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[1.3] IR Sequencer v1.0.3 - Add-On to Infernal Robotics (updated 05/06/2017)

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By ZiW, April 20, 2015 in Add-on Development

[sequencer](#)[infernalrobotics](#)

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ZiW

Robotic Sequencer




Members

[+ 369](#)

938 posts

Posted April 20, 2015 (edited)

[Report post](#)

INFERNAL 
ROBOTICS
S e q u e n c e r

Development Release of the first official add-on to [Infernal Robotics](#)

This mod will NOT work without the latest version of Infernal Robotics.

ModuleManager is required as well **and not included in the download.**

What it does?

This add-on serves as an example on how to use IR's new [API](#).

With this mod you can create and play sequences of servo movement commands and special commands, like GoTo, Toggle ActionGroup, Delay and Wait.

Other examples of what is possible with Sequencer:



➤ Reveal hidden contents

This mod would not have been possible without invaluable help from [@ZodiusInfuser](#) & [@erendrake](#)

Download: <https://github.com/MagicSmokeIndustries/IR-Sequencer/releases/tag/1.0.3>

Source:

<https://github.com/MagicSmokeIndustries/IR-Sequencer>

License: [GNU GPL version 3, 29 July 2007.](#)

Edited June 5, 2017 by Ziw



Quote

larkvi, Mikki, ISE and 10 others like this



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ZodiusInfuser

IRL Doctor of Robotics



Posted April 20, 2015

Report post 

I'm eager to see what you guys can pull off with this!



Members
+ 527
1,349 posts



Quote



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Honeybadga

Spacecraft Engineer



Members
+ 40
240 posts

Posted April 20, 2015

Report post



OMG, you just blew my mind! Thank you for providing a way around using kOS for stuff like this.

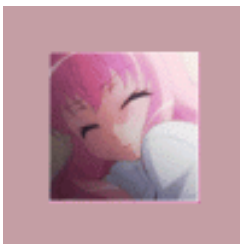


Quote



Jovzin

Spacecraft Engineer



Members
+ 83
338 posts

Posted April 21, 2015

Report post



Hmm looks good but somehow I am starting to be a little bit confused. There are so many threads about IR now. For example here in add development I see at least 4. In add releases I see 1 or 2.

So which I should use ? Or which mod is the default mod ? Sorry to ask you this but really a lot of threads with / for IT popped up recently



Quote



Ziw

Robotic Sequencer



Posted April 21, 2015

Report post



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Members
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938 posts

So which I should use ? Or which mod is the default mod ? Sorry to ask you this but really a lot of threads with / for IT popped up recently

It is simple - the link in the first post leads to the latest official version of IR from Addon Releases forum. So there will be only 2 threads for IR now - one in Releases (for questions and general discussion) and one in Development (to discuss new features). Old threads will be locked (or are locked already).

See my signature for all IR related links.



Quote



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Hellbrand

Sr. Spacecraft Engineer



Members
+ 40
499 posts

Posted April 21, 2015

Report post

Mechs ahoy?



Quote



"A good scientist is a person with original ideas. A good engineer is a person who makes a design that works with as few original ideas as possible. There are no prima donnas in engineering." -Freeman Dyson



Kerbal Aeronautical Engineer and Sergal Extraordinaire! you need something transported somewhere Re it hombs or

Horus

Sr. Spacecraft Engineer



Posted April 21, 2015

Report post

OMFG!!! Totally necessary addition to IR!!! TONS OF THANKS!



Quote



Members

+ 61

508 posts

ZodiusInfuser

IRL Doctor of Robotics



Members

+ 527

1,349 posts

Posted April 21, 2015

Report post

▼ Jovzin said:

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So which I should use ? Or which mod is the default mod ? Sorry to ask you this but really a lot of threads with / for IT popped up recently

To expand of Ziw's answer, there's two threads related to Infernal Robotics itself:

- **Release Thread** (the main place for the mod):
<http://forum.kerbalspaceprogram.com/threads/116064>
- **Dev Thread** (for the latest info on updates):
<http://forum.kerbalspaceprogram.com/threads/114014>

And two optional addons:

- **Model Rework Thread** (extra cool parts):
<http://forum.kerbalspaceprogram.com/threads/65365>
- **Sequencer Thread** (automation tool):
<http://forum.kerbalspaceprogram.com/threads/116076>

Think of the addons as a collection of mods that greatly enhance what you can do with core Infernal Robotics, hence them using the same brand name.



Quote



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Horus

Sr. Spacecraft Engineer



Members

+ 61

508 posts

Posted April 21, 2015

Report post

Question: is it possible to make sequencer available in SPH/VAB? I haven't found how to get its' menu there.



Quote



ZodiusInfuser

IRL Doctor of Robotics



Members

+ 527

1,349 posts

Posted April 21, 2015

Report post

▼ **Horus said:**

Question: is it possible to make sequencer available in SPH/VAB? I haven't found how to get its' menu there.

Not at present. Its only in flight and requires your craft to have a stock probe core to operate. I suspect there's some technical limitations with the IR plugin that prevent it working in VAB, but Ziw will be able to say for certain.



Quote



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Ziw

Robotic Sequencer



Members

+ 369

938 posts

Posted April 21, 2015

Report post

▼ **Horus said:**

Question: is it possible to make sequencer available in SPH/VAB? I haven't found how to get its' menu there.

Problem is that in VAB/SPH there is no Vessel, but only a Construct, which is basically a collection of parts with no internal logic running, no physics and etc, but we'll explore this possibility.

But even if we get past that limitation - creating sequences

would be quite hard in VAB/SPH due to the way KSP works
- IR servos only move at default speed in editor,
ActionGroups are not firing and etc - so it would be nearly
impossible to test your sequences properly.



Quote



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Gaalidas

Capsule Communicator



Members

+ 266

1,707 posts

Posted April 21, 2015

Report post

Either we need to have some sort of simulation available in the editor, or a save/load feature once we get things right.

On that note, though not related to this mod, I'd sorta like to have a preset and/or save/load for specific speed settings in IR so that you don't need to reset the speeds for your actions every time you launch...

Unless these two mods do all that already, I haven't actually used IR for anything in a long time.



Quote



...It all made a LOT more sense when it was still in my head.

Official mascot of Kerbal Foundries.

Horus

Sr. Spacecraft Engineer



Posted April 21, 2015

Report post

Too bad that there's a limitation that makes it unable to do sequencer setup in SPH/VAB.

But anyways this is really a nice mod addition 🐻



Quote



Members
+ 61
508 posts

Ziw

Robotic Sequencer



Members
+ 369
938 posts

Posted April 21, 2015

Report post

▼ **Gaalidas said:**

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Unless these two mods do all that already, I haven't actually used IR for anything in a long time.

What kind of save/load? the one you can reuse on another craft? Because if it's just this craft - the sequences are auto-saved if you have a probe core on the craft.



Quote



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BrutalRIP

Sr. Spacecraft Engineer



Members
+ 57
447 posts

Posted April 22, 2015 (edited)

Report post

Oh boy do we need to be able to save sequences somewhere problem i have islaunch ship, spend 30 mins setting up servo sequences, stage rocket, realise i forgot to put something on said ship, revert to VAB/SPH, add forgotten part,rinse and repeat.So im spending more time setting up sequences than anything else

EDIT: Maybe this could help IDK

<http://forum.kerbalspaceprogram.com/threads/107142-Possible-to-Save-Ship-from-Persistence-File>



Quote



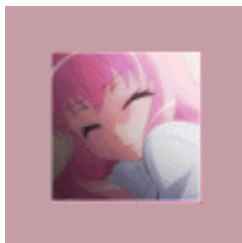
Sacrificing Kerbals in the name of science.



Coffee Anyone ?? 🤖

Jovzin

Spacecraft Engineer



Members

+ 83

338 posts

Posted April 22, 2015

Report post



ZodiusInfuser said:

To expand of Ziw's answer, there's two threads related to Infernal Robotics itself:

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Think of the addons as a collection of mods that greatly enhance what you can do with core Infernal Robotics, hence them using the same brand name.

Thanks for the info 🤖



Quote



VoidGreen

Newbie



Members

0

3 posts

Posted April 22, 2015

Report post



Ziw said:

What kind of save/load? the one you can reuse on another craft? Because if it's just this craft - the sequences are auto-saved if you have a probe core on the craft.

Apparently I'm missing how to save too. I'm probably just overlooking it but essentially I built a mechanical leg and attached it to a probe core, with the idea that I would then go back into the VAB and duplicate the leg after testing out both it and the sequence. But I can't seem to figure out how to save the sequence to the craft so I can make tweaks later.

Or do you have to re-setup the sequence each time you launch?

Thank you for your work though, even without the ability to save this can still be very helpful.



Quote



ZodiusInfuser

IRL Doctor of Robotics



Members

+ 527

1,349 posts

Posted April 22, 2015

Report post



VoidGreen said:

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Or do you have to re-setup the sequence each time you launch?

Thank you for your work though, even without the ability to save this can still be very helpful.

Ziw means that once you launch a craft any sequences will

stay with it through multiple quicksaves and loads. If you revert to launch or vab all your sequences get lost. As such its best to do your complete design first then do sequences in flight, at least for now.

 [Quote](#)



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endl

Sr. Spacecraft Engineer



Members

 26

361 posts

Posted April 22, 2015

[Report post](#) 

is there anyway i could get my hands on the vab file in the op, im a bit confused on what joints are suited to be paired for collapsible gear. also how to preconfig the control groups for deploying them. playing with a prebuilt ship would help me learn it.

 [Quote](#)



Ziw

Robotic Sequencer



Members

 369

938 posts

Posted April 22, 2015 (edited)

[Report post](#) 

 **VoidGreen said:**

Apparently I'm missing how to save too. I'm probably just overlooking it but essentially I built a mechanical leg and attached it to a probe core, with the idea that I would then go back into the VAB and duplicate the leg after testing out both it and the sequence. But I can't seem to figure out how to save the sequence to the craft so I can make tweaks later.

Or do you have to re-setup the sequence each time you launch?

Thank you for your work though, even without the ability to save this can still be very helpful.

As Zodius said, the workflow is the following:

1) Build a craft

2) Launch it

3) Set up your sequences, they are only automatically saved on that particular Vessel.

a) they will persist through craft switching

🧐 they will persist through docking

c) they will persist with quicksaves

When you revert to VAB - you basically load a save where they don't exist yet.

We'll try to explore the possibility of enabling basic sequence editing in Editor, but it will be after IR and Sequencer are updated to 1.0.

Edited April 22, 2015 by Ziw

+ Quote



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ZodiusInfuser

IRL Doctor of Robotics



Members

+ 527

1,349 posts

Posted April 22, 2015

Report post

▼ endl said:

is there anyway i could get my hands on the vab file in the op, im a bit confused on what joints are suited to be paired for collapsible gear. also how to preconfig the control groups for deploying them. playing with a prebuilt ship would help me learn it.

Here you go 🧐

https://www.cubbyusercontent.com/pli/IR_Athlete_Rover.craft/_d31820fe6ede4d3192784e16b9951af6

I had to recreate it since for some reason my previous version got lost. Plus it used tweakscale which the new one doesn't. All parts are named and given appropriate presets, meaning it's possible to deploy it with just 4 button presses (see if you can figure out which 🧐)



Quote

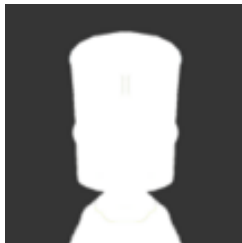


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endl

Sr. Spacecraft Engineer



Members

+ 26

361 posts

Posted April 22, 2015

Report post

ty, good sir



Quote



fatcargo

Spacecraft Engineer



Members

+ 48

359 posts

Posted April 27, 2015

Report post

Ok time for idea department to go to work 🤖

How about sequence BLOCKS ? I mean not just static blocks that can be repeated anywhere that reference specific parts, but also blocks that can be executed on different singular parts or collections of parts. Just feed target part(s) into block and let it work through it/them. Honestly, i see that retargetable blocks are not so easy to implement. And they may be too crude for any complex IR behavior that most likely requires math, loops and feedback.

Second is sequence TRIGGERS. Now, these are more kOS-like feature. These have virtually limitless diversity (and thus, sources) which will certainly make this challenging to implement. But starting small is always a good starting point.

If the above two are combined, one can make some pretty powerful automation tasks (docking procedures, emergency tasks if crashing craft in flight or rover on surface, touchdown events etc).



Quote



Ziw

Robotic Sequencer



Members

+ 369

938 posts

Posted April 27, 2015

Report post

We might bring a concept of STATES to sequencer, but as with BLOCKs it is quite challenging to implement, and this mod was supposed to be a simpler example of what could be done via IR API. As for triggers - I was considering adding another type of wait, such as "Wait for ActionGroup", and this concept is actually much easier to implement.



Quote



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fatcargo

Spacecraft Engineer



Members

+ 48

359 posts

Posted April 27, 2015

Report post

I'm glad you considered my ideas. What will "states" represent ? Something like snapshots of current positions of all parts ? If not, here is (yet another) idea for Sequence Builder (with load/save) - set all parts to certain position and then take a snapshot, set them again then take another snapshot. This kind of workflow is similar to stop-motion animation. That way one can quickly build multiple sequences that are independent from each other. Making sequences that are dependant on each other is a bit non-sensical except for "archiving" purposes (reusing same code etc).



Quote



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