

# **Turbo Mother Board User's Operation Manual**

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## 1. Introduction

TD-20 turbo mother board is designed with advanced ASIC technology. This gives itself a property of high reliability. In addition, it has the following features:

- 1) Fully compatible with IBM XT
- 2) V20/8088 CPU
- 3) Hardware selectable between 4.7/10 MHz clock speed
- 4) Up to 640K byte memory
- 5) 0 wait state memory access
- 6) 8 expansion slots

## 2. Description of Jumper & System Configuration Switch Settings

JP1	DRAM on U4-U7
1-2	424256
2-3	421000

JP2	CPU
1-2	8088
2-3	V20

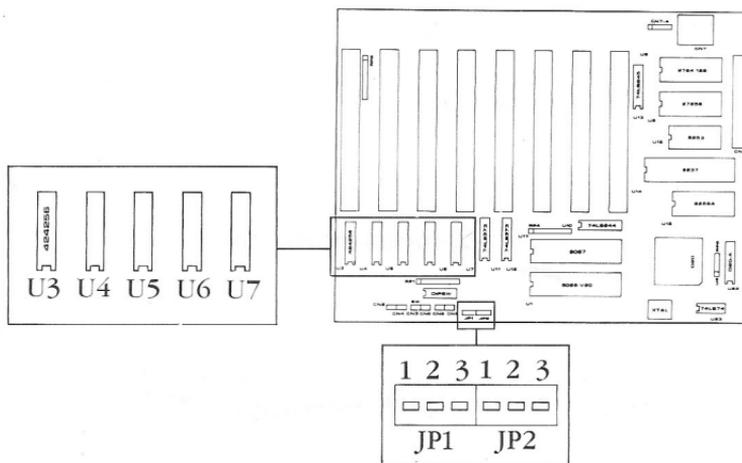
### System Configuration Switch:

SW	SW Status		Function
1	* Off		Reserved (should be Off)
2	* On Off		Disable 8087 Enable 8087
3, 4	On On Off On * On Off Off Off		OK Memory 128K-512K Memory 640K Memory Not used
5, 6	On On Off On * On Off Off Off		No Display Adapter Color Graphics Adapter (40 × 25) Color Graphics Adapter (80 × 25) Monochrome Display Adapter
7, 8	On On * Off On On Off Off Off		1 Diskette Drive 2 Diskette Drives 3 Diskette Drives 4 Diskette Drives

\* Default settings

### 3. DRAM Chip Configuration

To install DRAM chips, please first locate the DRAM bank on the mother board as shown below:



Note that TD-20 mother board has two different versions which use different groups of DRAM. It depends on the JP1 of your mother board.

**i) JP1 is configured as 1-2 shorted:-**

Please follow the table shown below to get the desired configuration.

	U7	U6	U5	U4	U3
128KB	424256	—	—	—	—
256KB	424256	424256	—	—	—
384KB	424256	424256	424256	—	—
512KB	424256	424256	424256	424256	—
640KB	424256	424256	424256	424256	424256

**ii) JP2 is configured as 2-3 shorted:-**

Please follow the table shown below to get the desired configuration.

	U7	U6	U5	U4	U3
512KB	421000	421000	421000	421000	—
640KB	421000	421000	421000	421000	424256

\* Note: SW3, 4 of System Configuration Switch must be set to the corresponding memory size settings.

## 4. Selection of Operating Speed

The Operating speed can be selected between turbo and normal modes by hardware switch or by software. For the software approach, please refer to the following table:

Action	Operating speed
Press 'Ctl', 'Atl', '+' simultaneously	Turbo
Press 'Ctl', 'Atl', '-' simultaneously	Normal
Press 'Ctl', 'Atl', '*8' simultaneously	Determined by hardware switch

## 5. Specifications

**Operating Voltage:** 5V ± 5%

**Current:** 5V/630mA (Typical)

**Size:** 217mm × 166mm × 1.6mm

**Temperature:**

Operating 5° – 40°

Storage 0°C – 55°C

**Relative Humidity:**

Operating 20% – 80% (Non condensed)

Storage 5% – 80% (Non-condensed)

Note: Due to engineering improvements, specifications are subject to change without further notice.

## 6. Summary of Connectors

Connector		Pin Out	Function
Power Supply	CN1	1 NC 2 NC 3 +12V DC 4 -12V DC 5 Ground 6 Ground 7 Ground 8 Ground 9 -5V DC 10 +5V DC 11 +5V DC 12 +5V DC	N/A
Power Light	CN2	1 - Cathode 2 + Anode..	N/A
Speaker Connector	CN3	1 Speaker Data Out 2 +5V DC	N/A
Reset Switch	CN4	1 Ground 2 Reset In	Open: Normal Operation Close: Reset System
Turbo Switch	CN5	1 Ground 2 Turbo In	Open: Normal Speed Close: Turbo Speed
Turbo Light	CN6	1 - Cathode 2 + Anode	N/A
Keyboard	CN7 & CN7A	1 Keyboard Clock 2 Keyboard Data 3 Spare 4 Keyboard Ground 5 +5V DC	N/A
Keylock	CN8	1 Ground 2 Key In	Open: Enable Keyboard Close: Disable Keyboard

# 7. Layout of TD-20 Mother Board

