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[1.1] NavUtilities, ft. HSI & Instrument Landing System

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By kujuman, July 9, 2014 in Add-on Releases

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kujuman

Avionics Engineer



Members

[+ 272](#)

500 posts

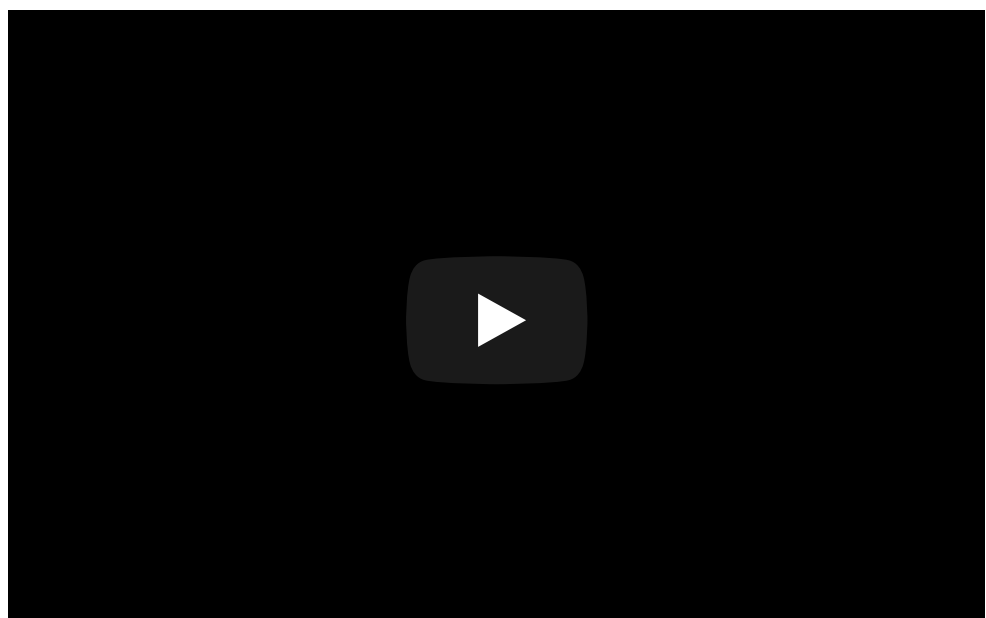
Posted July 9, 2014 (edited)

[Report post](#)

NavUtilities for KSP

Featuring Instrument Landing System and Horizontal Situation Indicator

Standalone and for Raster Prop Monitor



NOTE: Standalone version is a popup window, but the information displayed is the same

Adds a horizontal situation indicator with integrated ILS functionality to a popup window or your RPM cockpit.

The standalone version can be accessed (along with the options page and custom runway page, for controlling the current runway and GUI scale) via the App Launcher.

ILS style localizer, glideslope indicator, distance measuring equipment, and backcourse indicator.

Outer, Middle, and Inner Markers are fully functional, with the audio cue volume controlled by your Voices volume setting (**WARNING:** Middle and Inner marker audio cues are high pitch and, depending on your settings, may be loud). Currently, volume settings will not update when in flight, but going to the space center should update them.

The window GUI auto hides when you enter IVA. Current runway and glideslope selection remain synced between the standalone GUI and the version for RPM.

Included selectable runways:

KSC 09

KSC 27

Island 09

Island 27

VAB Helipad East

VAB Helipad West

Administration Helipad

Included glideslopes range from default 3° to 25°

More runways and glideslopes can be added via config file or in game.

Helpful images of 0.4.0+ features 🤖

[Javascript is disabled. View full album](#)

Please note that if you are using KSI MFD, you can *also* select the HSI by cycling between this and the landing screen. [Thanks to Tahvohck!](#)

DOWNLOAD the newest release 0.6.1 (update for KSP 1.1) from SpaceDock

Copy the contents of GameData folder into your main KSP/GameData/ folder. The other files are not required for the plugin to function.

Note for users upgrading to 0.4.0+: you should remove the folder RPMHSI which was used in prior versions.

Note for users upgrading to 0.5 RC3+: you should perform a fresh install. Be sure to save your custom runways file.

Raster Prop Monitor works standalone, however for RPM integration you need:

[**Module Manager 2.2.0** by sarbian](#) or newer

[**RasterPropMonitor v0.18** by Mihara](#) or newer

Included support for:

[**Kerbal Space Industries MFD 1.2** by Hyomoto](#)

[**Kerbin Shuttle Orbiter System** by Helldiver & Nazari1382](#)

```
===v0.6.1=== April 20, 2016
*Updated for 1.1
*Added variable handler support for
RPM (see Wiki on Github for
documentation)
*Marker Beacon audio volume was moved
from Voices to UI
*To bring up the settings window,
Mod+Click (Alt+Click in Windows,
Option+Click in OSX) the AppBar icon,
no longer right-click
*NavUtilities windows should now auto
hide and restore when the player
presses F2
*New Feature: HSI now works with
stock waypoints (from contracts) and
Waypoint Manager (special big thanks
to Corax)
```

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Permission is granted to any current, former, or future members of the KSP community (e.g.; non-professional modification makers and forum members) to update, maintain, use portions of the code, and/or release derivatives provided that 1) the new work is solely to be used as a modification for Kerbal Space Program (and future versions thereof) and 2) the new work is freely distributed and may not be sold or exchanged.

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Source hosted at [GitHub](#)

Alt Download at [GitHub](#)

[Development Thread](#)

Edited April 20, 2016 by kujuman



Quote

Corax, Lo Var Lachland, Harry Rhodan and 13 others

like this



Ad Astra Per Asparagus

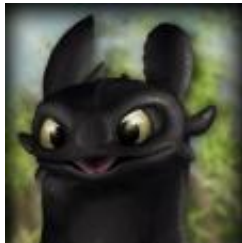


Need to debug broken struts and fuel lines on craft easily?
Try [StrutFinder](#) in the VAB/SPH or flight!

Check out NavUtilities, a horizontal situation indicator for both external view and RPM [rel!](#)

MK3424

Capsule Communicator



Members

+ 422

1,234 posts

Posted July 9, 2014

Report post

Yeah! it's out! no more worrying if i'm not aligned properly with the runway.

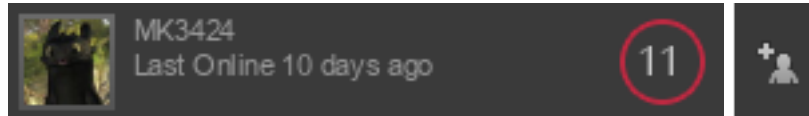


Quote

munlander1 likes this

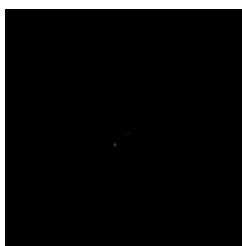


Twitter: <https://twitter.com/MK3424> Kerbal X craft
list: <http://kerbalx.com/MK3424/craft>



diomedea

Maxed entropy



Members

+ 702

2,302 posts

Location: where light is no more

Posted July 9, 2014

Report post

Now time to land like real pilots do 🧑🏻!



Quote

AyeLmao, munlander1 and Kerbalstar like this



flexix11

Bottle Rocketeer



Posted July 9, 2014

Report post

can you do like costum runways ? becouse i build a runway on duna and wanted to ask now if i could make this algiment work with my duna runway (it not easy to land on an insane smal runway wich starts to show up at 2.5 km)



Members

0

6 posts

:/

edit: maybe you could do like 2 parts on the two end of the runway so its dedected as runway ? :v

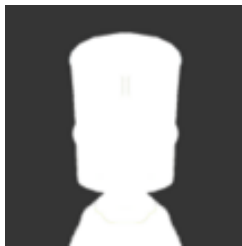


Quote



Shad0wCatcher

Sr. Spacecraft Engineer



Members

+ 20

394 posts

Posted July 9, 2014

Report post

Is this set up for 0.16 or 0.17 of RPM? I ask because the KSI MFD hasn't been updated for 0.17 and without a serious number of changes it won't function (RPM throws a fit about initialization errors due to changed references).



Quote



zengei

Spacecraft Engineer



Members

+ 105

184 posts

Location: New York, NY

Posted July 9, 2014

Report post

Need to practice some more but just made by first reasonably well executed landing, excellent work!



Shad0wCatcher said:

Is this set up for 0.16 or 0.17 of RPM? I ask because the KSI MFD hasn't been updated for 0.17 and without a serious number of changes it won't function (RPM throws a fit about initialization errors due to changed references).

It says so in the dependencies list:



kujuman said:

[RasterPropMonitor v0.16 by Mihara](#) (0.17 may work, untested)



Quote





Shad0wCatcher

Sr. Spacecraft Engineer



Members

+ 20

394 posts

Posted July 9, 2014

Report post

Oh good lord. I haven't had enough coffee yet this morning.
Thanks zengei.

+ Quote



Mihara

Mad (social) scientist



Members

+ 382

1,511 posts

Posted July 9, 2014

Report post

Mind you, I didn't have an opportunity to look at it properly, but from the first glance, the plugin itself implements RPM API. I.e. it is not hardlinked to RPM. 🤖

Which means that while it might not be configured out-of-the-box to run in RPM 0.17, there is no obstacle whatsoever to make it run in RPM 0.17 or any subsequent version, a config edit is all it could possibly take.

+ Quote



Not modding anymore.



kujuman

Avionics Engineer



Members

+ 272

500 posts

Posted July 9, 2014

Report post

▼ MK3424 said:

Yeah! it's out! no more worrying if i'm not aligned properly with the runway.

Unless you're trying to land on the Island runway...more testing makes me think it's a few degrees off. I'll fix it in the next update.

▼ flexix11 said:

can you do like costum runways ? because i build a runway on duna and wanted to ask now if i could make this algiment work with my duna runway (it not easy to land on an insane smal runway wich starts to show up at 2.5 km) :/

I'm planning on making this able to work all in game in a few versions, but for now it can be done manually.

1. Create a new .txt file with a name ending in _rwy.txt . Two examples would be MyRunways_rwy.txt or DunaBaseEast_rwy.txt
2. Move a plane/rover/rocket on the ends of the runways, and use another mod to get the latitude and longitude
3. Enter your runway's information into the file in this format:

```
Runway
{
    ident = My Runway North-East
    //the name which will show up on
    the display
    hdg = 45 //the heading at
    touchdown
    body = Duna //name of the body
    the runway is on
    altMSL = 176 //this is what
    your altimeter says when you're
    landed
    gsLatitude = -0.096779520816
    //the Latitude of the touchdown
    point, you can get this from
    many other mods
```

4. Move your *_rwy.txt file to
GameData/KerbalScienceFoundation/NavInstrumen
ts/Runways/
5. You're done! Switching vehicles should load the
runway into the database.

▼ **Mihara said:**

Mind you, I didn't have an opportunity to look at it properly, but from the first glance, the plugin itself implements RPM API. I.e. it is not hardlinked to RPM.



Which means that while it might not be configured out-of-the-box to run in RPM 0.17, there is no obstacle whatsoever to make it run in RPM 0.17 or any subsequent version, a config edit is all it could possibly take.

Yes, I'm just using a background handler for the display. The buttons on the MFD are hard coded at the moment though.



Quote



Ad Astra Per Asparagus



Need to debug broken struts and fuel lines on craft easily?
Try [StrutFinder](#) in the VAB/SPH or flight!

Check out NavUtilities, a horizontal situation indicator for both external view and RPM [rel!](#)

kujuman

Avionics Engineer



Members

+ 272

500 posts

Posted July 9, 2014 (edited)

Report post



Just an FYI, 0.3.1 will probably drop later tonight. It is intended to provide preliminary support for KSO and RPM 0.17

it's up 🤖

Note that all of the buttons may not work for KSO and RPM 0.17 yet. Testing revealed that a 7.5° glideslope works well for both the KSO and KSO Super25 in stock aerodynamics if both shuttles are empty.

Edited July 9, 2014 by kujuman



Quote



Ad Astra Per Asparagus



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Check out NavUtilities, a horizontal situation indicator for
both external view and RPM [rel!](#)

zengei

Spacecraft Engineer



Members

+ 105

184 posts

Location: New York, NY

Posted July 10, 2014

Report post

▼ **kujuman said:**

Unless you're trying to land on the Island
runway...more testing makes me think it's a few
degrees off. I'll fix it in the next update.

Yeah, I think I've noticed that too, good to know I'm not
going crazy.

Besides that, another couple of minor issues I've noticed
while practicing with this:

- The heading as reported by the navball and the
heading reported by the HSI can differ by up to
1°, I'm assuming this is due to rounding
differences.
- If the HSI window is open and you reload from a
save, the HSI window will no longer be open but the
UI button will report "Close". Clicking the Close
button and then Open brings the window back.

But still, excellent work. One thing I've learned is that I've
been greatly misjudging my approaches, when I think I'm
lined up I'm not actually. At one point I thought the HSI was
wrong, but I learned that it was not. Have to learn to trust
my instruments. 🤖



Quote



[Hot Spot](#) Better Thermal Data | [Plane Mode](#) Swap Yaw/Roll in Flight



Woopert

Kerbal whisperer

Posted July 10, 2014

Report post



Members

+ 441

1,289 posts

Very nice! Glide slope indication is something I've been wanting for a long time, thanks for making this. Rep for you. 🤖



Quote



Pecan

Dres Holiday Rep



Members

+ 1,614

4,059 posts

Posted July 10, 2014

Report post

Now I really want 0.24 to come out! I'm reluctant to add any more mods to my current save and don't want to start a new install until then but this will definitely be in there when I do, well done :-)



Quote



If you say "SSTO" when you mean spaceplane, you don't need a tutorial, just a new name for every other type of SSTO and every spaceplane that isn't a SSTO.

I am very interested in demo-version and beginner questions. Feel free to PM me if your question is not otherwise answered.

Frank_G

Kerbol System Explorer



Members

+ 1,663

1,596 posts

Location: Münster, Kermamy

Posted July 10, 2014

Report post

Thank you! I will give it a try as soon as i am home. Always glad to get a useful extension of RPM. Looks good from what i can see on the screens.

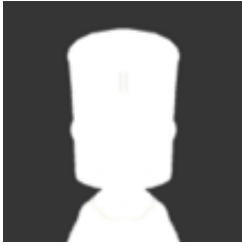


Quote



Hellbrand

Sr. Spacecraft Engineer



Members

+ 40

499 posts

Posted July 11, 2014

Report post

it's really good

but too bad it only works for 1 type of Screen for RPM it would be killer if it worked for both of the general displays. instead of just the newer one.



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 bombs or

Themorris

Spacecraft Engineer



Members

+ 51

265 posts

Posted July 11, 2014

Report post

This should be a stock function for rasterprop(like tab 2 in landing). Also hyomoto should take a look at it. This would make shuttle landings on a cloudy day so much easier...



Quote



kujuman

Avionics Engineer



Members

+ 272

500 posts

Posted July 11, 2014

Report post



Hellbrand said:

but too bad it only works for 1 type of Screen for RPM it would be killer if it worked for both of the general displays. instead of just the newer one.

I'm not sure what you mean by this?



Quote



Ad Astra Per Asparagus

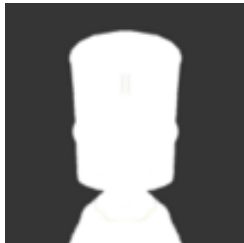


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Hellbrand

Sr. Spacecraft Engineer



Members

+ 40

499 posts

Posted July 11, 2014

Report post

it does not work on the older RPM screens. only on the newer one. that was added in .17



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 bombs or

Mihara

Mad (social) scientist



Members

+ 382

1,511 posts

Posted July 11, 2014

Report post



Hellbrand said:

it does not work on the older RPM screens. only on the newer one. that was added in .17

...actually, if you write the right configuration, it should work all the way back to RPM 0.10 or so.



Quote



Not modding anymore.



zengei

Spacecraft Engineer



Posted July 11, 2014

Report post



Hellbrand said:

it does not work on the older RPM screens. only on



Members

+ 105

184 posts

Location: New York, NY

the newer one. that was added in .17

Works fine for me with RPM 0.16. Do you have the KSI MFD?



Quote



[Hot Spot](#) Better Thermal Data | [Plane Mode](#) Swap Yaw/Roll in Flight



helldiver

Junior Rocket Scientist



Members

+ 371

677 posts

Posted July 11, 2014

Report post

Planning to integrate it into the KSOS proper with Kujuman's permission that is.



Quote



kujuman

Avionics Engineer



Members

+ 272

500 posts

Posted July 12, 2014

Report post



helldiver said:

Planning to integrate it into the KSOS proper with Kujuman's permission that is.

I have MM .cfg files in the 0.3.1 version to make the screens work in the KSOSs. I don't know if the buttons work because the naming of the RPM buttons is hardcoded at the moment, but I expect to change that in the next version.

If you're looking to do more than just write your own .cfg let me know and I'll see what I can do for customization etc.



Quote



Ad Astra Per Asparagus



Need to debug broken struts and fuel lines on craft easily?
Try [StrutFinder](#) in the VAB/SPH or flight!

Check out NavUtilities, a horizontal situation indicator for
both external view and RPM [rel!](#)

kujuman

Avionics Engineer



Members

+ 272

500 posts

Posted July 13, 2014

Report post

Progress update for 0.4.0

-The RPM buttons that control G/S and runway are now configurable in the .cfg for each RPM installation (btnNextRwy = btnID basically)

-The RPM display no longer uses RPM for text display, and now looks identical to the standalone version

-Work is progressing on the "Add/Edit/Remove a Runway definition in game" feature. I have successfully saved runways created in code to a .cfg file, which would load next time KSP loads.

—next major step is implementing the GUI to work with it. I know what I want to have it look like, so it's really just sitting down and writing it. should be fun 🤖

The plan is to have the user enter a runway name and then move a vessel to the location they want the touchdown to be at. Heading and elevation will be automatically determined, unless the user wants to have manual values. the Loc beacon is planned to be located automatically 1km from the touchdown point.

note: I'm not redoing how runways are defined, at least not until there's a *reason* to do so (like other types of nav aids).

Cross-posted in the development thread.

+ Quote



Ad Astra Per Asparagus



Need to debug broken struts and fuel lines on craft easily?
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Check out NavUtilities, a horizontal situation indicator for

both external view and RPM [rel!](#)

falken

Sr. Spacecraft Engineer



Members

+ 85

437 posts

Posted July 13, 2014

Report post

Having trouble integrating this with Hyomoto MFD. Just isn't there.

+ Quote



kujuman

Avionics Engineer



Members

+ 272

500 posts

Posted July 13, 2014

Report post

▼ falken said:

Having trouble integrating this with Hyomoto MFD. Just isn't there.

1) Which version of RPM do you have? Are the other features working as expected?

2) Which command pod are you using?

3) Please describe "just isn't there" more. Is the display not cycling when you press the "A" key on the MFD?

4) You need toolbar/the standalone version to make the RPM version work. Are you able to use the HSI with toolbar outside of IVA?

5) This mod is very particular about where it gets installed. Is the folder "KerbalScienceFoundation" directly inside of "GameData"?

+ Quote



Ad Astra Per Asparagus



Need to debug broken struts and fuel lines on craft easily?
Try [StrutFinder](#) in the VAB/SPH or flight!

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[1.1] NavUtilities, ft. HSI & Instrument Landing System

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