DCS DEVICE SERVER MANUAL

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DCS DEVICE SERVER – WHAT IS IT?

DCS Device Server (DCSDS) is a program that connects the Digital Combat Simulator World (DCS World) aircraft instruments and functions to one's mobile device. This allows one to export aircraft specific instruments to their mobile device for touch functionality with little configuration. There are no .lua files to modify, no port or firewall settings to configure, and no developer mode or configuration needed for the mobile device. One just simply needs to install the DCSDS on their PC, and the aircraft app, that one would like to use, on their mobile device. Then, configure the DCSDS to how one wants their DCS World game and instruments to be displayed. Finally, keep the DCSDS program open, run the mobile app, then start DCS World. When loaded into your aircraft (and in most cases powered up/screens turned on), the mobile device can then be used to interact with the in-game cockpit functions of those devices. You can also connect multiple mobile devices at once.

This manual will explain, from start to finish, how to get the DCSDS up and running.

DCS WORLD VERSION SUPPORT

Standalone

- Stable
- Open Beta (subject to change with various Eagle Dynamics updates)

Steam

- Stable
- Open Beta (subject to change with various Eagle Dynamics updates)

SYSTEM REQUIREMENTS

PC Operating System:

Windows 7*/10

*If your Operating System is Windows 7, you will need another .dll file called 'api-ms-win-shcore-scaling-I1-1-1.dll'. You can search for this file through your search engine of choice.

Mobile Device Operating System:

iOS 7.0+

Android 4.0+

RELEASE UPDATE INFO/CHANGE LOG

Release 3.1.1.0
1. Black Shark 2 - ABRIS, Shkval export support (Android and IOS apps coming soon)
  (To apply the function, please execute the export setting once again.)

Release 3.1.0.13
1. Windows 10 Help (F1) Bug Fix
2. Serial port auto search function for ICP - default value OFF

Release 3.1.0.12
1. Changed to keep the option setting while DCSDeviceServer is running
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Release 3.1.0.11
1. Fixed a bug in reading Lua scripts (malfunction in some environments)

Release 3.1.0.10
1. Add mobile product page link

Release 3.1.0.9
1. Fixed operational errors in STEAM version

Release 3.1.0.8
1. DED menu (LIST-4, LIST-5 update)
  - Addresses a problem where the full version and open beta display different screens
2. Add [Change history] to the menu

Release 3.1.0.7
1. Improved IPC screen refresh rate (modified arduino code, see homepage)
2. DED menu (LIST-4, LIST-5 update)

Release 3.1.0.6
1. Added scripts for F-16C Viper Mobile Device
2. Modify display string
 - Save Games -> Saved Games
 - Install Path -> Installed Path

Release 3.1.0.5
1. Fixed the problem that server program error when analyzing F/A-18C Hornet DDI information
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Release 3.1.0.4
1. Fixed the problem that the screen setting is not applied during F-16C flight

2. Added the function to link the F-16C DED with the mobile app

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Release 3.1.0.3

1. Implemented item added to F-16C DED screen (Add data link page)

Release 3.1.0.2

1. T.B ICP Port Find Auto / Manual Support (Right-Click Menu)

Release 3.1.0.1

1. F16C Viper support
2. T.B ICP & DED support (H/W)

Release 3.0.5.5 (You must update your app)

1. Improved image transfer methods improve performance and reduce network load
2. Minor bug improvements

Release 3.0.5.4 (You must update your app.)

1. Improved image transfer methods improve performance and reduce network load
2. vJoy(virtual joystick) interlock function applied
3. Support consistent settings regardless of the Windows display DPI setting

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Release 3.0.5.3

1. Fixed auto configuration bug when network communication port crashed
   (Problem not recovering to default port when crashing after changing)

Release 3.0.5.2

1. Improved screen capture has little effect on game frames
2. Improved playback performance of mobile apps and reduced battery consumption
3. Automatically set another port in case of network communication port conflict

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YOUTUBE VIDEO GUIDE

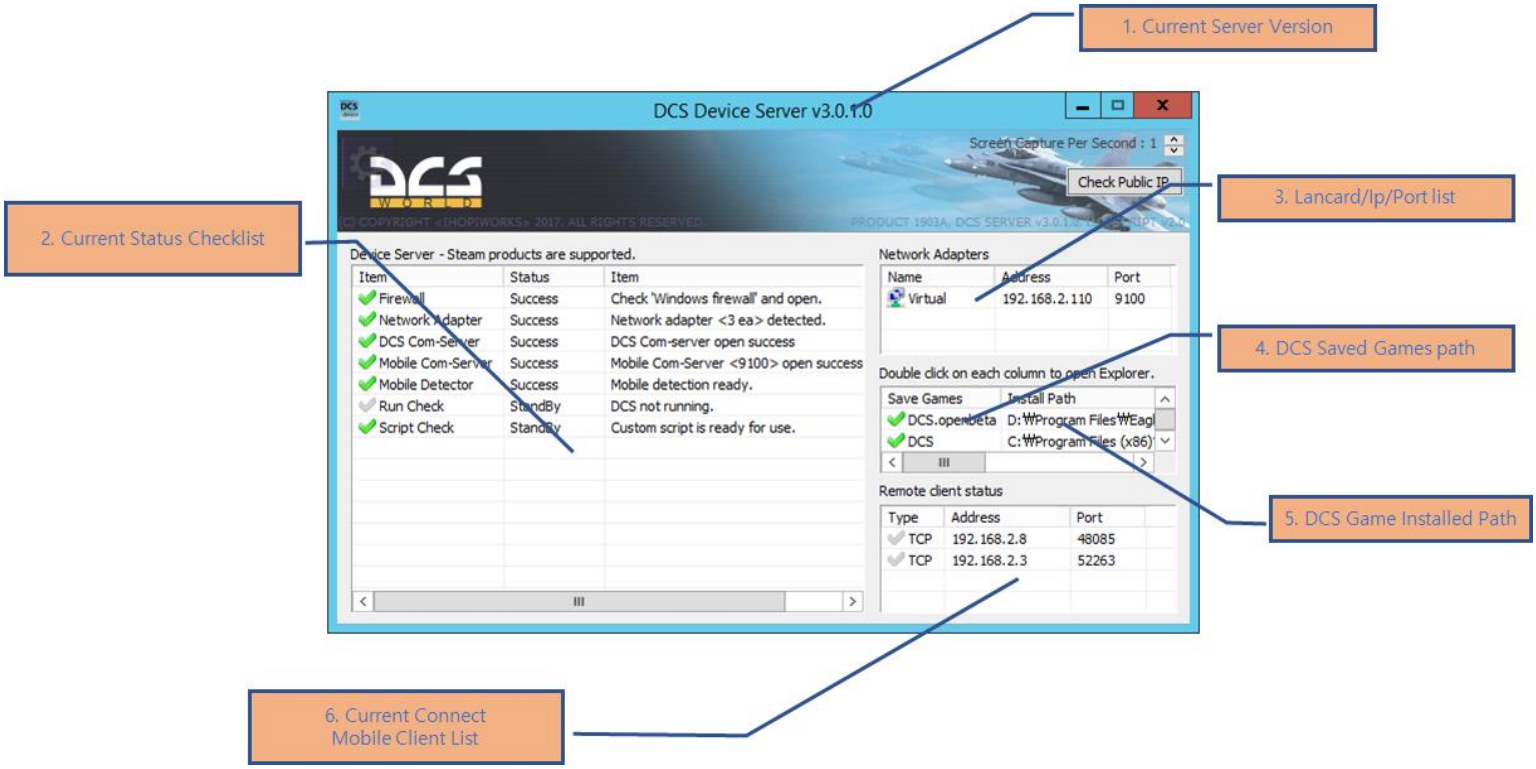
https://youtu.be/32MGMN4-tUk

INSTALLATION OF DCS DEVICE SERVER ON PC

DCS Device Server Download Link: DCS Device Server 3.0.2.2.zip

1) Unzip Program
    - The executable, DCSDeviceServerx64.exe, is the actual program and not an installer, so place wherever you will want to have it for your everyday use
2) Double click “DCSDeviceServerx64.exe” to run

DCS DEVICE SERVER OVERVIEW



1. Current Server Version
    - This shows the current version of the DCSDS

2. Current Status Checklist
    - Use this status checklist to identify any potential issues

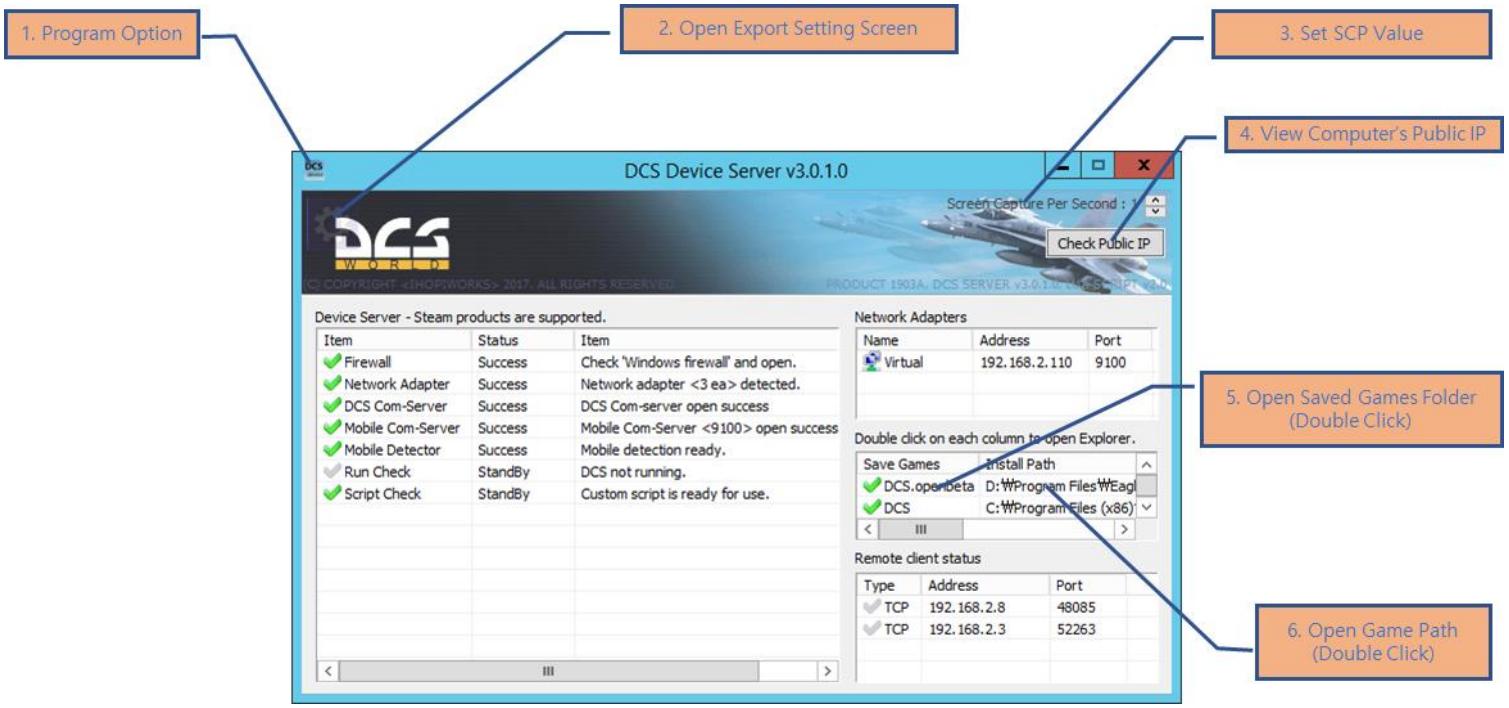
3. Computer's Network Interface Card (Lancard) list
    - Displays your computer's Lancard (NIC) list and it's assigned IP/port number

4. DCS Saved Games Path
    - Displays the DCS World version and, after double click the version name, where that versions saved games folder is
    - DCS Device Server configuration and display settings are stored here

5. DCS Game Installed Path
    - Displays where DCS World is installed

6. Current Connect Mobile Client List
    - Displays IP Address and Port # of mobile devices currently running the aircraft app

DCS DEVICE SERVER OVERVIEW (CONT.)



1. Program Options
    - Use this to update DCSDS, change language (currently English or Korean), check DCSDS update history, and to restore to the original 'options.lua'

2. Open Export Setting Screen (GEAR ICON)
    - Use to configure and customize the various display settings, in-game resolution, total game resolution, exported instrument locations and their sizes. *Advanced export settings screen, which needs to be unlocked to open, allows for further customization (More info in setup)

3. Set Screen Capture per Second Value
    - Set the exported SCPS value for your mobile device (think of it like Frames per Second)

4. View Computer's Public IP
    - View your computer's public IP address (useful if connecting via public network)

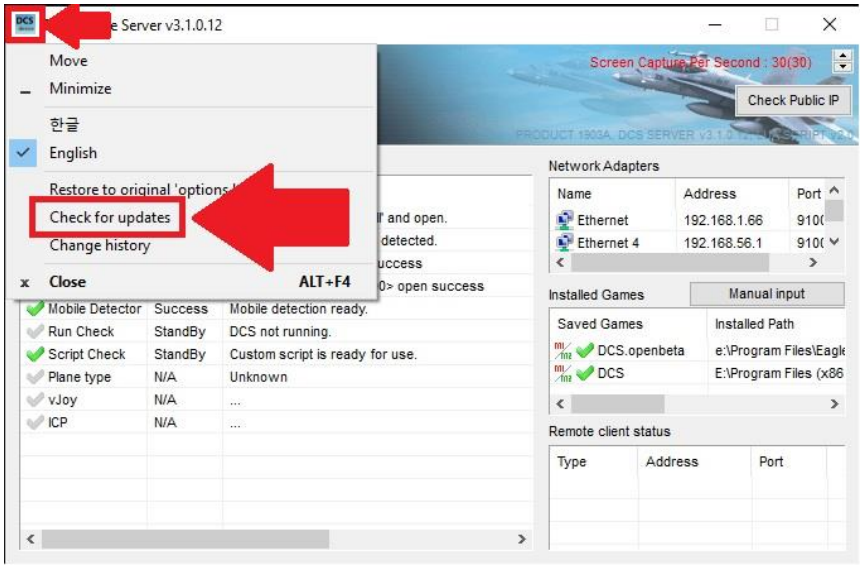
5. Open DCS Saved games folder
    - Double click DCS World version name to open the saved games folder via file explorer

6. Open Game Path
    - Double click the installed path location to open the DCS World installed folder via file explorer

DCS DEVICE SERVER SETUP

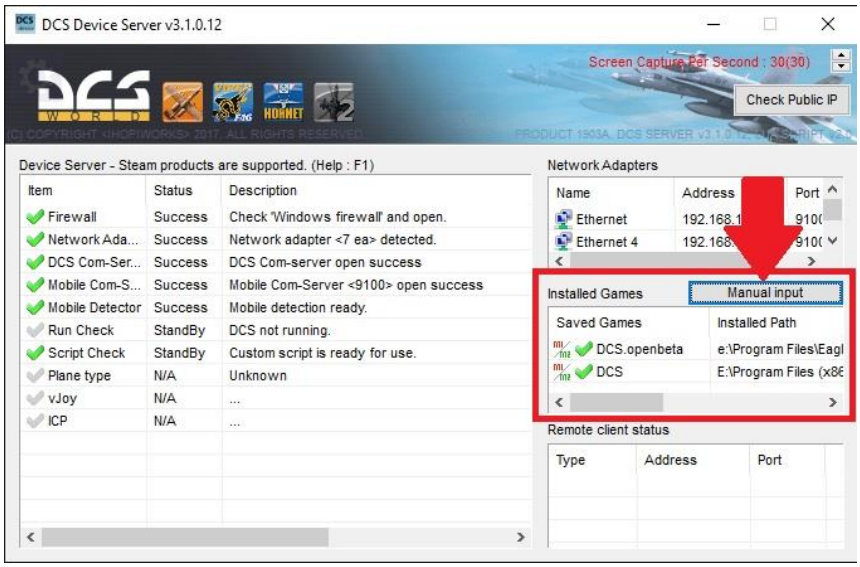
1. UPDATE THE DCS DEVICE SERVER

1. ***The last downloadable version of the server is 3.0.2.2, with all future updates being pushed through the update function *in* the server; therefore, ***IT IS CRITICAL THAT YOU CHECK FOR UPDATES BEFORE CONFIGURING ANYTHING***
2. Click the Program Options button in the top left corner (The blue “DCS Device” button)
3. In the menu, click “Check for updates”
4. The server should automatically update to the latest version



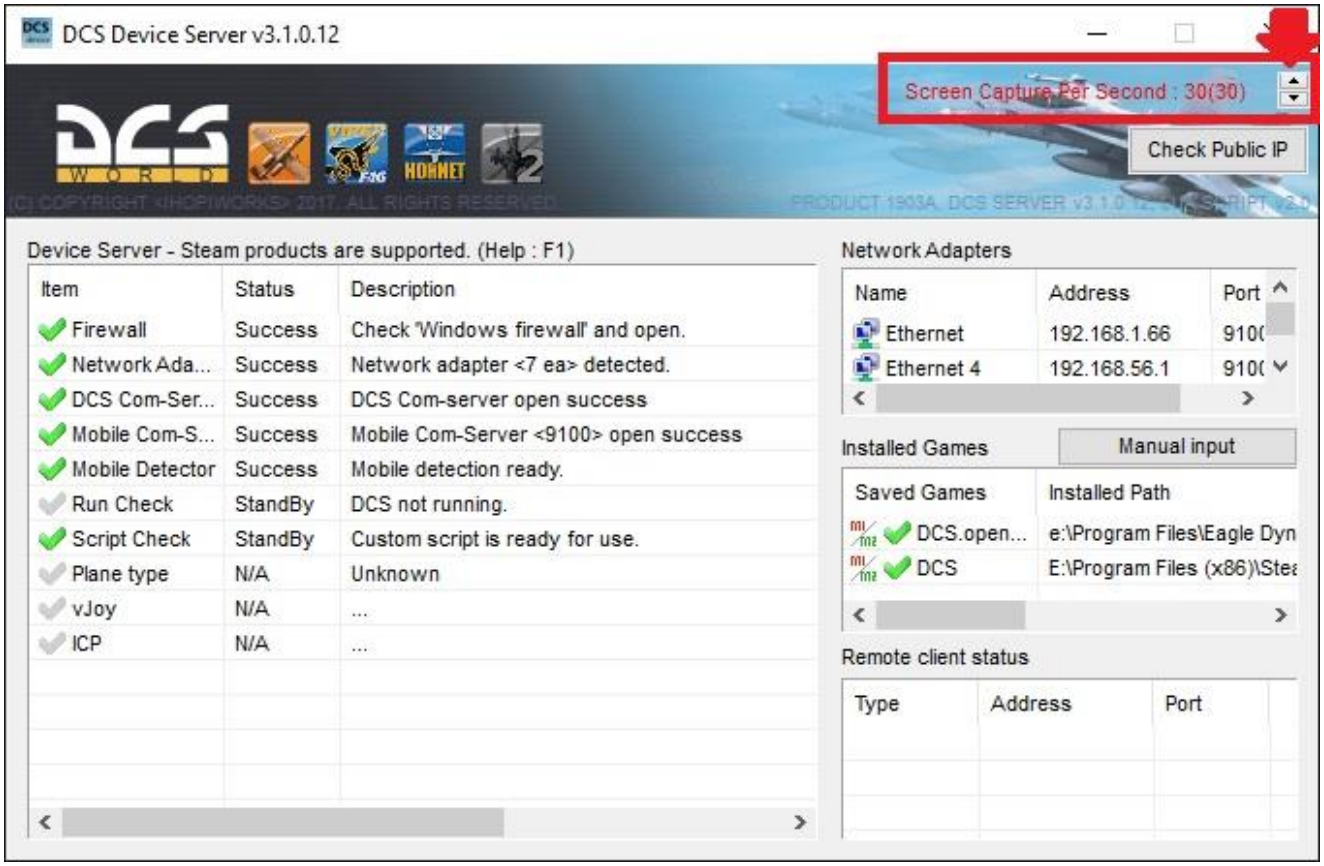
2. INSTALLED GAMES FOLDER

1. DCS Device Server should automatically detect your game installation(s), however, if it states that it can’t find any, click the “Manual Input” button to manually browse to your DCS World installed folder. If DCSDS did correctly detect your games and their locations, there is nothing else to do.



3. SCREEN CAPTURE PER SECOND (SCPS)

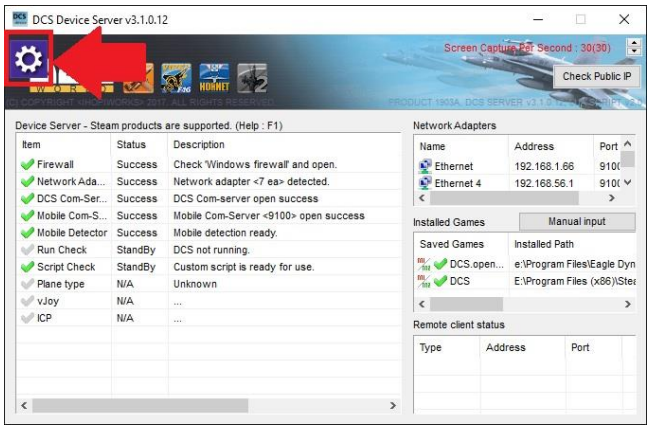
1. This setting represents how often the data displayed on the mobile device will be updated. Think of this setting like Frames per Second
2. Adjust by clicking the up or down arrow
3. Can select between 1 – 30
    - 1 = 1 update per second
        - Slower update, visual stutter, but friendlier for slower computers and networks
    - 30 = 30 updates per second
        - Faster update, smoother visual appearance, but more taxing for your computer and network
4. Set your desired Screen Capture per Second value based on your computer and network capability.
    - You can change this value in real-time (while DCS World is running), so test to see what the proper value is for your computer
5. In the image below, the numbers 30(30) represent the following:
    - CURRENT SCPS setting(ACTUAL SCPS)
    - As you can see, I have set my SCPS settings to 30 and am getting 30 SCPS



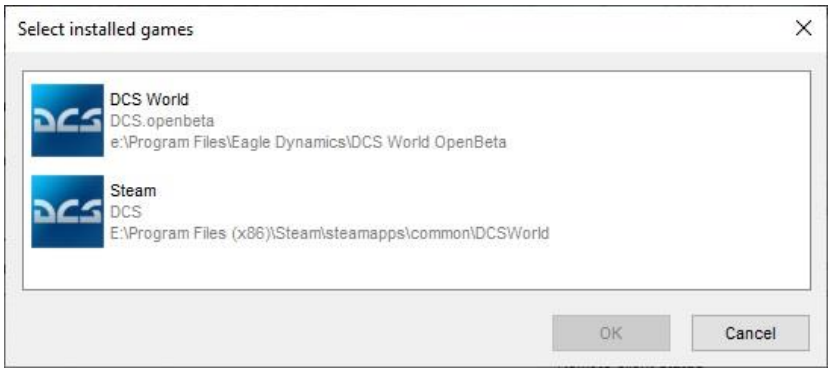
***Setup will now be split between those who are: 4) using a basic multi-monitor setup, 4.1) those who already export MFCDs and etc. to small LCD screens (likely for use in combination with the Thrustmaster MFD Cougars), and 4.2) those who just want to use the touch buttons for the MFCDs/DDIs/UFCs/ETC. PLEASE NOTE THAT YOU *WILL NOT* NEED TO EDIT ANY .LUA FILES WHEN USING THE DCS DEVICE SERVER.**

4. CONFIGURE EXPORT SETTINGS – BASIC TWO MONITOR SETUP

1. Click the "Export Settings" Icon (GEAR ICON)



2. Select the version you want to adjust (Stable or OpenBeta)



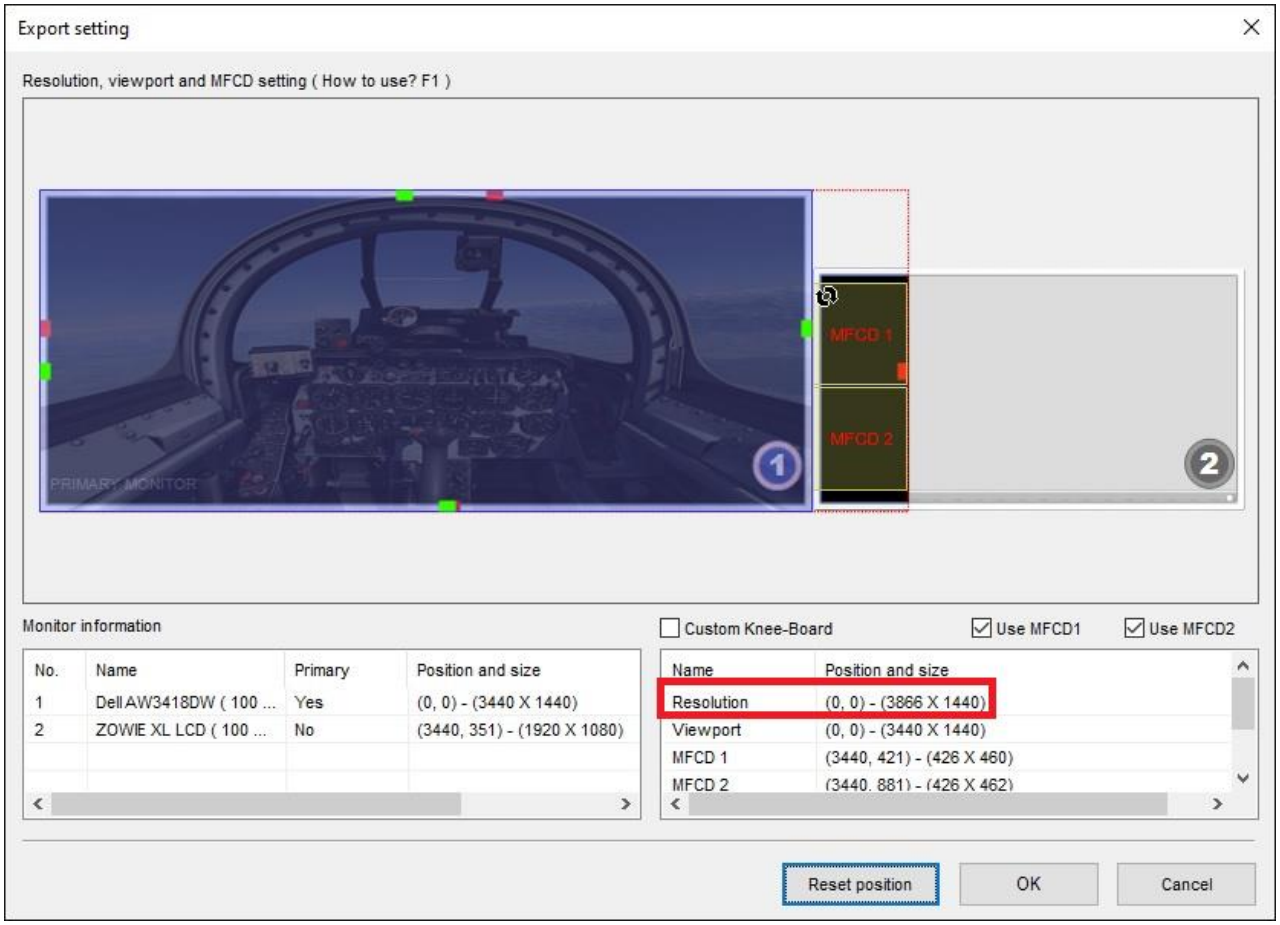
3. In the Export setting window, you can adjust your:
   - Viewport resolution (green box)
     - This is the area your gameplay will be viewed on
     - Set the green box to fill your main monitor's screen and ONLY your main monitor
   - Game resolution (red box)
     - This area is the full resolution your game will be using in order to export and render the MFCDs
     - Drag the red box onto your second monitor with enough space that the "MFCD 1" and "MFCD 2" boxes can fit on the second monitor

   a. The "MFCD 1" and "MFCD 2" box can be set vertically or horizontally
     - Move the "MFCD 1" and "MFCD 2" boxes onto the second monitor

- Drag the red box so that it sits right on the edge of the “MFCD 1” and “MFCD 2” boxes in order to only use the resolution needed
- Take note of what the resolution size is. It will be needed for the in-game settings.

a. In the image below, it would be 3866 x 1440

- Click “OK”



- **Writers note: Issues I have found
  - From my testing with various positions and setups, I recommend having your second monitor to the right of your main monitor for the following reasons:
    a. If you like to view your control inputs (rudder, throttle, joystick), the little red box in the bottom left corner of your screen or top left for helos, it will not be viewable if your second monitor is above, below, or to the left since it will be rendering in that extra space and might even render on top of the MFCD 1 or 2 screens. Remember, the red box is actual game space; it’s just not being used to render the main gameplay, which is what the green box is for.
    b. If you use any FPS counter, GPU, CPU type info (think MSI Afterburner + RivaTuner) you will typically use the top left or bottom left. This can be rectified by moving the position, but just a nuisance to be aware of.

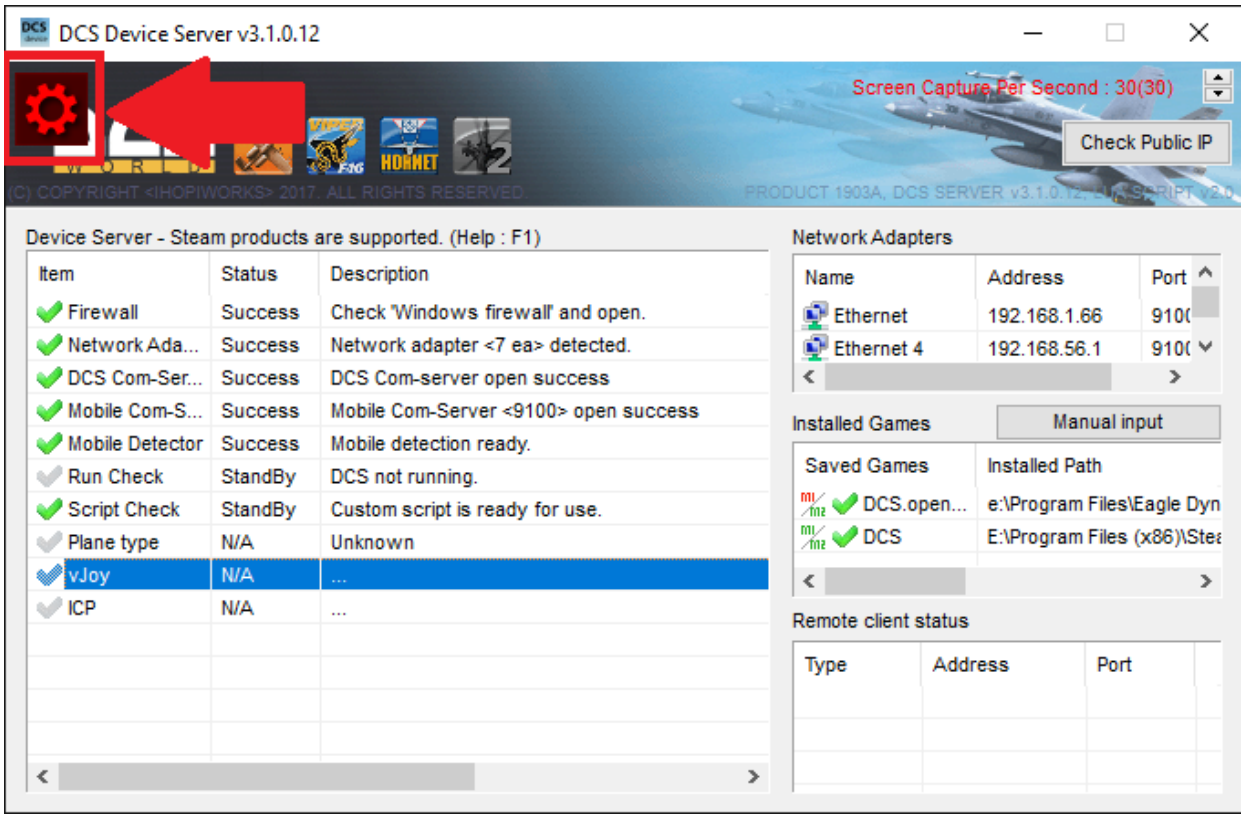
- Having the extra display on your right side will cause the kneeboard to be overlap rendered on the second monitor since it is set to display on the bottom right screen. The solution to this is to click the "Custom Knee-Board" option and move it somewhere on your main screen. **HOWEVER, IF YOU PLAY MULTIPLAYER, THIS WILL CAUSE TO YOU HAVE AN "IMPURE CLIENT"/FAIL THE INTEGRITY CHECK, AND WILL NOT BE ABLE TO JOIN ANY SERVERS**. **YOU WILL NEED TO HAVE THIS OPTION UNCHECKED TO BE ABLE TO PLAY ONLINE.**

4. Your export settings are now setup. Move to the next step "SETUP IN-GAME SETTINGS"

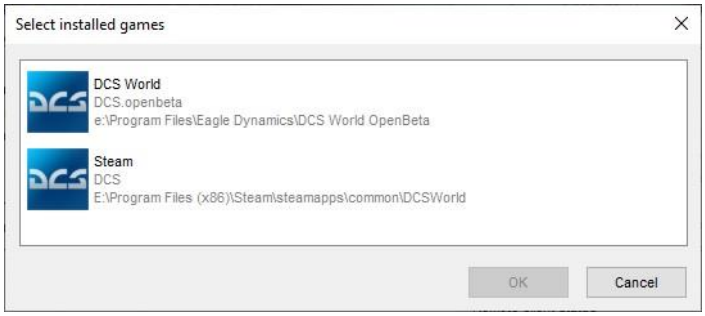
4.1 CONFIGURE EXPORT SETTINGS – ADVANCED SETTINGS – USE WITH ALREADY EXPORTED INSTRUMENTS

This setup assumes you already export instruments like the right and left MFCDs/DDIs, etc., from editing the .lua file, to small LCD screens. The .lua file is not needed, but your location, x/y/width/length data, will be needed for an easy transfer. If you've never configured this yet, there will be a bit more trial and error involved as every setup will vary depending on the various screen sizes and locations you use. This manual will not go into detail on setting up the export screen location and size. You will still need a second monitor to export the extra instruments to, e.g. F/A-18C AMPCD.

1. To enable the advanced options, hold down the left "CTRL" key to turn the "Export Settings" gear icon red and click it



2. Select the version you want to adjust (Stable or OpenBeta)



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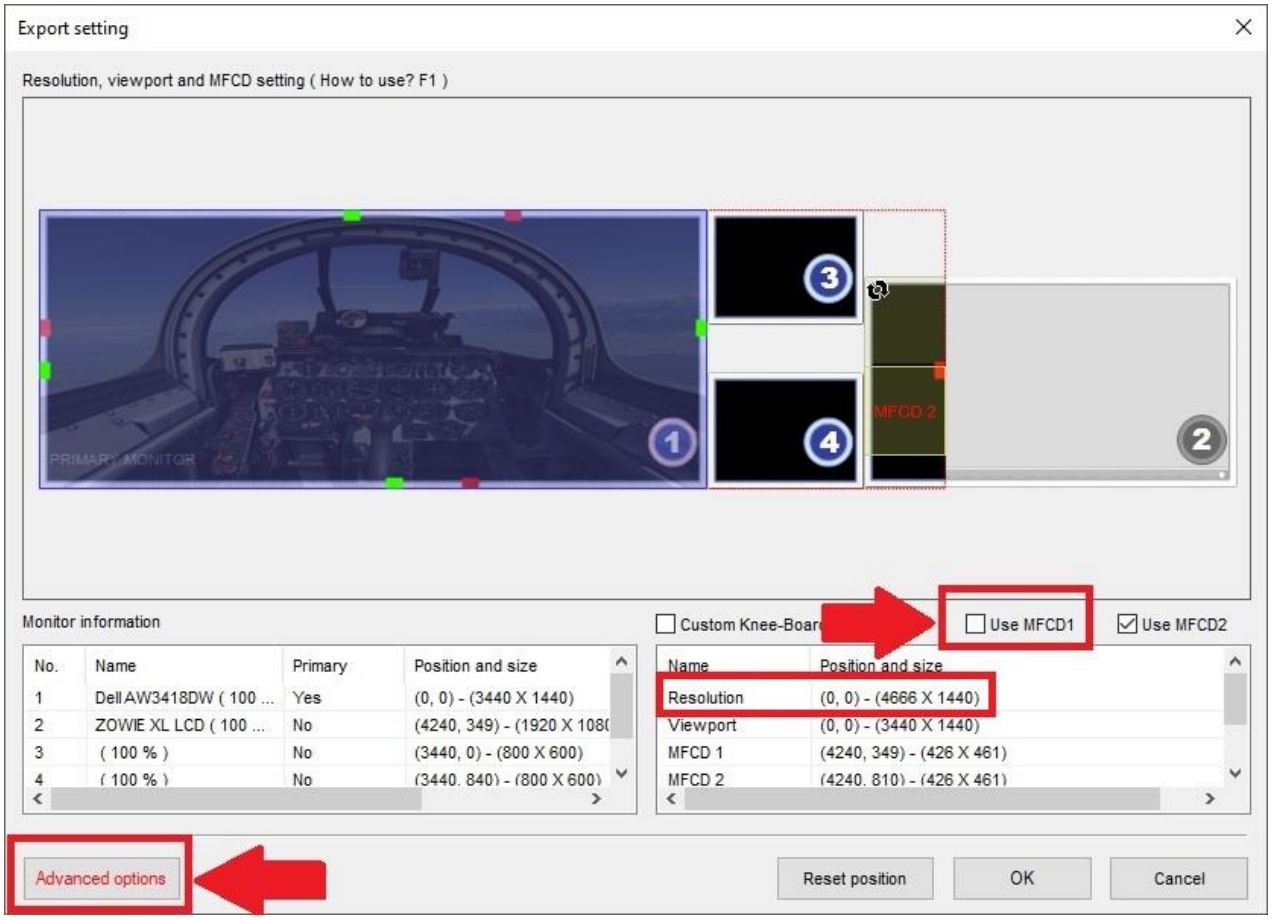
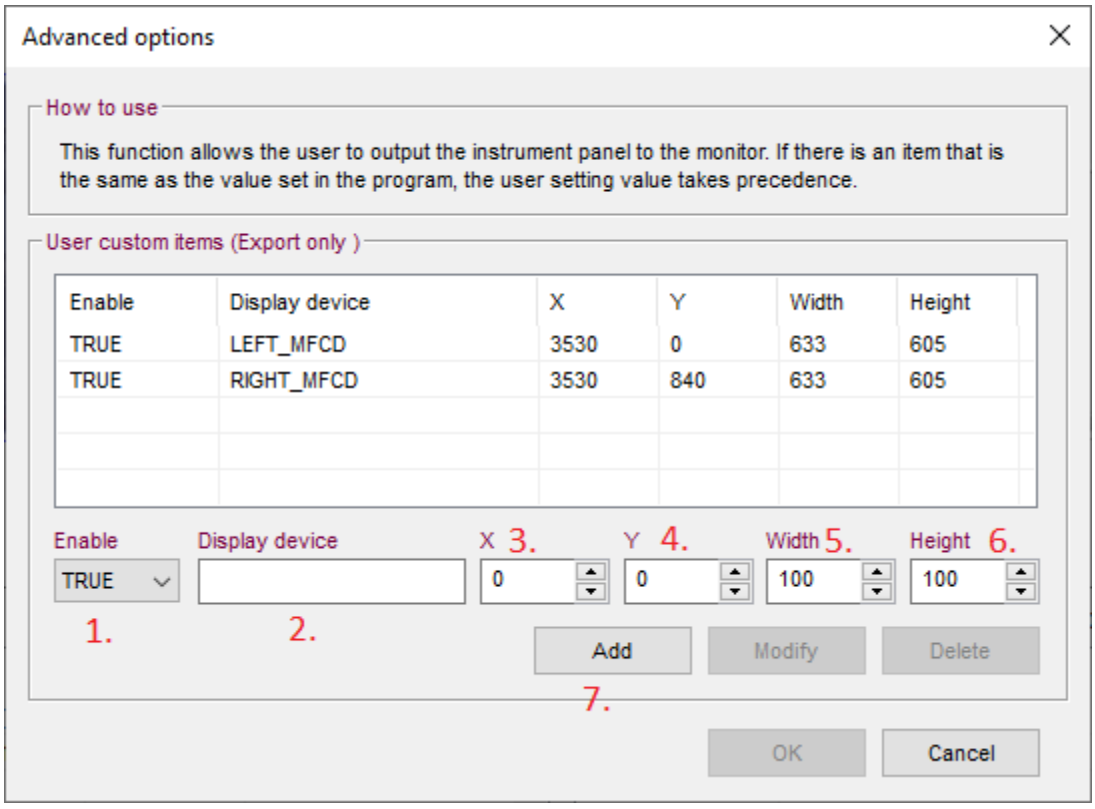
(SPACE LEFT BLANK INTENTIALLY TO KEEP INSTRUCTIONS AND PICTURES TOGETHER)

3. Uncheck “Use MFCD1”
    - The F/A-18C app uses “Use MFCD2” to export the AMPCD, so in this scenario, it’s technically MFCD3 or CENTER_MFCD
4. In the Export setting window, you can adjust your:
    - Viewport resolution (green box)
        - This is the area your gameplay will be viewed on
        - Set the green box to fill your main monitor’s screen and ONLY your main monitor
    - Game resolution (red box)
        - This area is the full resolution your game will be using in order to export and render the MFCDs
        - Drag the red box so that it covers your LCD screen(s) and part of your second monitor with enough space that the “MFCD 2” box can fit on the second monitor
        - Move the “MFCD 2” box onto the second monitor
        - Drag the red box so that it sits right on the edge of the “MFCD 2” box in order to only use the resolution needed
        - Take note of what the resolution size is. It will be needed for the in-game settings
            a. In the image below, it would be 4666 x 1440
5. Click “Advanced options” located in the bottom left corner



6. In the Advanced options, you can export any instrument you want, set their X, Y location as well as the width and height, and turn it on or off with TRUE or FALSE declarations
    - **1.** Set “Enable” to “TRUE” (this tells the DCSDS that you want this instrument exported)
        - Setting to “FALSE” disables the setting, which may be good if you have a unique setup for a certain aircraft that wouldn’t work on others
    - **2.** Enter the instrument name
        - This needs to be the same as what would be put in the .lua file
            a. E.g. LEFT_MFCD, RIGHT_MFCD, CENTER_MFCD, RWR67, ETC
    - **3./4./5./6.** Enter the X, Y, Width, Height information
        - This can be copied from your previous .lua file if screens are all in the same location
    - **7.** Click “Add” to add it to the Export list
    - Insert all of the instruments you need
    - You can modify the data by clicking on the Display Device in the list and clicking the “Modify” option
    - You can delete an exported item by clicking on the Display Device in the list and clicking the “Delete” option
    - When finished, click “OK” (The server creates a .lua file, “DeviceWorks.Mon,” with this information, you do not need to modify anything else)

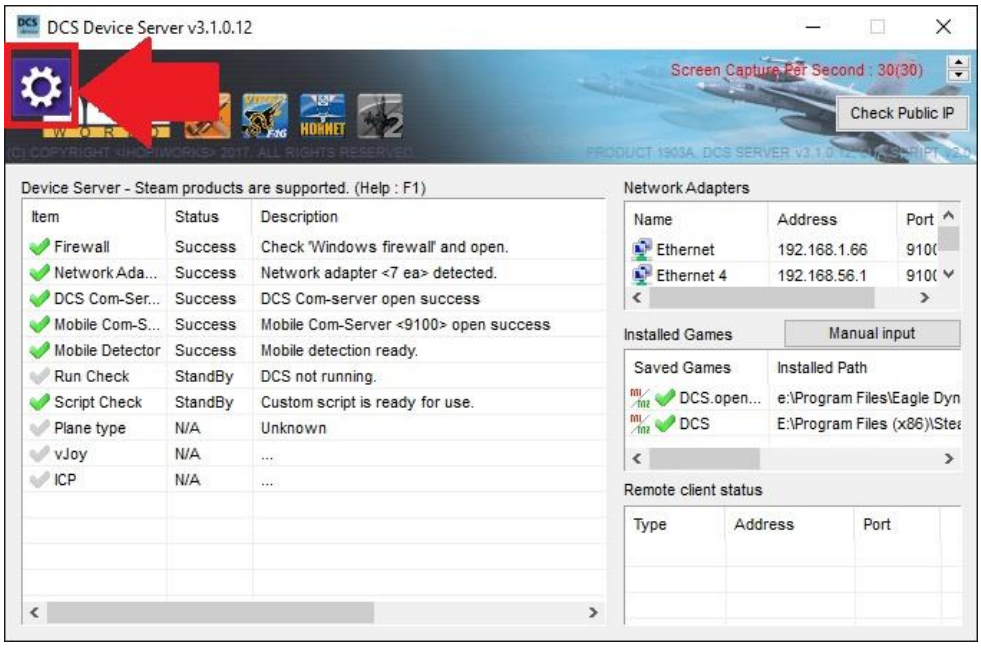


- **Writers note: Issues I have found
    - From my testing with various positions and setups, I recommend having your additional monitor(s) to the right of your main monitor for the following reasons:
        a. If you like to view your control inputs (rudder, throttle, joystick), the little red box in the bottom left corner of your screen or top left for helos, it will not be viewable if your second monitor is above, below, or to the left since it will be rendering in that extra space and might even render on top of the MFCD 1 or 2 screens. Remember, the red box is actual game space; it's just not being used to render the main gameplay, which is what the green box is for.
        b. If you use any FPS counter, GPU, CPU type info (think MSI Afterburner + RivaTuner) you will typically use the top left or bottom left. This can be rectified by moving the position, but just a nuisance to be aware of.
    - Having the extra display on your right side will cause the kneeboard to be overlap rendered on the second monitor since it is set to display on the bottom right screen. The solution to this is to click the "Custom Knee-Board" option and move it somewhere on your main screen. **HOWEVER, IF YOU PLAY MULTIPLAYER, THIS WILL CAUSE TO YOU HAVE AN "IMPURE CLIENT"/FAIL THE INTEGRITY CHECK, AND WILL NOT BE ABLE TO JOIN ANY SERVERS**. **YOU WILL NEED TO HAVE THIS OPTION UNCHECKED TO BE ABLE TO PLAY ONLINE.**

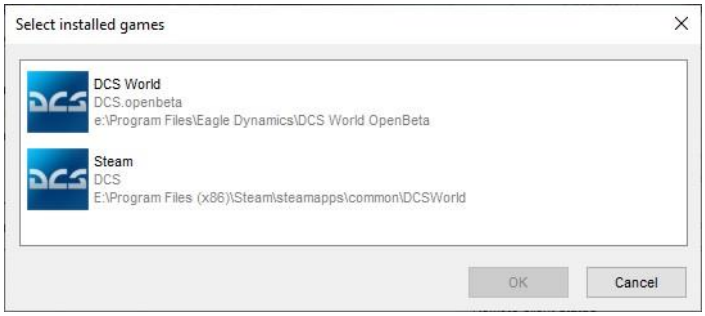
7. Your export settings are now setup. Move to the next step "**SETUP IN-GAME SETTINGS**"

4.2 CONFIGURE EXPORT SETTINGS – NO SCREEN EXPORTS, JUST WANT TOUCHSCREEN MFCD/DDI/UFC/ETC

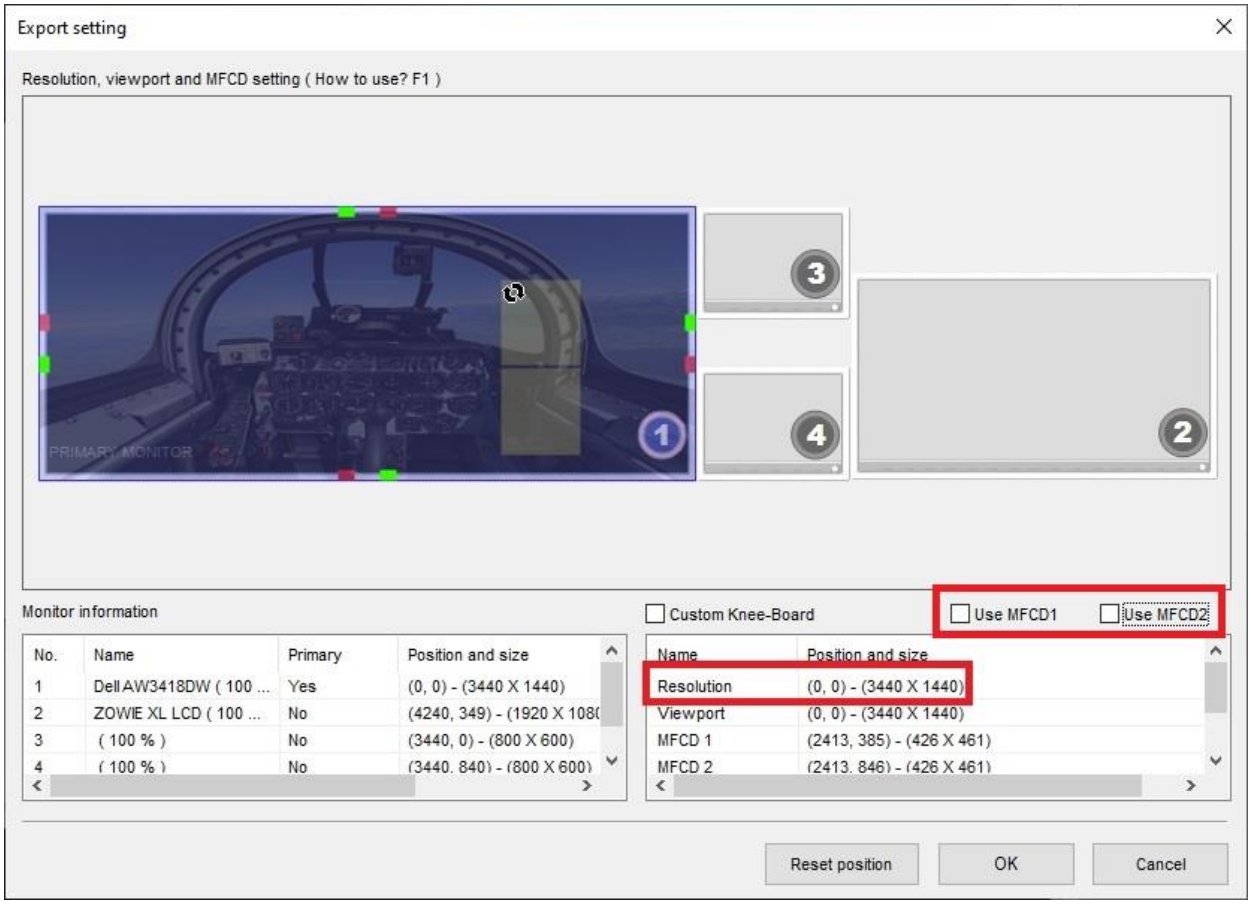
1. Click the "Export Settings" Icon (GEAR ICON)



2. Select the version you want to adjust (Stable or OpenBeta)

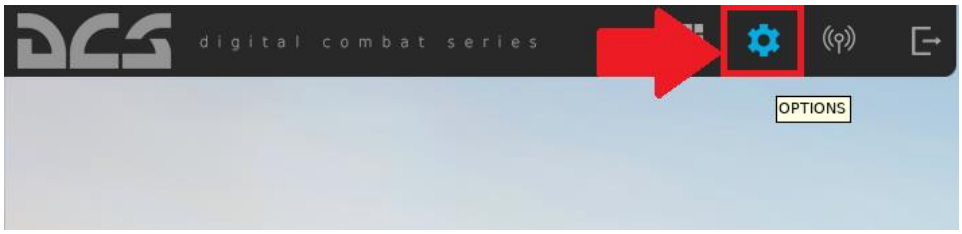


3. Uncheck “Use MFCD1” and “Use MFCD2”
4. Since nothing is being exported, just make sure the red and green box both fill your monitor.
    - Viewport resolution (green box)
        - This is the area your gameplay will be viewed on
    - Game resolution (red box)
        - This area is the full resolution your game will be using (if you were exporting)
        - Take note of what the resolution size is. It will be needed for the in-game settings.
        a. Will most likely be the resolution size of your monitor
5. Click “OK”

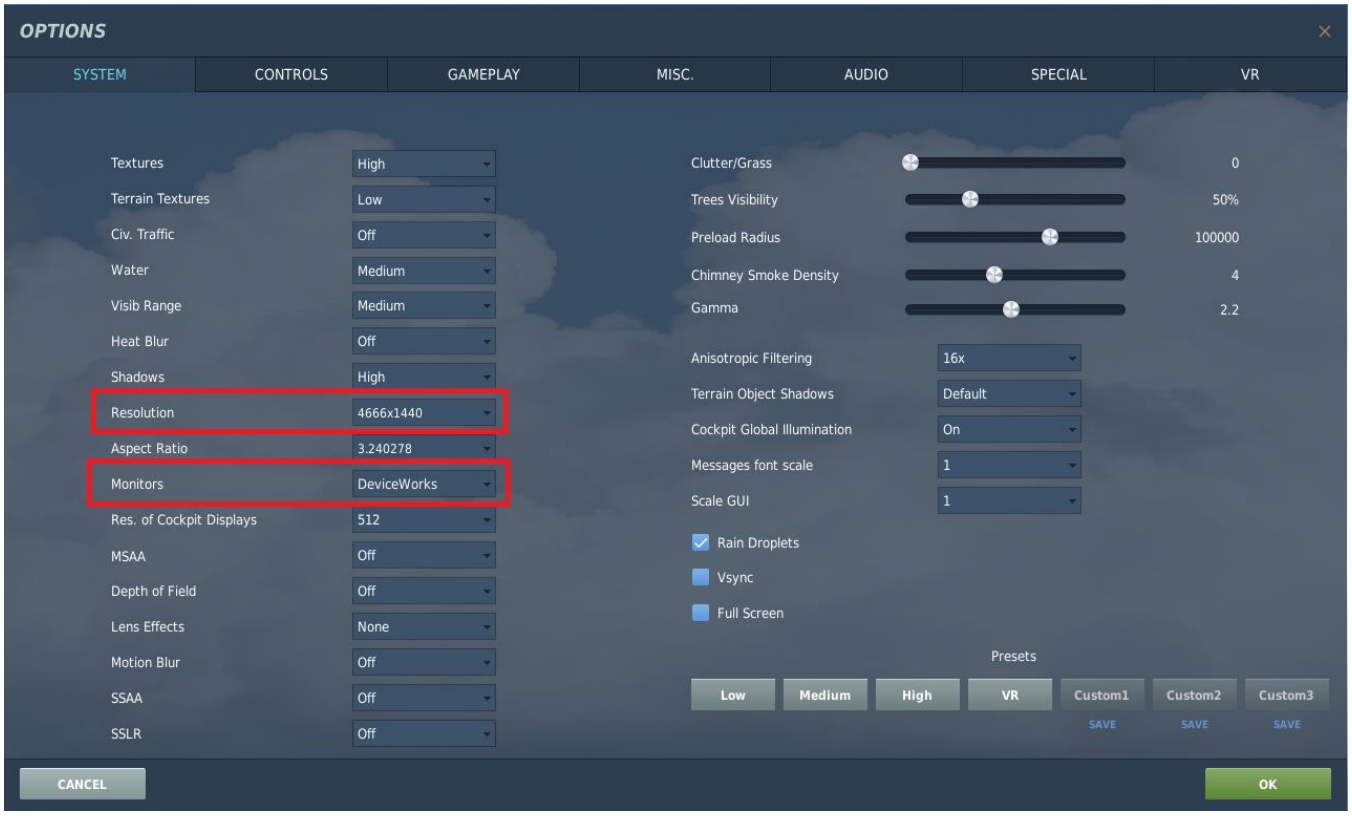


5. SETUP IN-GAME SETTINGS

1. Launch DCS (version that you modified the export settings for)
2. In the DCS In-game home screen, click the “Options” gear icon in the upper left corner



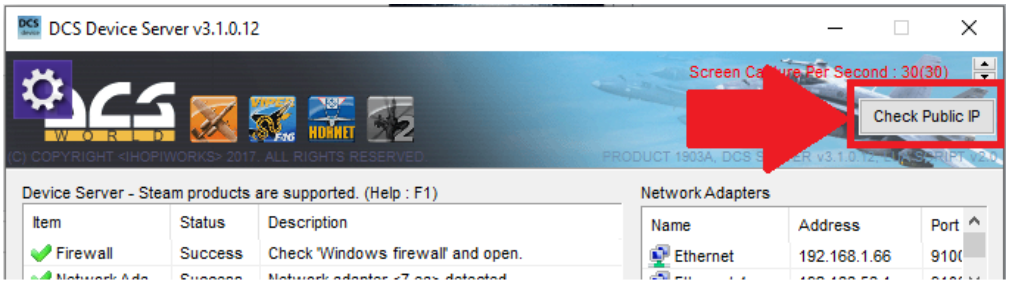
3. Under the “SYSTEM” tab, in the “Resolution” field, enter your resolution that we noted earlier during the export settings setup
    - The “Aspect Ratio” setting will automatically adjust and does not need manual setting.
4. In the “Monitors” field, it should already be set to “DeviceWorks.” If not, set to “DeviceWorks.”
5. Click “OK”
    - The game will restart to complete the resolution configuration change



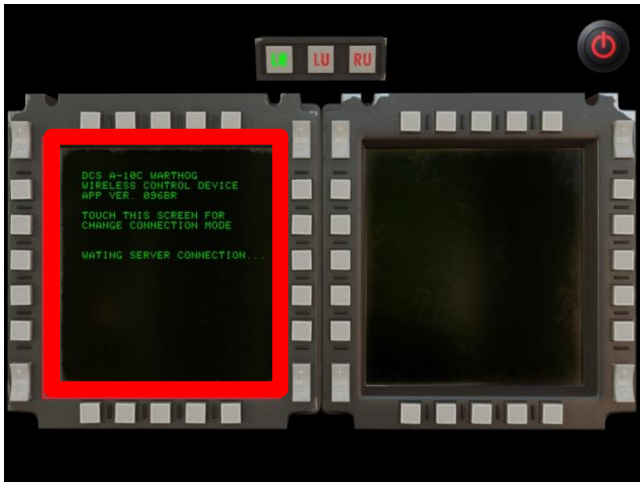
6. CONGRATS! You’ve finished setting up your server and game! Check out the “**MOBILE APP SETTINGS**” and “**MOBILE APP TIPS**” below before taking off

6. MOBILE APP SETTINGS (DOES NOT APPLY TO MOST USERS)

- Network/IP settings
    - If you are one of the few who connect via an external IP address, you will need to first check what your external/Public IP is
        1. Click the “Check Public IP” button to be redirected to a website that shows your IP/port info (Security FYI – Don’t show people this info!)



2. After you have the info, open the aircraft app that you would like to use
3. On the display screen that has the “TOUCH THIS SCREEN FOR CHANGE CONNECTION MODE”, **TAP THE SCREEN** to bring up the manual network input screen
4. Press Manual →Press IP/Port →Enter the info → Press “ENTER” when done
5. Check the “Remote client status” window in the DCSDS to ensure you are connected



MOBILE APP TIPS

- To ensure the app is properly connected:
    - Open the DCSDS
    - Open the app you would like to use
    - If the app is connected, it will show up in “Remote client status” section with the respective info populated
        - A grey checkmark still indicates a good connection
    - The app will state “server connected”
- You can change apps in-game, when switching aircrafts, without having to restart DCS World or the DCSDS
    - However, you must make sure to press the power button on the app you are leaving to make sure it disconnects from the server so the new app can connect
- To utilize some functions, like the A-10C CDU, F-16C ICP, the app needs to be rotated VERTICALLY
- You can connect multiple devices at once to run the horizontal and vertical modes at the same time
- Using a VPN will cause the apps to not connect to the server without setting up a manual connection

FINAL THOUGHTS

- For your daily use simply:
    1. Start DCSDS
    2. Start your app
        - Remember, you can switch apps while in-game as well, just make sure to press the power button first before closing the app
    3. Start DCS World
    4. FLY!
        - There is no daily configuration necessary once the entire initial configuration is completed

TECHNICAL SUPPORT

Email: ihopi73@gmail.com

MOBILE APPS LISTING

Developer, ihopiworks, U.S. Google Play Store APPS

Developer, ihopiworks, U.S. Apple iOS App Store APPS

App Name: DCS A-10C Warthog Device

U.S. Google Play Store Link

U.S. Apple iOS Store Link

DCS A-10C Warthog Device (cont.)

Developer Notes:

This app can control the DCS World: A-10C Warthog MFCD (Left / Right) UFC and CDU (rotate vertically) through your mobile devices.

Feature

- Just a few clicks for your MFCD export. (All in GUI, no need to type anything)
- You can setup to use partial of your extra monitor for MFCD export
- Exit server program will rollback everything exactly as you used before
- Day / Night support
- Short / Long press support for each button

App Name: DCS Hornet AMPCD & UFC

U.S. Google Play Store Link

U.S. Apple iOS Store Link

Developer Notes:

This app controls the DCS World Hornet's AMPCD & UFC using your mobile devices.

- On the UFC, only the green area works at this time. You can control the knobs by touch and dragging up or down
- Comm1 and Comm2 selector has one more feature, double click
    - If you double click this, it will pull the knob like DCS UFC real function (not animated)
- **Vertical mode coming soon*

App Name: DCS: F-16C VIPER DEVICE

U.S. Google Play Store Link

U.S. Apple iOS Store Link

Developer Notes:

This app controls the DCS World: F-16C Viper's MFCD (Left / Right) and ICP / DED through your mobile devices.

- *Currently, the exported MFD brightness is too weak
    - Though this is not a bug, the export feature of DCS for F-16C is not good at its current status
    - The F-16C Viper is still in beta status so hopefully it will be fixed soon
- All buttons, switches and knobs are working except MFCD's locker switches
- Displays the ICP/DED in one screen
- Rotate your device to show the MFCD or ICP/DED

****DCS KA-50 APP COMING SOON****

DCS DEVICE SERVER KNOWN ISSUES

- “Android” misspelled in mobile app link screen

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