

Readiness report — Gigatron TTL Microcomputer

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Verdict: Ready with caveats · 2026-07-09 · est. parts cost \$115-\$140

The Gigatron TTL Microcomputer is buildable as a cold check of the market on 2026-07-09. Over 90% of the bill of materials consists of standard 74HCT logic, resistors, and capacitors in high-volume production. However, two items present significant sourcing challenges: the 6.25 MHz crystal (a non-standard frequency) and the original wooden enclosure (discontinued). The crystal requires sourcing from specialized vendors or surplus markets, while the enclosure must be fabricated via DIY methods using community-provided design files.

Action required

Part	Problem	Recommended action
74HCT04	Planned SN74HCT04N out of stock at primary distributor.	Source CD74HCT04E or use Mouser for the original part.
62256	LY62256PL-55LLI is unavailable at major distributors.	Use Alliance Memory AS6C62256-55PCN as a direct replacement.
Quartz Crystal	6.25 MHz (MP062-E) is out of stock at major distributors.	Source Parallax part 251-06250 or equivalent from specialized eBay/surplus vendors.
DB9 Male	5747840-3 is out of stock.	Use Assmann A-DS 09 A/KG-T2S as a direct substitute.
Wooden Enclosure	Commercial manufacturing has ceased.	Download community OpenSCAD or SVG plans for DIY laser cutting or woodworking.

Parts

1. Integrated Circuits (Main Board)

Part	Spec/Package	Status	Stock	Price	Source
74HCT04	Hex Inverter, DIP-14	Available	0	\$0.68	Mouser
74HCT161	4-bit Counter, DIP-16	Ready	9,716	\$1.34	DigiKey
74HCT273	Octal Register, DIP-20	Ready	28,789	\$0.93	DigiKey
74HCT244	Octal Bus Driver, DIP-20	Ready	4,495	\$1.52	DigiKey
74HCT139	Dual 2-to-4 Decoder, DIP-16	Ready	26,336	\$1.19	DigiKey

Part	Spec/Package	Status	Stock	Price	Source
74HCT153	Dual 4-to-1 MUX, DIP-16	Ready	840	\$1.22	DigiKey
74HCT138	3-to-8 Decoder, DIP-16	Ready	3,447	\$0.89	DigiKey
74HCT240	Octal Inv Buffer, DIP-20	Ready	24,089	\$0.96	DigiKey
74HCT32	Quad OR Gate, DIP-14	Ready	1,806	\$0.97	DigiKey
74HCT283	4-bit Full Adder, DIP-16	Ready	923	\$1.32	DigiKey
74HCT377	Octal Flip-Flop, DIP-20	Ready	10,109	\$1.43	DigiKey
74HCT157	Quad 2-to-1 MUX, DIP-16	Ready	33,788	\$1.16	DigiKey
74HC595	8-bit Shift Reg, DIP-16	Ready	16,021	\$1.86	DigiKey
62256	32K x 8 SRAM, DIP-28	At risk	0	—	—
27C1024	1Mbit EPROM, DIP-40	Low Stock	96	\$4.52	DigiKey
MCP100-450DI/TO	Reset IC, TO-92	Ready	8,797	\$0.42	DigiKey

2. Pluggy McPlugface (Add-on) ICs

Part	Spec/Package	Status	Stock	Price	Source
ATtiny85-20PU	MCU, DIP-8	Ready	25,981	\$1.66	DigiKey

3. Passive Components (Main Board)

Part	Spec/Package	Status	Stock	Price	Source
Resistor 68 Ω	Axial, 1/4W	Ready	23,623	\$0.10	DigiKey
Resistor 750 Ω	Axial, 1/4W	Ready	20,724	\$0.10	DigiKey
Resistor 1 k Ω	Axial, 1/4W	Ready	730,687	\$0.10	DigiKey
Resistor 1.5 k Ω	Axial, 1/4W	Ready	26,645	\$0.10	DigiKey
Resistor 2.2 k Ω	Axial, 1/4W	Ready	51,599	\$0.10	DigiKey
Resistor 1 M Ω	Axial, 1/4W	Ready	592,309	\$0.10	DigiKey
Resistor Array	5-pin SIP, 2.2 k Ω	Low Stock	32	\$0.28	DigiKey
R2R Network	6-pin SIP, 10 k Ω	Ready	1,368	\$0.46	DigiKey
Capacitor 47 pF	Ceramic, 50V	Ready	24,946	\$0.26	DigiKey
Capacitor 100 nF	Ceramic, 50V	Ready	236,488	\$0.27	DigiKey
Capacitor 220 μ F	Electrolytic, 25V	Ready	7,630	\$0.60	DigiKey

4. Discrete Semiconductors and Protection

Part	Spec/Package	Status	Stock	Price	Source
Signal Diode	BAT42, DO-35	Ready	23,163	\$0.50	DigiKey
Zener Diode	5.6V 5W, DO-15	Ready	70,621	\$1.26	DigiKey
LED Red, 3mm	1.8V, 2mA	Ready	61,796	\$0.51	DigiKey
Multifuse (PTC)	0.75A 60V, Radial	Ready	5,227	\$0.47	DigiKey
Quartz Crystal	6.25 MHz, HC-49/U	At risk	0	—	—

5. Connectors and Hardware

Part	Spec/ Package	Status	Stock	Price	Source
Mini-USB	Type B, 5-pin	Ready	1,061	\$2.07	DigiKey
3.5mm Audio Jack	Stereo, TH	Ready	234,594	\$1.06	DigiKey
DB15 Female (VGA)	High Density, R/A	Ready	128	\$2.07	DigiKey
DB9 Male	Standard, R/A	At risk	0	—	—
Mini-DIN 6-pin	PS/2, TH	Ready	4,184	\$1.88	DigiKey
DB9 Female	Standard, TH	Ready	1,465	\$1.24	DigiKey
IC Sockets	DIP Assortment	Ready	High	[\$6.00](https://www.google.com/search?ibp=oshop&q=DIP IC socket assortment&prds=productid:4697472611069187389)	[Shades Dancewear](https://www.google.com/search?ibp=oshop&q=DIP IC socket assortment&prds=productid:4697472611069187389)
Famicom Gamepad	Clone, DB9	Ready	High	[\$4.95](https://www.google.com/search?ibp=oshop&q=Famicom DB9 clone controller&prds=productid:10938543824438340543)	[AliExpress](https://www.google.com/search?ibp=oshop&q=Famicom DB9 clone controller&prds=productid:10938543824438340543)

Part	Spec/ Package	Status	Stock	Price	Source
Wooden Enclosure	Custom Case	Obsolete	—	—	—
Rubber Feet	3M Bumpons	Ready	High	\$14.70	DigiKey

Substitutes

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

Verify any substitute against its datasheet before ordering.

Other dependencies

- **Main ROM:** Requires 27C1024 EPROM programmed with Gigatron ROM v5. (Ready)
- **BabelFish Firmware:** Requires ATtiny85 programmed with BabelFish interface software. (Ready)
- **PCB Fabrication:** Requires Gerber files for Main and Pluggly boards from gigatron.io. (Ready)
- **Enclosure Plans:** DIY OpenSCAD/SVG files found via Thingiverse and community sites. (Ready)

Watch list

- **AT27C1024-70PU:** This 16-bit EPROM is increasingly rare (only 96 units in stock); procure immediately or investigate SST27SF010 adapters for future builds.
- **6.25 MHz Crystal:** No longer available via standard distribution channels; rely on specialized surplus or Parallax stock.
- **Resistor Array (4605X-101-222LF):** Extremely low stock (32 units). Consider [4605X-101-222LF substitutes](#) from other manufacturers if stock depletes.