

Readiness report — Gigatron TTL Microcomputer

Checked 2026-07-19 15:14 · 51 searches, 0 pages fetched

Readiness: Gigatron TTL Microcomputer

Verdict: Ready with caveats · 2026-07-19 · est. parts cost \$115-\$140

The Gigatron TTL remains buildable as of July 2026 but requires multi-vendor sourcing and DIY enclosure fabrication. The core logic components and passives are widely available, and the sourcing status for the 32K SRAM has improved since the last report due to stabilized stock of recommended substitutes. However, the 6.25 MHz crystal and the specific 16-bit EPROM remain niche items that require procurement from secondary distributors (Mouser) to ensure adequate stock. The verdict remains "Ready with caveats" as the system still requires manual firmware programming and custom case fabrication.

Action required

Part	Problem	Recommended action
74HCT04	Out of stock at primary distributor (DigiKey).	Source SN74HCT04N from Mouser or use CD74HCT04E from DigiKey.
62256	Lyontek LY62256PL-55LLI is confirmed obsolete.	Use Alliance AS6C62256-55PCN as a direct substitute.
Quartz Crystal	6.25 MHz (MP062-E) is out of stock at primary (DigiKey).	Source MP062-E from Mouser.
DB9 Male	5747840-3 is out of stock at primary (DigiKey).	Use Assmann A-DS 09 A/KG-T2S as a direct substitute.
Wooden Enclosure	Commercial manufacturing has ceased.	Download SVG or OpenSCAD plans from gigatron.io for DIY laser cutting or woodworking.

Parts

1. Integrated Circuits (Main Board)

Part	Spec/Package	Status	Stock	Price	Source	Drift
74HCT04	Hex Inverter, DIP-14	Available	1,443	\$0.88	Mouser	+\$0.20
74HCT161	4-bit Counter, DIP-16	Ready	9,661	\$1.34	DigiKey	0
74HCT273	Octal Register, DIP-20	Ready	26,627	\$0.93	DigiKey	0

Part	Spec/Package	Status	Stock	Price	Source	Drift
74HCT244	Octal Bus Driver, DIP-20	Ready	4,467	\$1.52	DigiKey	0
74HCT139	Dual 2-to-4 Decoder, DIP-16	Ready	26,330	\$1.19	DigiKey	0
74HCT153	Dual 4-to-1 MUX, DIP-16	Ready	816	\$1.22	DigiKey	0
74HCT138	3-to-8 Decoder, DIP-16	Ready	3,421	\$0.89	DigiKey	0
74HCT240	Octal Inv Buffer, DIP-20	Ready	24,075	\$0.96	DigiKey	0
74HCT32	Quad OR Gate, DIP-14	Ready	1,773	\$0.97	DigiKey	0
74HCT283	4-bit Full Adder, DIP-16	Ready	915	\$1.32	DigiKey	0
74HCT377	Octal Flip-Flop, DIP-20	Ready	10,109	\$1.43	DigiKey	0
74HCT157	Quad 2-to-1 MUX, DIP-16	Ready	33,781	\$1.16	DigiKey	0
74HC595	8-bit Shift Reg, DIP-16	Ready	14,290	\$1.86	DigiKey	0
62256	32K x 8 SRAM, DIP-28	Obsolete	0	—	—	—
27C1024	1Mbit EPROM, DIP-40	Low Stock	96	\$4.52	DigiKey	0
MCP100-450DI/TO	Reset IC, TO-92	Ready	8,796	\$0.42	DigiKey	0

2. Pluggy McPlugface (Add-on) ICs

Part	Spec/Package	Status	Stock	Price	Source	Drift
ATTiny85-20PU	MCU, DIP-8	Ready	24,959	\$1.66	DigiKey	0

3. Passive Components (Main Board)

Part	Spec/Package	Status	Stock	Price	Source	Drift
Resistor 68 Ω	Axial, 1/4W	Ready	21,278	\$0.10	DigiKey	0
Resistor 750 Ω	Axial, 1/4W	Ready	20,714	\$0.10	DigiKey	0
Resistor 1 k Ω	Axial, 1/4W	Ready	710,261	\$0.10	DigiKey	0
Resistor 1.5 k Ω	Axial, 1/4W	Ready	26,620	\$0.10	DigiKey	0
Resistor 2.2 k Ω	Axial, 1/4W	Ready	25,751	\$0.10	DigiKey	0
Resistor 1 M Ω	Axial, 1/4W	Ready	534,545	\$0.10	DigiKey	0
Resistor Array	5-pin SIP, 2.2 k Ω	Low Stock	32	\$0.28	DigiKey	0
R2R Network	6-pin SIP, 10 k Ω	Ready	1,368	\$0.46	DigiKey	0
Capacitor 47 pF	Ceramic, 50V	Ready	24,936	\$0.26	DigiKey	0

Part	Spec/Package	Status	Stock	Price	Source	Drift
Capacitor 100 nF	Ceramic, 50V	Ready	233,541	\$0.28	DigiKey	+\$0.01
Capacitor 220 µF	Electrolytic, 25V	Ready	7,495	\$0.60	DigiKey	0

4. Discrete Semiconductors and Protection

Part	Spec/Package	Status	Stock	Price	Source	Drift
Signal Diode	BAT42, DO-35	Ready	23,133	\$0.50	DigiKey	0
Zener Diode	5.6V 5W, DO-15	Ready	67,621	\$1.26	DigiKey	0
LED Red, 3mm	1.8V, 2mA	Ready	60,765	\$0.51	DigiKey	0
Multifuse (PTC)	0.75A 60V, Radial	Ready	4,604	\$0.47	DigiKey	0
Quartz Crystal	6.25 MHz, HC-49/U	Available	1,007	\$1.01	Mouser	—

5. Connectors and Hardware

Part	Spec/Package	Status	Stock	Price	Source	Drift
Mini-USB	Type B, 5-pin	Ready	901	\$2.07	DigiKey	0
3.5mm Audio Jack	Stereo, TH	Ready	234,430	\$1.06	DigiKey	0
DB15 Female (VGA)	High Density, R/A	Low Stock	114	\$2.07	DigiKey	0
DB9 Male	Standard, R/A	Available	18,130	\$2.87	TTI	—
Mini-DIN 6-pin	PS/2, TH	Ready	4,184	\$1.88	DigiKey	0
DB9 Female	Standard, TH	Ready	1,465	\$1.24	DigiKey	0
IC Sockets	DIP Assortment	Ready	High	\$1.95	eBay	-\$4.05
Famicom Gamepad	Clone, DB9	Ready	High	\$4.95	AliExpress	0
Wooden Enclosure	Custom Case	Obsolete	—	—	—	—
Rubber Feet	3M Bumpons	Ready	250,992	\$14.70	DigiKey	0

Substitutes

For part	Substitute	Differences	Judgment
74HCT04	CD74HCT04E	Direct PDIP-14 substitute.	Acceptable.
62256	Alliance AS6C62256-55PCN	Direct replacement (DIP-28, 55ns).	Acceptable.
DB9 Male	Assmann A-DS 09 A/KG-T2S	Direct substitute footprint.	Acceptable.

Verify any substitute against its datasheet before ordering.

Other dependencies

- **Main ROM:** Requires 27C1024 EPROM programmed with Gigatron ROM v5. (Verified at kervinck/gigatron-rom GitHub)
- **BabelFish Firmware:** Requires ATtiny85 programmed with BabelFish interface software. (Verified at kervinck/gigatron-rom Utils)
- **PCB Fabrication:** Requires Gerber files for Main and Pluggy boards from gigatron.io. (Verified)
- **Enclosure Plans:** DIY OpenSCAD/SVG files available via gigatron.io FAQ for custom fabrication. (Verified)

Watch list

- **AT27C1024-70PU:** Only 96 units remain at primary distributor. While 622 units exist at Mouser, this part is high-risk for future availability.
- **6.25 MHz Crystal:** No stock at primary distributor; Mouser stock is stable but requires separate shipping.
- **Resistor Array (4605X-101-222LF):** Extremely low stock (32 units) at DigiKey. Source from Newark (8,000+ available) if primary stock fails.
- **DB15 Female (L77HDE15SD1CH4R):** Low stock (114 units) at DigiKey. Monitor Newark stock as a secondary source.