The Ultimarc Mini-PAC is simply a circuit board that links buttons to keyboard keys. It comes pre-programmed with the keys shown in the chart below. You can also change any of them you want (such as Vol+-) using a configuration tool to map pin functions. Because it's essentially just a deconstructed keyboard it should work with any emulator on any OS, but it won't appear in any Joystick tool.

Site   https://www.ultimarc.com/control-interfaces/mini-pac-en/mini-pac/
Wiring Diagram   https://www.ultimarc.com/images/Minipac_wiring.pdf

Pin label	Default Key	Change to	Linked to
1 Right	Arrow right	Right	P1- stick right
1 Left	Arrow left	Left	P1- stick left
1 Up	Arrow up	Up	P1- stick up
1 Down	Arrow down	Down	P1- stick down
1 SW 1	Left Ctrl	E	P1- L1
1 SW 2	Left Alt	F	P1- L2
1 SW 3	spacebar	G	P1- R1
1 SW 4	Left shift	H	P1- R2
1 SW 5	Z	I	P1- Square
1 SW 6	X	J	P1- Triangle
1 SW 7	C	K	P1- Circle
1 SW 8	V	Enter	P1- Cross
Start 1	1	1	P1- Select
Start 2	2	2	P1- Start
Coin 1	5	Esc	Exit Game
Coin 2	6	Bksp	Reset Game
2 Right	G	A	P2- stick right
2 Left	D	B	P2- stick left
2 Up	R	C	P2- stick up
2 Down	F	D	P2- stick down
2 SW 1	A	L	P2- L1
2 SW 2	S	M	P2- L2
2 SW 3	Q	N	P2- R1
2 SW 4	W	O	P2- R2
2 SW 5	I	P	P2- Square
2 SW 6	K	Q	P2- Triangle
2 SW 7	J	R	P2- Circle
2 SW 8	L	S	P2- Cross
1 A	P	3	P2- Select
1 B	Enter	4	P2- Start
2 A	Tab	Vol Up	Volume +
2 B	Esc	Vol Down	Volume -
Ground	Common wire		

GROUP J4

GREY — 1 RIGHT
PURPLE — 1 LEFT
BLUE — 1 UP
GREEN — 1 DOWN
YELLOW — 1 SW 1
ORANGE — 1 SW 2
RED — 1 SW 3
BROWN — 1 SW 4

GROUP J3

GREY — 1 SW 5
PURPLE — 1 SW 6
BLUE — 1 SW 7
GREEN — 1 SW 8
YELLOW — START 1
ORANGE — START 2
RED — COIN 1
BROWN — COIN 2

GROUP J2

GREY — 2 RIGHT
PURPLE — 2 LEFT
BLUE — 2 UP
GREEN — 2 DOWN
YELLOW — 2 SW 1
ORANGE — 2 SW 2
RED — 2 SW 3
BROWN — 2 SW 4

GROUP J1

GREY — 2 SW 5
PURPLE — 2 SW 6
BLUE — 2 SW 7
GREEN — 2 SW 8
YELLOW — 1 A
ORANGE — 1 B
RED — 2 A
BROWN — 2 B
BLACK — GROUND

USB

Linux Configuration Tool (works)
https://github.com/katie-snow/QtPyUltimarc

1. Install Ultimarc Configurator

   Prerequisite library
   $ **sudo apt install libxcb-cursor0**

   Install the program
   $ **pip install ultimarc[ui]**

   To update
   $ pip install --upgrade ultimarc[ui]

   To force a reinstall
   $ pip install --upgrade --force-reinstall ultimarc[ui]

2. Copy the required file into your machine's USB rules. Otherwise you'll get USB read errors.
   https://github.com/katie-snow/QtPyUltimarc/issues/44
   $ **sudo cp /home/sysadmin/.local/lib/python3.10/site-packages/ultimarc/udev/95-ultimarc.rules /etc/udev/rules.d/**

3. Change python to use the correct version that works with this tool.
   $ **pip install PySide6==6.5.0**

4. Open the Ultimarc GUI Configurator.
   Define each pin to whatever keyboard key/function you want. Make sure you document it so you can plug the cables into the correct buttons.
   NOTE: the 'Write Device' button does work, but there's no feedback to say it worked, so you should open a second terminal and pull the config to see if your changes are being applied.
   $ **ultimarc-ui**

5. You can also use CLI commands.
   $ **ultimarc mini-pac -h**

   Display the current config.
   $ **ultimarc mini-pac --get-config**
   $ **ultimarc mini-pac --get-config --indent 2**

   Pull the current config and write it out to a readable file.
   $ **ultimarc mini-pac --get-config --indent 2 --file mini-pac-cfg.json**

Windows Configuration Tool (works)
https://www.ultimarc.com/winipacv2setup.exe

Once the board is configured, and the sticks and buttons are connected, you can go into the Game Emulators and configure the controllers by mapping them to 'keyboard' functions.
https://docs.google.com/document/d/1wfkw4UPDjXRe5H1KdmgC6tZdNF8mK1qaDvxa_Gtuv6Q/edit?usp=drive_link