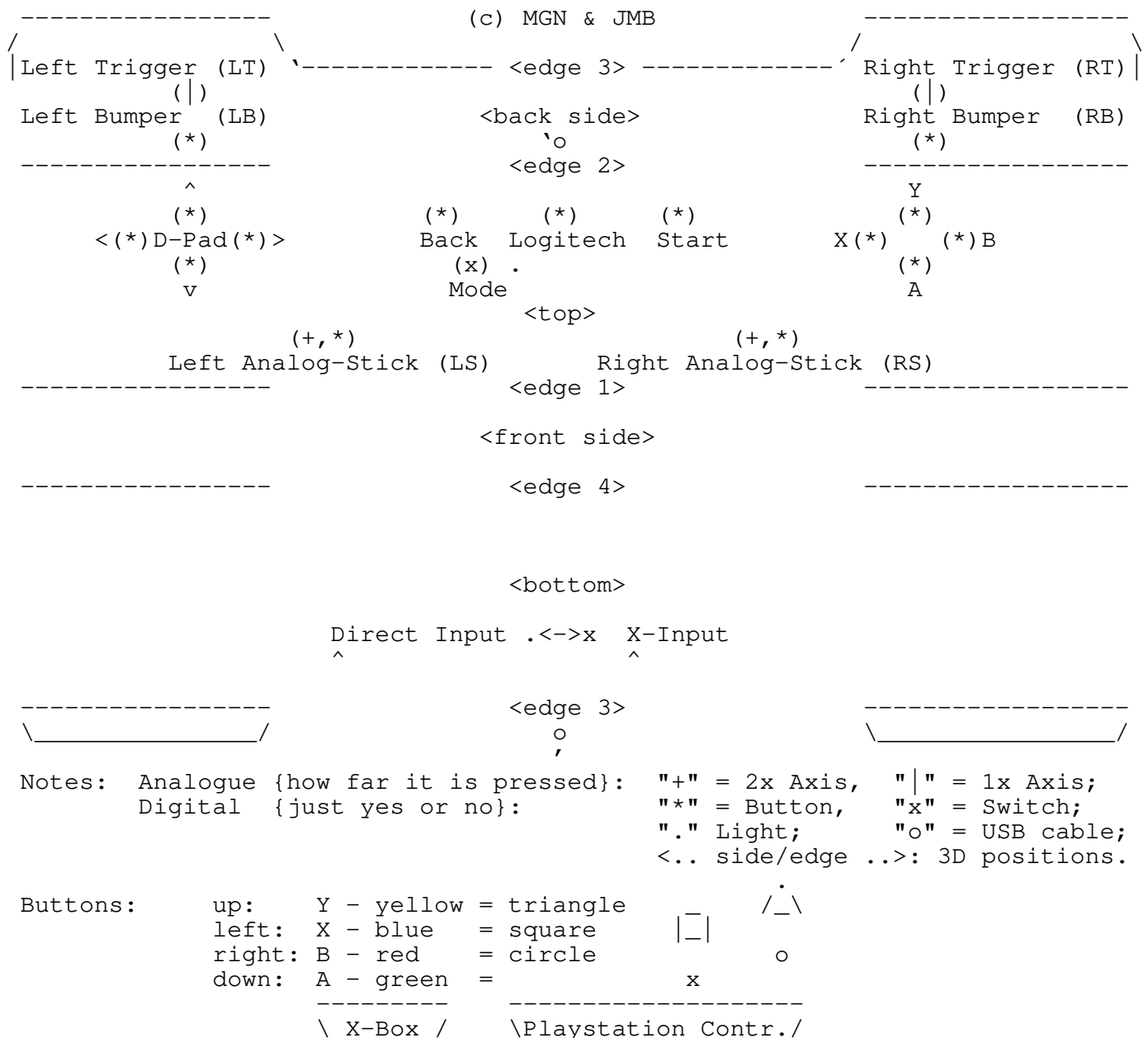


* Very good Controller Support (Logitech F310 based predominantly)



Switch (X<->D) is on the rear side opposite of Logitech button.

Typical Functionality:

- Movement: LS / D-Pad (similar to 4 cursor keys: < v >)
- Shooting: RS (typical for twin stick shooters)
- Look Around: RS - similar to mouse (typical for FPS, e.g. shoulder persp.)
- Main Menu/Pause: Start (similar to Esc on keyboard)
- Menu Movement: LS, sometimes LB = left, RB = right
- Accept/Continue: A (green), seldom X (blue) - similar to Enter/Space
- Back: B (red button) - similar to Esc
- Yes | No: A (green) | B (red) or LS: right | left

Instead of Bumper (LB/RB) the term Shoulder may be used (Left/Right Shoulder). Of course good controller support means you can {re-}define for every possible action of a game 2 different possibilities for keyboard and 2 for controller (this is done e.g. by Fury Unleashed - similar good support by SuperTuxKart). Then also the Logitech button (called 'Guide') can be defined - only Mode button (swapping functionality of LS and D-Pad when lamp "." is on) and the X<->D Switch (choosing input method: X for Linux) is not usable by games, of cause.

=> See also: <https://www.logitech.com/assets/35017/gamepad-f310-gsw.pdf>

- * Very good Controller Support (Logitech F310 based predominantly; -continued-)
- o Logitech Gamepad F310 info:
 - introduced on 03. Sep. 2010 with Rumble Gamepad F510 (dual vibration motors, on/off switch) & Wireless Gamepad F710 (2.4 GHz wireless connectivity)
 - worked out of the box since Ubuntu 12.04 'Precise Pangolin'
 - only problem detected is with some old 32 bit GMS games ... just not working
 - appears as mix from Xbox 360- (e.g. being Xbox-compatible - but not 360; ABXY) & PS3-Controller (e.g. axial sym. design, PS: Thumbstick Caps 2.2 cm)
 - 2 × analog sticks (LS, RS), 2 × analog trigger buttons (LT, RT), 11 × digital buttons (A, B, X, Y, LB, RB, left stick "click", right stick "click", Start, Back, Logitech), Digital d-pad (may be regarded as 4 additional but linked digital buttons)
 - "XInput" preferable mode (to "DInput" {here also central "Logitech" button is unavailable} - don't switch when in game)
 - deadzone of around 20% of the analog sticks (problem when games force their own deadzone ... like 'Dead Space'; personally I had no trouble with that)
- o General Controller Support:

A Short Hike, Battle Axe, Conga Master, Heaven Park, Not A Hero, OlliOlli 2, Overload, Please Fix The Road, Shovel Knight: Treasure Trove, Streets of Rage 4, The Pedestrian, Void Scrapper (automatic aiming and shooting) ...
- o Twin Stick Shooter / Multidirectional Shooters (movement & firing [LS & RS]):

e.g. Children of Morta, Crimsonland, Fury Unleashed, Monolith, Rush Troopers, Xeno Crisis;
- ~ Twin Stick Shooter / Multidirectional Shooters (movement & aiming [LS & RS], no real Twin Stick Shooter but e.g. reasonable for Stealth) examples:

Bastion, Brigador, Danger Scavenger, Hammerwatch, Lumencraft, Neon Chrome, NeuroVoider, PixelJunk Shooter, Ruiner, Tesla vs Lovecraft;

and bad controls as those should have at least a Twin Stick shooter option: e.g. Enter the Gungeon, Wizard of Legend.
- o Controller-Info for DOSBox and many older Windows etc. games:

For Logitech controllers with an input mode switch at the back side (F310, F510, F710 ...) one wants the switch in the "D" position {for DirectInput}. This makes the triggers show up as buttons instead of an axis. If your controller layout isn't the way you want it, use the DOSBox mapper (Ctrl+F1 or by command line option to DOSBox binary '-startmapper'; see <https://www.dosbox.com/wiki/Mapper>) to rearrange/reassign inputs as needed.
- o Controller-Info for SNK/DotEmu titles:

Nearly all ports have 2P mode (i.e. localCoop 2 Player) - that's right, but one needs at least one XInput capable gamepad (like F310; switch to the left on "X" on the back side of the controller), if you have older gamepads you can use the xbox controller emulator called "x360ce". If you have 2 XInput controllers even better, both work.

Then 1P enters the "coins" and 2P presses the "start" button and voila - you can play multiplayer, e.g. usage for 'Metal Slug' series:

Left Bumper	- Pause/Main Menu (save your game here!)	
Right Bumper	- Insert Coin ;^)	
Start	- Start/Continue	
Left Analog Stick	- Direction (Walk/Aim)	
A	- Shoot/Knife (when close)	B - Jump
X	- Bomb/Cannon	Down+B - Exit Tank
A+B	- Frontal Assault (Tank)	

Strong attack that destroys the tank (but you exit automatically).

Note that the stamp is the main menu where one should enable Fullscreen, "A"-key is on y in German keyboards, "D"-Key is not used.

If game runs too fast, use prohibition of screen tearing: force "Vsync" in your graphics card options or use "Force Full Composition Pipeline" in Nvidia X Server Settings.
- o Controller - superior for simpel interaction - best for immersion or contemplation - while keyboard is best for qualified input - and mouse only for pixel graphic programs, bad GUIs or PaC adventures.

Similar to speakers being better than headphones/in-ears and also screens being better than special e-glasses - thus VR is only really good when using extreme high resolution (typically even more than 8k!) and no disturbing devices (similar to cinemas who experienced that 3D glasses and respective 3D films are in all point inferior to high-resolution films). Thus all games should have controller support and should aim for highest resolution technically supported at date of release.

* Small list of Game-relevant GNU/Linux distributions (aka distro-s):

- 10.04 LTS Lucid Lynx	= Mint 9 Isodora	= Debian 6 Squeeze	/ Sid
- 12.04 LTS Precise Pangolin	= Mint 13 Maya	= Debian 7 Wheezy	/ Sid
- 14.04 LTS Trusty Tahr	= Mint 17.3 Rosa	= Debian 8 Jessie	/ Sid
- 16.04 LTS Xenial Xerus	= Mint 18.3 Sylvia	= Debian 9 Stretch	/ Sid
- 18.04 LTS Bionic Beaver	= Mint 19.3 Tricia	= Debian 10 Buster	/ Sid
- 20.04 LTS Focal Fossa	= Mint 20.3 Una	= Debian 11 Bullseye	/ Sid
- 22.04 LTS Jammy Jellyfish	= Mint 21.0 Vanessa	= Debian 12 Bookworm	/ Sid
- 24.04 LTS Noble Numbat	= Mint 22.x ???	= Debian 13 Trixie	/ Sid
- 26.04 LTS ???	= Mint 23.x ???	= Debian 14 Forky	/ Sid
- 28.04 LTS ???	= Mint 24.x ???	= Debian 15 ???	/ Sid

Please note that even the listed LTS releases of Ubuntu just have 5 years support and other Flavours (like Kubuntu and Xubuntu) even 3 years only!

Don't use distros being out of support (i.e. 'EoL' = End of Life) - and look at support info of the Gaming Platforms like (here DRM-free selection):

o GOG (you may chose: "Linux - Free | Discounted - Hide DLCs" to the left):

x <https://www.gog.com/games?>

o Itch.io (here for free under Linux):

x <https://itch.io/games/free/platform-linux>

no gates...
no windows!

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running GNU/Linux
free at last!

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* Resolution of the Screen:

16k:	15360 x 8460	pix video mode	(16:9 = wide-screen/WS {usually TFT screens}),
10k:	10240 x 4320	pix video mode	(16:9),
8k:	7680 x 4320	pix video mode	(16:9 - not yet usual - just some TVs),
6k:	6144 x 3456	pix video mode	(16:9 - rarely used),
5k:	5120 x 2880	pix video mode	(16:9 - never reasonable),
4k:	3840 x 2160	pix video mode	(16:9 - typical for workstations 2014+),
WQHD:	2560 x 1440	pix video mode	(16:9),
FHD:	1920 x 1080	pix video mode	(16:9 - lowest current standard; ~2005),
UXGA:	1600 x 1200	pix video mode	(4:3 {~20" CRTs}),
HD+:	1600 x 900	pix video mode	(16:9),
SXGA+:	1400 x 1050	pix video mode	(4:3),
WXGA:	1280 x 720	pix video mode	(16:9) {also called HD},
XGA:	1024 x 768	pix video mode	(4:3 - old standard resolution; best in 1990),
qFHD:	960 x 540	pix video mode	(16:9),
SVGA:	800 x 600	pix video mode	(4:3 - better than VGA),
VGA:	640 x 480	pix video mode	(4:3; 256 colours choosable; best in 1987),
EGA:	640 x 350	pix video mode	(4:2; 16 colours out of 64; best in 1985);
MCGA:	320 x 200	pix video mode	(4:3; 256 colours choosable),
CGA:	320 x 200	pix video mode	(4:3; originally 4 not choosable colours: white - black - magenta - cyan; best in 1981),

Note that a 300 dpi DIN A4 page of a LASER printer of 1990 had 4k resolution.

So that may be the highest standard single screen resolution in 2020

{5k technique was always bad and not standard!}, but it is quite low.

Sub-FHD is no longer pleasant to the eye ... hoping for 8k with DP 2.1 in 2023!

