



This article needs some TLC. Read at your own risk.

Fujitsu FM-TOWNS

The Fujitsu FM-TOWNS is a series of computers developed by Fujitsu between 1989 and 1997. It was exclusively released in Japan.

FM stands for “Fujitsu Micro”, while the “Towns” was derived from the system's codename “Townes” (referring to Charles Townes, one of the winners of the 1964 Nobel Prize in Physics) used during development. The “e” was dropped to emphasize its pronunciation like “towns” rather than “tow-nes”.

The system was known for being technologically superior to its competitors at the time, the [NEC PC-98](#) and even some 4th generation videogame consoles, however it struggled to gain the same foothold as the PC-98 did. The ports of arcade games released for the FM-7 were usually the definitive version to have at the time, outside of playing the game on the original arcade hardware itself, making them highly sought after.

In 1993, the [FM Towns Marty](#) was released, which is a game console compatible with the existing FM Towns games.

Eventually, DOS/V support would be added to the computer system, allowing for the booting of other operating systems such as Microsoft's Windows. Over time, Fujitsu would shift its development focus from software coded specifically for the FM Towns and instead making more universally compatible DOS code.

Emulation of this system is still somewhat experimental and only recommended to advanced users, those who might already be familiar with assigned drive letters manually and working the FM Town's Japanese interface.

This system scrapes metadata for the “fmtowns” group and loads the fmtowns set from the currently selected theme, if available.



Quick reference

- **Accepted ROM formats:** .bin, .m3u, .cue, .d88, .d77, .xdf, .iso, .chd, .toc, .nrg, .gdi, .cdr, .mfi, .dfi, .hfe, .mfm, .td0, .imd, .ldd, .cqm, .cqi, .dsk, .zip, .7z
- **Folder:** /userdata/roms/fmtowns

Emulators	Accepted ROM formats
libretro: mame	.bin, .cue, .d88, .d77, .iso, .chd, .toc, .nrg, .gdi, .cdr, .mfi, .dfi, .hfe, .mfm, .td0, .imd, .ldd, .cqm, .cqi, .dsk, .zip, .7z
MAME	.bin, .cue, .d88, .d77, .iso, .chd, .toc, .nrg, .gdi, .cdr, .mfi, .dfi, .hfe, .mfm, .td0, .imd, .ldd, .cqm, .cqi, .dsk, .zip, .7z
tsugaru	.bin, .cue, .d88, .d77, .iso

BIOS

MD5 checksum	Share file path	Description
8fa4e553f28cfc0c30a0a1e589799942	bios/fmtowns/FMT_DIC.ROM	
0585b19930d4a7f4c71bcc8a33746588	bios/fmtowns/FMT_DOS.ROM	
ac0c7021e9bf48ca84b51ab651169a88	bios/fmtowns/FMT_F20.ROM	
b91300e55b70227ce98b59c5f02fa8dd	bios/fmtowns/FMT_FNT.ROM	
86fb6f7280689259f0ca839dd3dd6cde	bios/fmtowns/FMT_SYS.ROM	
6618519b2c104cf9b7e71a48381b44a9	bios/fmtmarty.zip	
75a5c7afb4bc8221bab8cf24db417950	bios/fmtmarty.zip	
34847786d7de94b5d1133c956ab1d75d	bios/fmtowns.zip	
0585b19930d4a7f4c71bcc8a33746588	bios/fmtowns.zip	
eb44f2093f51eb7159f03e170b13af76	bios/fmtowns.zip	
feaf8c5675151e00cfe3ad27673bff29	bios/fmtowns.zip	
8fa4e553f28cfc0c30a0a1e589799942	bios/fmtownsux.zip	
03c8fac9a5f5f5f35fb5de5a5d0d018f	bios/fmtownsux.zip	
b91300e55b70227ce98b59c5f02fa8dd	bios/fmtownsux.zip	
90b5e01d42aaa93e8f4503a5e94e120b	bios/fmtownsux.zip	
1a15f6c1b58ec7e5f850118610a787a7	bios/fmtownsux.zip	

In case you don't have BIOS files, a free (albeit less compatible) set can be found at [their website](#) as well.

ROMs

Place your Fujitsu FM-TOWNS ROMs in /userdata/roms/fmtowns.

Emulators

Tsugaru

[Tsugaru](#) is a relatively new FM Towns emulation project (started in January of 2020) with a high level of compatibility. System requires are particularly demanding and certain components (notably sound chips) are still experimental.

Check out the compatibility list at the bottom of their [website](#).

Tsugaru configuration

Standardized features available to all cores of this emulator: `fmtowns.videomode`, `fmtowns.padtokeyboard`, `fmtowns.videomode`, `fmtowns.bezel`, `fmtowns.bezel_stretch`, `fmtowns.hud`, `fmtowns.hud_corner`, `fmtowns.bezel.tattoo`, `fmtowns.bezel.tattoo_corner`, `fmtowns.bezel.tattoo_file`, `fmtowns.bezel.resize_tattoo`

ES setting name batocera.conf_key	Description ⇒ ES option key_value
Settings that apply to all cores of this emulator	
CD-ROM SPEED <code>fmtowns.cdrom_speed</code>	⇒ AUTO (DEFAULT) auto, 1X 1, 2X 2, 4X 4, 8X 8.
FORCE 386DX CPU <code>fmtowns.386dx</code>	Required by some games. ⇒ NO (DEFAULT) 0, YES 1.

RetroArch

RetroArch has [its own page](#).

libretro: mame

libretro: mame configuration

Standardized features for this core: `fmtowns.autosave`, `fmtowns.netplay`


ES setting name batocera.conf_key	Description ⇒ ES option key_value
Settings that apply to all systems this core supports	
OVERCLOCK (UNSTABLE) <code>global.mame_cpu overclock</code>	Enhancement. Reduces system slowdown. Causes issues in some games. ⇒ default default, 30 30, 35 35, 40 40, 45 45, 50 50, 55 55, 60 60, 65 65, 70 70, 75 75, 80 80, 85 85, 90 90, 95 95, 100 100, 105 105, 110 110, 115 115, 120 120, 125 125, 130 130, 135 135, 140 140, 145 145, 150 150.
RENDERING RESOLUTION <code>global.mame_altres</code>	Enhancement. Increase the rendering resolution. Makes 3D objects clearer. ⇒ 640×480 640×480, 800×600 800×600, 960×720 960×720, 1024×768 1024×768, 1280×720 1280×720, 1600×800 1600×800, 1920×1080 1920×1080, 2560×1440 2560×1440, 3840×2160 3840×2160.
SPECIAL CONTROL LAYOUTS <code>global.altlayout</code>	Controls for 5/6 button games and other unique controls ⇒ Default Only default, SNES Style snes, Genesis/Megadrive Style megadrive, Modern Fightstick Style fightstick, Neo Geo Mini Pad neomini, Neo Geo CD Pad neocd, Twin Stick with Triggers twinstick, Rotated 4-Way Stick (Q*Bert) qbert.

ES setting name batocera.conf_key	Description → ES option key_value
HIGH SCORE PLUGIN <code>global.hiscoreplugin</code>	Enable or disable high score saving ⇒ Enabled (Default) 1, Disabled 0.
COIN SOUND PLUGIN <code>global.coindropplugin</code>	Play a coin drop sound effect when an insert coin button is pressed ⇒ Enabled 1, Disabled (Default) 0.
SHARE MAME ARTWORK <code>global.sharemameart</code>	Use the same art paths as standalone MAME - not recommended if using decorations or shaders. ⇒ On (Default) 1, Off 0.
CROP ARTWORK <code>global.artworkcrop</code>	Crop MAME artwork to maximize the game screen and only fill unused space. ⇒ On (Default) 1, Off 0.
CUSTOM MAME CONFIG <code>global.customcfg</code>	Set system-wide controls via MAME menu ⇒ On 1, Off 0.
OFF-SCREEN RELOAD BUTTON <code>global.offscreenreload</code>	Set gun button 2 to reload. ⇒ On 1, Off (Default) 0.
Settings specific to fmtowns	
FM TOWNS MODEL <code>fmtowns.altmodel</code>	Select model to emulate ⇒ FM Towns Marty (Default) <code>fmtmarty</code> , FM Towns (Model 1/2) <code>fmtowns</code> , FM Towns II UX <code>fmtownsux</code> .
ADD USER DISK <code>fmtowns.addblankdisk</code>	Insert a disk into the floppy drive, a blank will be used if one doesn't exist ⇒ Off (Default) 0, On 1.
SOFTWARE LIST <code>fmtowns.softList</code>	Use MAME software lists to identify ROM ⇒ Don't Use (Default) <code>none</code> , Fujitsu FM Towns CD-ROMs <code>fmtowns_cd</code> , Fujitsu FM Towns cracked floppy disk images <code>fmtowns_flop_cracked</code> , Fujitsu FM Towns miscellaneous floppy disk images <code>fmtowns_flop_misc</code> , Fujitsu FM Towns original floppy disk images <code>fmtowns_flop_orig</code> .
MEDIA TYPE <code>fmtowns.altromtype</code>	Type of ROM file to load. ⇒ Floppy Disk (Drive 1) <code>flop1</code> , Floppy Disk (Drive 2 - Model 1/2 & II UX) <code>flop2</code> , CD-ROM <code>cdrom</code> , Hard Drive (II UX) <code>hard1</code> .
UI KEYS <code>fmtowns.enableui</code>	Toggle with hotkey + D-pad up or Scroll Lock in-game. ⇒ Off at Start 0, On at Start 1.
CUSTOM CONFIG <code>fmtowns.pergamecfg</code>	Enable per-game custom configuration via MAME menu. ⇒ On 1, Off 0.

MAME

[MAME](#), the Multiple Arcade Machine Emulator, is a multi-purpose emulation framework which facilitates the emulation of vintage hardware and software. Originally targeting vintage arcade machines, MAME has since absorbed the sister-project [MESS](#) (Multi Emulator Super System) to support a wide variety of vintage computers, video game consoles and calculators as well. MAME doesn't use an individual "core" for each system like RetroArch does, instead the ROM itself usually contains the necessary information to accurately emulate it, thus making it specific to the version of MAME it was made for. Overall it's a very complicated subject, we have a [guide specific to arcade](#) just for it.

MAME configuration

MAME offers a **Menu** in-game ([HOTKEY] +  or [Tab] on the keyboard). This can be used to manually adjust inputs or game settings. If you're having issues with a specific game, check the [MAMEdev FAQ for that game here](#). For MESS systems specifically, you might find more information on [MESS's wiki](#). All options can also be edited by opening the `mame.ini` file.

Standardized features available to all versions of this emulator: `fmtowns.videomode`, `fmtowns.padokeyboard`, `fmtowns.videomode`, `fmtowns.bezel`, `fmtowns.bezel_stretch`, `fmtowns.hud`, `fmtowns.hud_corner`, `fmtowns.bezel.tattoo`, `fmtowns.bezel.tattoo_corner`, `fmtowns.bezel.tattoo_file`, `fmtowns.bezel.resize_tattoo`

ES setting name <code>batocera.conf_key</code>	Description ⇒ ES option <code>key_value</code>
Settings that apply to all versions of this emulator	
VIDEO MODE <code>fmtowns.video</code>	BGFX for post-processing, accel/opengl for raw image. ⇒ BGFX <code>bgfx</code> , Accel <code>accel</code> , OpenGL <code>opengl</code> .
VSYNC <code>fmtowns.vsync</code>	Fix screen tearing, but may drop frames. ⇒ Off (Default) <code>0</code> , On <code>1</code> .
BGFX GRAPHICS API <code>fmtowns.bgfxbackend</code>	Depends on video mode being set to BGFX. Vulkan is better, when supported. ⇒ MAME Detect <code>automatic</code> , OpenGL <code>opengl</code> , OpenGL ES <code>gles</code> , Vulkan <code>vulkan</code> .
BGFX VIDEO FILTER <code>fmtowns.bgfxshaders</code>	Apply a post-processing effect. ⇒ Off <code>None</code> , Bilinear <code>default</code> , CRT Geom <code>crt-geom</code> , CRT Geom Deluxe <code>crt-geom-deluxe</code> , CRT Geom Deluxe (RGB) <code>crt-geom-deluxe-rgb</code> , CRT Geom Deluxe (Composite) <code>crt-geom-deluxe-composite</code> , Super Eagle <code>eagle</code> , HLSL <code>hls1</code> , HQ2X <code>hq2x</code> , HQ3X <code>hq3x</code> , HQ4X <code>hq4x</code> .
CRT SWITCHRES <code>fmtowns.switchres</code>	Allows the use of switchres profiles if present. ⇒ Off <code>0</code> , On <code>1</code> .
VERTICAL ROTATION (TATE) <code>fmtowns.rotation</code>	Rotates screen by 90 degrees. Intended for rotating displays. ⇒ Off <code>None</code> , Rotate 90 <code>autoror</code> , Rotate 270 <code>autorol</code> .
ARTWORK CROP <code>fmtowns.artworkcrop</code>	Crop artwork to only unused space, keeping the game as large as possible. ⇒ Off (Default) <code>0</code> , On <code>1</code> .
CUSTOM MAME CONFIG <code>fmtowns.customcfg</code>	Set system-wide controls via MAME menu ⇒ On <code>1</code> , Off <code>0</code> .
DATA PLUGIN <code>fmtowns.dataplugin</code>	Make game history, setup instructions, and special moves viewable in the menu ⇒ Enabled <code>1</code> , Disabled (Default) <code>0</code> .
OFF-SCREEN RELOAD BUTTON <code>fmtowns.offscreenreload</code>	Set gun button 2 to reload. ⇒ On <code>1</code> , Off (Default) <code>0</code> .
Settings specific to fmtowns	
FM TOWNS MODEL <code>fmtowns.altmodel</code>	Select model to emulate ⇒ FM Towns Marty (Default) <code>fmtmarty</code> , FM Towns (Model 1/2) <code>fmtowns</code> , FM Towns II UX <code>fmtownsux</code> .

ES setting name batocera.conf_key	Description ⇒ ES option key_value
ADD USER DISK fmtowns.addblankdisk	Insert a disk into the floppy drive, a blank will be used if one doesn't exist ⇒ Off (Default) 0, On 1.
SOFTWARE LIST fmtowns.softList	Use MAME software lists to identify ROM ⇒ Don't Use (Default) none, Fujitsu FM Towns CD-ROMs fmtowns_cd, Fujitsu FM Towns cracked floppy disk images fmtowns_flop_cracked, Fujitsu FM Towns miscellaneous floppy disk images fmtowns_flop_misc, Fujitsu FM Towns original floppy disk images fmtowns_flop_orig.
MEDIA TYPE fmtowns.altromtype	Type of ROM file to load. ⇒ Floppy Disk (Drive 1) flop1, Floppy Disk (Drive 2 - Model 1/2 & II UX) flop2, CD-ROM cdrom, Hard Drive (II UX) hard1.
UI KEYS fmtowns.enableui	Toggle with hotkey + D-pad up or Scroll Lock in-game. ⇒ Off at Start 0, On at Start 1.
CUSTOM CONFIG fmtowns.pergamecfg	Enable per-game custom configuration via MAME menu. ⇒ On 1, Off 0.

Controls

Here are the default Fujitsu FM-TOWNS's controls shown on a [Batocera RetroPad](#):



Troubleshooting

Further troubleshooting

For further troubleshooting, refer to the [generic support pages](#).

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