



Programmable clock/timer

i.c. P.C.B. Stock No. 434 — 699

Two printed circuit boards designed to build a working timer. The main board accepts the TMS 1601A programmable clock timer i.c. 308 — 821 and all associated components. The display board is used to mount the four 0.43" common cathode seven segment displays and fifteen LEDs for day of week, switch state and status indicated. The custom membrane keyboard/graphics panel may be connected directly to the main board if required.

Further information regarding the TMS 1601 can be found on data sheet 6913.

Power Requirements

The board is designed to run from either 12 Vac or 12 Vdc for battery operation. When only battery operation is required the bridge rectifier is not needed.

Options

The keypad lockout, reset continuous and display blank features may be utilised by cutting the relevant links and using switches connected via p.c.b. speedbloc plugs and ribbon cable at the options socket.

Keypad lockout

Cut the tracks joining pin 1 to 2 and 6 to 7 at the options socket. Use a 10-way p.c.b. speedbloc connector and a double pole single throw switch in place of these track links.

Reset/Reset continuous

This is brought into operation by connecting a single pole single throw switch between pins 10 and 1 at the options sockets.

Display Blank

Display blanking is achieved by breaking the link between pins 4 and 9 and replacing this with a single pole single throw switch.

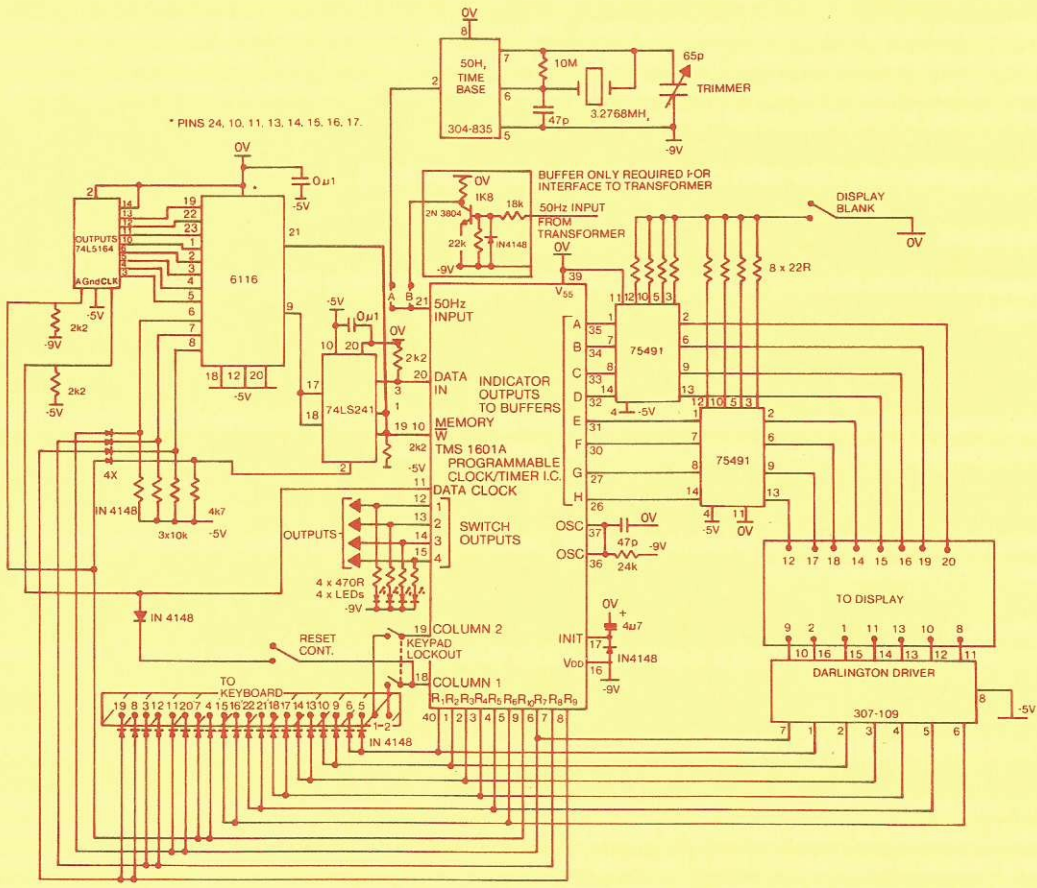
The main board is connected to the display board using speedbloc p.c.b. mounting connectors and ribbon cable to join the appropriate contacts, provision is made for either a mains or crystal timebase to be used. Area A is populated when a crystal timebase for battery backup is required with link A inserted. Area B is used with link B when a mains derived time base is required. Only one link should be connected at any time. If both modes of operation are required a change over switch may be used.

Components List

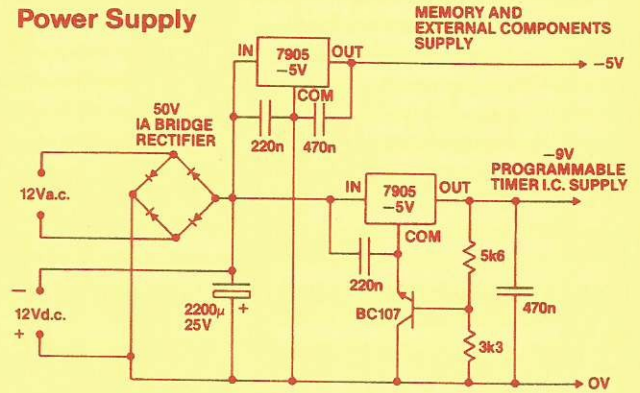
2x	20 way speedbloc PBC right angle plugs and cable to suit	467-346	1x	TMS 1601A	308-821 ✓
2x	20 way speedbloc sockets	467-289	1x	1A 50V Bridge rectifier	262-141 ✓
1x	Pcb plug 5 way	467-576 ✓	1x	3.2768 MHz crystal	307-777 ✓
1x	Pcb socket 5 way	467-627 ✓	2x	7905 — 5V regulators	306-049
	Crimp terminals	467-598 ✓	2x	Heat sinks	401-863 ✓
			8x	22R high stability carbon film	131-053 ✓
			4x	470R high stability carbon film (optional)	131-211 ✓
1x	10 way speedbloc pcb right angle plug (optional)	467-330	1x	1K8 high stability carbon film	131-283 ✓
1x	10 way speedbloc socket (optional)	467-273	4x	2K2 high stability carbon film	131-299 ✓
1	Keyboard and connectors	335-182 ✓	1x	3K3 high stability carbon film	131-312 ✓
			1x	4K7 high stability carbon film	131-334 ✓
15x	0.2" LED's High intensity types	587-822	1x	5K6 high stability carbon film	131-340 ✓
4x	0.43" Common cathode 7 segment displays	587-383 ✓	3x	10K high stability carbon film	131-378 ✓
1x	Display bezel 4 digit	587-204 ✓	1x	18K high stability carbon film	131-407 ✓
4x	Subminiature LED's (optional)	587-721	1x	22K high stability carbon film	131-413 ✓
			1x	24K 0.4W metal film	148-821 ✓
27x	1N 4148 diodes	271-606 ✓	1x	10M 0.5W carbon film (optional)	133-330 ✓
1x	2N3904 transistor (optional)	294-312 ✓	1x	65p Trimmer (optional)	125-660 ✓
1x	BC107 transistor	293-527 ✓	2x	47p polystyrene (1 optional)	113-241 ✓
1x	Darlington driver	307-109 ✓	2x	220n polyester film	115-118 ✓
2x	Display drivers 75491	303-157 ✓	2x	470n polyester film	115-130
1x	6116 memory	300-215 ✓	1x	4u7 35V tantalum	101-793 ✓
1x	50Hz time base i.c. (optional)	304-835 ✓	1x	2200u 25V elect	105-010 ✓
1x	74LS 164	305-018 ✓	2x	0u1 ceramic ✓	
1x	74LS 241	308-304	1x	40 pin DIL socket ✓	
			3x	16 pin DIL sockets ✓	
			1x	16 pin DIL sockets ✓	
			1x	8 pin DIL socket (optional)	
			1x	20 pin DIL socket ✓	
			1x	24 pin DIL socket ✓	

Some of the items are supplied in packs of larger quantities than required for construction of a single unit.

Mains Board



Power Supply



Display Board

