TIX clock, Build B — the ujjaldey uTixClock

Bill of materials · Arduino Nano, DS1302 RTC and two 74HC595 shift registers on two veroboards, 3D-printed case

Revision: A **Date:** 2026-11-03 **Lines:** 19 **Source:** clocks.fubsypoly.com/tix/vol-6/

Every part for Build B, in the order of Volume 6's bill of materials (§6.4.1): the author's parts list plus the enclosure parts. The 10 kΩ resistor is the LDR's divider partner (auto-dimming); the three 33 Ω resistors are the line current limiters. Part numbers are examples that meet the specification. The case and the diffuser stack (transparent paper, black acrylic) are in Volume 8. Everything runs at 5 V from USB.

Tick **Ord** when ordered, **Have** when it is in hand and checked against the part number, **Fit** when it is installed. Write the vendor, order number and price on the last page. Alternates for obsolete (EOL) parts are in **bold**.

Same A standard current part; buy it as listed. **EOL** Obsolete: buy the alternate given. **Spec** The list gives a function, not a part: buy any part meeting it.

Conflict The sources disagree; the resolution is given. **Choice** An option the builder chooses.

ORD	HAVE	FIT	QTY	REF. DES.	PART / SPECIFICATION	PART NUMBER	ALTERNATES / SUBSTITUTES	WHERE TO BUY	TAG	NOTES
Controller board										
☐	☐	☐	**1**	MCU	**Arduino Nano** ATmega328; firmware via PlatformIO or the Arduino IDE	`Arduino Nano (A000005)`	Nano-compatible clone boards	Arduino Store store.arduino.cc Digi-Key www.digikey.com	**Same**	
☐	☐	☐	**1**	RTC	**DS1302 RTC module** With 32.768 kHz crystal and coin cell; keeps time through power-off			Amazon AliExpress	**Same**	Fit a fresh coin cell.
☐	☐	☐	**2**	LED drivers	**74HC595 shift register, 16-pin + IC base** DIP-16, daisy-chained	`SN74HC595N`		Digi-Key Mouser www.mouser.com	**Same**	Socket them: CMOS, ESD-sensitive.
☐	☐	☐	**1**	LDR divider	**Resistor 10 kΩ**				**Same**	
☐	☐	☐	**1**	Auto-dim	**LDR (light-dependent resistor)**				**Same**	
☐	☐	☐	**1**	Power	**On-off switch**				**Same**	
☐	☐	☐	**1**	Power	**USB cable** To suit the Nano's USB socket				**Same**	
☐	☐	☐	**1**	Controller	**Stripped veroboard**				**Same**	
Display board										
☐	☐	☐	**3**	Hours tens	**5 mm LED, yellow**				**Same**	
☐	☐	☐	**9**	Hours units	**5 mm LED, red**				**Same**	
☐	☐	☐	**6**	Minutes tens	**5 mm LED, blue**				**Same**	
☐	☐	☐	**9**	Minutes units	**5 mm LED, green**				**Same**	
☐	☐	☐	**3**	Line current limit	**Resistor 33 Ω**				**Same**	

ORD	HAVE	FIT	QTY	REF. DES.	PART / SPECIFICATION	PART NUMBER	ALTERNATES / SUBSTITUTES	WHERE TO BUY	TAG	NOTES
☐	☐	☐	**1**	Display	**Both-sided dotted veroboard**				Same	
☐	☐	☐	**—**	Between boards	**Header pins; jumper wires**				Same	

Enclosure Vol 8

ORD	HAVE	FIT	QTY	REF. DES.	PART / SPECIFICATION	PART NUMBER	ALTERNATES / SUBSTITUTES	WHERE TO BUY	TAG	NOTES
☐	☐	☐	**—**	Case	**3D-printed enclosure (PLA+)** From the author's Fusion 360 design				Same	
☐	☐	☐	**—**	Case closure	**3 mm neodymium magnets**				Same	
☐	☐	☐	**—**	Assembly	**Quick-fix glue**				Same	
☐	☐	☐	**—**	Diffuser / window	**Transparent paper; black acrylic**				Same	

Orders

VENDOR	ORDER NO.	DATE	TOTAL	RECEIVED	LINES / NOTES

Build total: _____ **Started:** _____ **First power-up:** _____

Notes