Updated 5/9/2022

Step by step instructions for getting jzIntvImGui for Android installed on Fire TV devices.

1. Install jzIntvImGui on Windows computer and get acquainted with it.
Install the latest version (jzIntvImGui_2.3.7.zip) which contains the Windows, Linux and Android versions on your Windows computer. https://github.com/jenergy/jzIntvImGui/releases

You need to install the Windows version first to get you acquainted with the program itself, where the roms go, and where the various settings are. After installing the Windows version, you then need to find and add your own roms to the /Resources/Roms folder it creates inside the jzIntvImGui folder. You also need to add the exec.bin and grom.bin files needed to run the emulator to that same folder. (And ECS.bin if you wish to play games that use that device.) Jenergy has graciously added many images to the /Images/Boxes and /Images/Screenshots folders that you can transfer over to your Fire TV device once you have the Windows program set up the way you want. I highly recommend getting used to using jzIntvImGui on your Windows computer first before moving onto the next steps of using it on your Fire TV device.

Here is a kbdhackfile config I created for jzIntvImGui for Windows for XBox Series X/S / XBox One controllers with Bluetooth or USB, or XBox 360 controllers with a wireless adapter. (One player only) You'll need a different config later for the Android version on Fire TV devices.

XBox_Win.txt   (Rename to XBox_Win.cfg after downloading)
https://drive.google.com/file/d/1I4vJJlMFtKxBeIqHvDwlDR6-1UFahrHJ/view?usp=sharing

You can play one player games that use the left controller and any of the three buttons on the Intellivision controller. (Use the keyboard to enter keypad numbers besides 1 to 4.)

The A button corresponds to the top buttons on the Intellivision controller, X is the left lower button and B is the lower right button. Y pauses the game. Left bumper is Clear. Right bumper is Enter. View (left center button) selects keypad 1 (for one player games) and Menu (right center button) selects keypad 2 (for two player games). L-Stick button is keypad 3 and R-Stick button is keypad 4. I've added a combo press of both center keys to quit and go back to the main menu. In addition to the controller, there are controls for the keyboard along with the numbers for the Intellivision keypad which are mapped to the keyboard's keypad.

(See special instructions in the config if you want to try and use the Xbox triggers in jzIntvImGui - You must use an external jzIntv version, jzIntv SDL1 for Windows).

After getting familiar with jzIntvImGui for Windows, you can install jzIntvImGui for Android (jzIntvImGui.apk) on Fire TV devices. It's in the same folder as jzIntvImGui for Windows you just installed. But before we get to Step 2, which Fire TV devices does it work on? The following 5 Fire TV devices have all been tested with jzIntvImGui for Android...

1. Fire TV Stick 4K Max (2021) Fire OS 7.2.7.9 (Based on Android 9) Works!
(Shortcut buttons for Prime Video, Netflix, Disney+ and Hulu at the bottom of the remote.)

2. Fire TV Stick Lite (2020) Fire OS 7.2.7.9 (Based on Android 9) Works!
(No shortcut buttons at the bottom of the remote.)

3. Fire TV Stick 4K (2018) Fire OS 6.2.8.9 (Based on Android 7.1) Current version Works!
(Newer version with shortcut buttons at the bottom of the remote.)

4. Fire TV Stick 4K (2018) Fire OS 6.2.8.9 (Based on Android 7.1) Works!
(No shortcut buttons at the bottom of the remote.)

5. Fire TV 2nd Gen (2016) Fire OS 5.2.8.8 (Based on Android 5.1)   Fail
Appeared to install successfully with an Amazon Fire icon but the app failed to launch

Other current versions not tested - (Would appreciate feedback if you are successful installing
the app on your device or if you find an older Fire TV Stick or device that it works on.)
Fire TV Stick Lite (2020) Fire OS 7 (Newest version of Lite with shortcut buttons on remote)
Fire TV Stick (2020) Fire OS 7 (Newest version with shortcut buttons on remote)
Fire TV Cube (2019) Fire OS 6 (Current version)

Based on our testing, the above three devices should also work. I can't guarantee that
jzIntvImGui for Android will keep working after the above date as Amazon sometimes breaks
things with updates, but as of 5/7/2022, 4 of the 5 devices that we tested all work.

If getting a Fire TV device for the first time....
Go to Settings - My Fire TV (or Device & Software on a TV with Fire TV built-in) - About -
Check for Updates. After it checks for updates, install them if it found any. It might then
restart on its own. If it doesn't, hit the back key and choose restart. Repeat this process until
you find no more updates. Now we can continue with the install process in Step 2...

(There are other ways to install apk's on the Fire TV, but I found this the easiest if you have a
Windows desktop/laptop without installing extra apps on Android devices or Fire TV devices.)

2. Download and install adbLink
Download and install adbLink on your Windows 7 or greater computer.
http://www.jocala.com/adblink.html (100% clean at VirusTotal.com)
(I only have Win 10 so can not confirm it works on Windows 7 or 11 but author says it does.)

3. Find your Fire TV device's IP address and turn on ADB debugging
On your Fire TV device go to Settings - My Fire TV - About - Network. Make note of the IP
address of your Fire TV device. Hit the back key on your remote and go to the Developer
options. Turn on ADB debugging. Turn on Apps From Unknown Sources. When finished
installing jzIntvImGui on your Fire TV device, you can return to these settings and turn them
off again later if you wish for added security (unless you use Mouse Toggle For Fire TV).
.
4. Create new connection for your Fire TV device in adbLink
If you use a VPN on your Windows computer, disable/disconnect it before taking the next
steps. Open adbLink. Click on "New". (If you get "Error creating file!" just click
OK and ignore. (It seems to be a bug introduced when abdLink was updated from 4.8 to 5.0.)
Under "Description" enter anything you wish describing your Fire TV device. In "Address"
enter the IP Address you just found in Network on your Fire TV device. Click on "Save".

5. Connect to your Fire TV device in adbLink
Be sure the device you are connecting to is in the "Select device" field. Click on "Connect". At first, you will get an error saying it can't connect or saying the device is unauthorized. Return to your Fire TV device and you should see a popup that says "Allow USB debugging?" To always allow a connection in the future, click on the checkbox with your remote that says "Always allow from this computer?" and click OK. Otherwise just click on OK. I advise checking the box to avoid this popup in the future. If you don't see the popup on your Fire TV device, turn off ADB debugging, turn it back on again, and try again to connect with adbLink.

6. Install jzIntvImGui.apk onto your Fire TV device using adbLink
If successful, in adbLink under "Connection status" it should now say "IP connection". Click on "Install APK". Navigate to your computer's directory where the apk for jzIntvImGui is located, select it and click on "Open". When you get a popup that says "Install APKs?", click on "Yes". Wait until the install process finishes. You should get a popup stating the apk was successfully installed. Click OK. Leave adbLink connected to your Fire TV device for now.

7. Confirm that jzIntvImGui installed / Give jzIntvImGui permission to access storage
Return to your Fire TV device, and click on the Apps icon next to the Settings icon. Scroll to the bottom of your apps list and you should see either a green Android icon (Fire OS 6) or a gray settings icon (Fire OS 7). Click on it to launch it. You should get a popup that says "Allow jzIntvImGui to access photo media and files on your device?". Click "Allow". You will now get a brief popup saying it is copying data. It will then open jzIntvImGui, but it will say "No games found" and "Please select roms folder" at the top and you will not be able to do much because Fire TV devices do not have built-in mouse support. (More on this later if you want to add mouse support.) However, even without mouse support, you can easily update the settings you need to by using adbLink. Exit jzIntvImGui on your Fire TV device by hitting the home button on your Fire TV remote. The next step is to transfer roms you have in your Windows version of jzIntvImGui at /jzIntvImGui/Resources/Roms to your Fire TV device.

8. Transfer roms to your Fire TV device from your computer
In adbLink select "File manager". On the left hand side, doubleclick on "/sdcard/jzIntvImGui", then doubleclick on "/sdcard/jzIntvImGui/Resources/", and finally doubleclick on "/sdcard/jzIntvImGui/Resources/Roms". Select "Push". Navigate to the "/Resources/Roms" folder for jzIntvImGui on your Windows computer, select the first file in the folder and scroll down. While holding down Shift, select the last file in the folder. Click on "Choose". Wait for the roms to be copied. Once it is finished, leave adbLink connected for the next steps.

Open up jzIntvImGui again on your Fire TV device, and you will see many screenshots and box images have been added to the program for roms you added. To add more box shots or screenshots you can transfer them from your Windows computer in the same way as you did the roms. Be sure you select the right directory for your Fire TV device first, and then "Push" them to the Fire TV using the directory on your Windows computer where the images reside.

9. Transfer jzIntvImGui.ini file to your Fire TV device from your computer
You will now transfer an altered jzIntvImGui.ini file for Android over to your Fire TV device. I have created two jzIntvImGui.ini files for Fire TV devices from the one by jenergy for Android that you can edit as you like on your computer before transferring it to your Fire TV device.

IMPORTANT: When using "Push" in "File manager" in adbLink, if you have a file on your Fire TV with the same name it WILL NOT overwrite it, and will just skip it. If you need to replace your jzIntvImGui.ini file with a new one, use the "Delete" button to delete it from the proper directory on your Fire TV device first, then use the "Push" button to transfer the new file.

jzIntvImGui_4x3.ini (4x3 screen for games)
https://drive.google.com/file/d/1v0BP_1e9WV37JvjU6CIkf8GAH285Az3X/view?usp=sharing

jzIntvImGui_FullScreen.ini (Full screen for games)
https://drive.google.com/file/d/10huHm4eyycgmteDbcJfGIbNDghGLOFoM/view?usp=sharing

IMPORTANT: Rename the file that you download for the screen size you want from the links above to jzIntvImGui.ini before you transfer it to your Fire TV device.

Rename whichever file you download from the links above to jzIntvImGui.ini then either edit it as you like on your computer or transfer it as is. If making edits, save it on your computer first. Back in adbLink, choose "File manager". On the left hand side, doubleclick on "/sdcard/jzIntvImGui". Select "jzIntvImGui.ini". Select "Delete". You will get a popup that says "Delete file(s)?". Click on "Yes". Select "Push". Navigate to where you saved jzIntvImGui.ini on your computer, select the file, then click on "Choose".

The next four changes I made from jenergy's jzIntvImGui.ini file for Android are for a better looking menu on a big screen: (Adjust as you like.) Settings are under "[General]" section.
"buttons_size = 33" (Changed from 90)
"scrollbar_size = 40" (Changed from 85)
"font_size = 30" (Changed from 55)
"font_filename = Go-Mono.ttf " (Like it better than the bitwise.tff Intellivision font)

The following changes are needed since you don't use the Android onscreen touch controls:
"mobile_show_controls = 0" (Changed from 1)
"mobile_show_configuration_controls = 0" (Changed from 1)

Added to use XBox Series X/S Bluetooth controller config as default for all games:
"keyboard_hack_file = Xbox_FireTV.cfg" (More on this below after the full screen tweaks)

The seven changes above are all included in the jzIntvImGui_4x3.ini file link above.
To play the games in their original 4x3 screen size, you don't need any other changes.
The second download link, jzIntvImGui_FullScreen.ini contains the following additional settings to play the games in a full screen.
mobile_screen_landscape_x_perc = 3
mobile_screen_landscape_y_perc = 5
mobile_screen_landscape_w_perc = 95
mobile_screen_landscape_h_perc = 90

The full screen tweaks above were tested on a 55", 43" and 32" wide screen and worked well.
(If it doesn't look right on your TV, tweak each line one at a time and compare the results.)

10. Transfer XBox_Fire_TV.cfg file for your Fire OS from computer to Fire TV device

XBox_FireTV_OS6.txt (For Fire OS 6)
https://drive.google.com/file/d/1wURg1AdoX4ulVopoVW4rDfEaPTI_eLWe/view?usp=sharing

XBox_FireTV_OS7.txt (For Fire OS 7)
https://drive.google.com/file/d/11j4ZRfcc9-3drgeS8fiYTZgPcn5LqbQ1/view?usp=sharing

IMPORTANT: Rename the file that you download for your Fire OS from the links above to XBox_FireTV.cfg before you transfer it to your Fire TV device.

This is the kbdhackfile config for the XBox Series X/S Controller you can either download from the above links for the Fire OS you are using, or you can create one yourself using Notepad on your computer in Windows before transferring it over to your Fire TV device using adbLink. Edit as you wish. It's the kbdhackfile that jzIntvImGui.ini will point to. It needs to be in the "/sdcard/jzIntvImGui/Resources/Configs" folder on your Fire TV device.

If you use one of the files above, be sure to rename it to XBox_FireTV.cfg before you transfer it to your Fire TV device. In adbLink, on the left hand side, doubleclick on "/sdcard/jzIntvImGui", then doubleclick on "/sdcard/jzIntvImGui/Resources/", and finally doubleclick on "/sdcard/jzIntvImGui/Resources/Configs". If there already is a Xbox_FireTV.cfg file in your Configs folder on your Fire TV device, delete it. Select "Push". Navigate to the Xbox_FireTV.cfg file you just saved on your computer, click on "Choose".

Because your Fire TV device also has a wireless remote, the Bluetooth controller uses JS1 not JS0 as it would be if you used it with an Android device. To confirm this, download:

Event diagnostics rom:
https://drive.google.com/file/d/1XG2bzLpYQXvQCY3ApIX70xD46xoySvht/view?usp=sharing

The kbdhackfile for Fire OS 6 is shown below. If using Fire OS 7, see the changes you need to make below or just download the right config for your Fire OS from the above links.
(If using the files from the links, be sure to rename it to XBox_FireTV.cfg before transferring.)

```
XBox_FireTV.cfg  (For Fire OS 6 - See tweaks below if using Fire OS 7)
------------------------------------------------------------------------
MAP 0 ; keymap 0 (default keymap) --------------------------------------
------------------------------------------------------------------------
; Xbox Series X/S Controller mapping for Fire TV OS 6

; ** L-Stick **
JS1_N       PD0L_J_N
JS1_NNE     PD0L_J_NNE
JS1_NE      PD0L_J_NE
JS1_ENE     PD0L_J_ENE
JS1_E       PD0L_J_E
JS1_ESE     PD0L_J_ESE
JS1_SE      PD0L_J_SE
JS1_SSE     PD0L_J_SSE
```

```
JS1_S        PD0L_J_S
JS1_SSW      PD0L_J_SSW
JS1_SW       PD0L_J_SW
JS1_WSW      PD0L_J_WSW
JS1_W        PD0L_J_W
JS1_WNW      PD0L_J_WNW
JS1_NW       PD0L_J_NW
JS1_NNW      PD0L_J_NNW


** D-Pad remapped to copy L-stick **
JS1_BTN_11   PD0L_D_N
JS1_BTN_13   PD0L_D_W
JS1_BTN_14   PD0L_D_E
JS1_BTN_12   PD0L_D_S


JS1_BTN_04   PD0L_KP1  ; View (Keypad 1)
JS1_BTN_06   PD0L_KP2  ; Menu (Keypad 2)
JS1_BTN_07   PD0L_KP3  ; Left stick button (Keypad 3)
JS1_BTN_08   PD0L_KP4  ; Right stick button (Keypad 4)
JS1_BTN_09   PD0L_KPC  ; Left bumper (Keypad Clear)
JS1_BTN_10   PD0L_KPE  ; Right bumper (Keypad Enter)
JS1_BTN_00   PD0L_A_T  ; A (Top buttons)
JS1_BTN_02   PD0L_A_L  ; X (Lower left button)
JS1_BTN_01   PD0L_A_R  ; B (Lower right button)
JS1_BTN_03   PAUSE     ; Y (Pause game)

ADD_COMBO 0 JS1_BTN_04 JS1_BTN_06  ; View+Menu (Quit)
COMBO0 QUIT

; For Fire OS 7, change JS1_BTN_06 for Menu and View+Menu to MENU
```

If you create the file yourself using Notepad on your computer in Windows, edit it as you like and save it on your computer. Go back to adbLink, On the left hand side, doubleclick on "/sdcard/jzIntvImGui", then doubleclick on "/sdcard/jzIntvImGui/Resources/", and finally doubleclick on "/sdcard/jzIntvImGui/Resources/Configs". If there already is a Xbox_FireTV.cfg file in your Configs folder on your Fire TV device, delete it. Select "Push". Navigate to the Xbox_FireTV.cfg file you just saved on your computer, click on "Choose".

You can play one player games that use the left controller with any of the three buttons on the Intellivision controller, and any game that needs only keypad numbers 1 to 4.

The A button corresponds to the top buttons on the Intellivision controller, X is the left lower button and B is the lower right button. Y pauses the game. Left bumper is Clear. Right bumper is Enter. View (left center button) selects keypad 1 (for one player games) and Menu (right center button) selects keypad 2 (for two player games). The left stick button is keypad 3 and the right stick button is keypad 4. I've added a combo press of both center keys to quit and go back to the main menu.

To tweak it or add combos for games like Tron Deadly Discs or Night Stalker, see this page: https://retropie.org.uk/docs/Mapping-a-Controller-for-Intellivision/

I've created kbdhackfile configs for Tron Deadly Discs, Ms. Night Stalker, Night Stalker, World Championship Baseball, and Super Pro Baseball for jzIntvImGui on the Fire TV. Ask me nicely and I will share links to these config files with you. :-)

I'm going to assume most of you know how to use a Bluetooth controller on a Fire TV device. If not, go here: https://howtosguru.com/how-to-connect-xbox-one-controller-to-fire-tv/

11. You're done! Now go try it out and have fun!

Mouse Toggle For Fire TV
This app ($2.99 at Google Play Store) is nice for using the Fire TV remote to navigate the jzIntvImGui Options menu without going back and forth between your Fire TV and computer to transfer settings from your jzIntvImGui.ini file. It allows you to press the Options button to get into some settings, and also use the scrollbars. If you download the latest version (1.1.2) from the Google Play Store and install it on your Android device, install it on your Fire TV device using the method in the app. Any other way used to install it on Fire TV outside of the app (or installing an apk) causes issues. That's why only version 1.1.1 is at sites other than the Google Play Store. And even though version 1.1.1 comes up "mostly" clean at VirusTotal, Symantec Mobile Insight says version 1.1.1 version has something called AdLibrary:Generisk. https://au.norton.com/internetsecurity-emerging-threats-what-is-info-stealing-library.html
If you want this app, pay the developer the $2.99 as I did, (1.1.2 is 100% clean at VirusTotal) and then you won't have to worry about information from your Fire TV device being stolen.

Bluetooth Mouse
Another way to use the jzIntvImGui Options menu is to buy a Bluetooth mouse. I bought one for $8 at Amazon and it works just great alongside the remote and controller in Fire TV.

Using other XBox controllers
Unlike Windows, when using jzIntvImGui for Android on a Fire TV the XBox 360 controller with a connected USB wireless adapter WILL NOT work, nor will the XBox Series X/S controller work if connected via USB. Some third party game apps work, and you can navigate menus, but as far as jzIntvImGui for Android on a Fire TV device, you must use a Bluetooth controller. The XBox One controller model 1708 has Bluetooth and should work as well. If using other Bluetooth controllers, download the Event Diagnostics rom.

Event diagnostics rom
https://drive.google.com/file/d/1XG2bzLpYQXvQCY3ApIX70xD46xoySvht/view?usp=sharing

Try various buttons on the controller to know what jzIntv sees for each button and make the adjustments in the kbdhackfile config you create. "keyboard_hack_file = XBox_FireTV.cfg" should be changed to include the name of your own config file in jzIntvImGui.ini.
Delete jzIntvImGui.ini in adbLink on your Fire TV device and replace it with your new jzIntvImGui.ini file. Don't forget to transfer your new config as well to the correct Configs directory on your Fire TV device in adbLink.

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