two types of files:

Registration.PReg	Registration file.
License #####.bmp	License File.

Registration system delivers license files or registration files and will extract them into C:\Pangolin folder. Registration system may delete outdated files from this folder if they are no longer necessary. This management will happen automatically if using internet to register.

License file names have 3 Sections. “License” is standard prefix. “Bind to” Looks like “FB3 1234”.

Why Moving Licenses use to not be possible

There is not such thing is moving the license. There is – delete old and create new. Creation is easy, we do it all the time. Deleting the license is more tricky part because computers which has the license are out of our control and may be out of control of license owner. As example, you own the license and you rent it to multiple people. Multiple computers has a copy of license file and license owner cannot control it (same as Pangolin).

The tricky combination appear in just two steps. As example, license assigned to some serial number. User register license on a PC, and this PC got a confirmation/registration. It means license confirmed and no more check on horizon. Now, if disconnect this PC from internet and request Pangolin to move the license to some other hardware, then the 1st PC will still be fully functional endlessly and hardware will be recognized as valid license.

Question of how to control PC when it out of control is not easy to answer. It became bigger questions when somebody create such situation and want us to solve the problem. How can we solve the problem? Easy, but the cost of it will be “freedom”. Problem can be solved by injecting dependency into installed systems. If all installed system will require periodic license information checkup, then license will not work endlessly, it will work limited amount of time and then will stop if information is not updated.

This is exactly how it can be solved – timeout. If you miss checkup then system stops. Now we come to more important questions – what to do if you are in a tour, in a Cruise or need to permanently install system and lock it down for years. Do you want problems with license information checkup? I doubt. So, how to solve the problem of problems created by this license information control? How to get rid of control? Easy – to give you time unlimited license. As you see – loop closed, dead end. No one solution which solves opposite demand.

The solution is having two systems. One with time limit and periodic checkup. Second is a license without periodic checkup. This is exactly what we did. Moveable licenses require checkup and it require internet connection to Pangolin licensing system and does not require exact hardware. The licenses bind to hardware does not require periodic checkup, as well as internet. You may consider it like this.... Licensed controlled by internet depends on server which are 100% under control of Pangolin. On opposite side –hardware used for license authentication is 100% under control of the user, and only when User lose control over hardware then control come back to Pangolin, and Pangolin can safely “move” the license.

It means... want to move? Then give control back to us. Otherwise, it just giving a second license without any technical control over existing license, which lead to dual standards, conflicts, promises, doubts, etc.

Moveable license need to be born under control from day 1.

Permanent license should stay permanent.

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