


## **CHAPTER 1**

### **INTRODUCTION**

#### **1.1 Overview**

The OPTI-82C895 is a new single-chip solution that offers the cost-effective system integration for 486 and P24T systems. Besides the standard features, the OPTI-82C895 also supports VESA standards and power management features for most of advanced CPUs on the market. With the use of OPTI-82C602 TTL ASIC buffer, the TTL components required on the main board are further reduced.

#### **1.2 System Features**

- Support INTEL 486SX, DX, DX2, DX4, P24T, S-Serial.  
AMD DX, DX2, DXL.  
Cyrix M6, M7, DX2.
  - Support 3 system states for power saving : STANDBY / SUSPEND / ON.
  - Supports L1/L2 write back/write through cache feature
  - Supports 128KB / 512KB cache size
  - Supports 72pin SIM MODULES
  - Supports VESA VGA bus & IDE bus on board.
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## 1.3 System Specifications

Processor :	INTEL 486SX, DX, DX2, DX4, P24T, S-Serial AMD DX, DX2, DXL Cyrix M6, M7, DX2
CPU Clock :	25/ 33/ 40/ 50 MHz CPU
Memory :	2MB to 64MB
SRAM Configuration :	128KB/512KB
BIOS Subsystem :	AWARD BIOS
Additional BIOS feature :	Set program resides in ROM
I/O Subsystem NO. slot :	One WD slot
I/O Interface :	Supports two serial port, one parallel port, floppy, one VESA VGA & one VESA IDE
Dimension :	19.9cm × 19.9cm

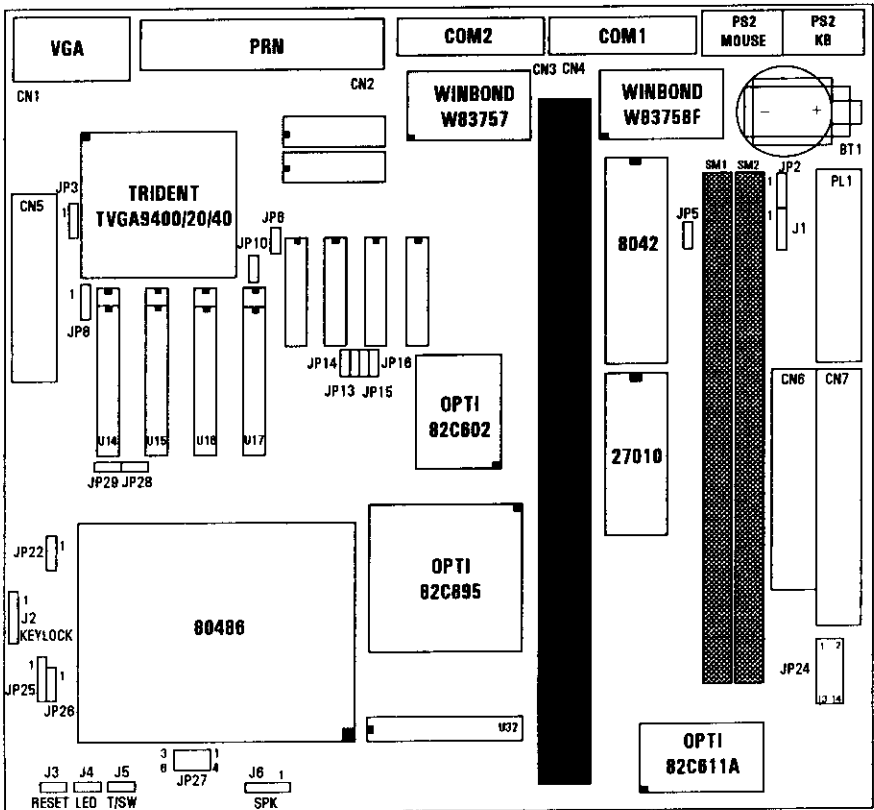
### Additional features

Miscellaneous connectors :	Reset Button, Internal Battery
Board design :	4-layer implementation for low noise operation

## 1.4 System Performance

SOFTWARE CPU TYPE	LANDMARK V2.0	POWER METER V1.7	NORTON V7.0
		MIPS	CPU SPEED
INTEL DX-33MHz	110.94MHz	14.8MIPS	71.6
AMD DX-40MHz	133.74MHz	17.9MIPS	86.4
CYRIX M7 DX-40MHz	131.86MHz	15.9MIPS	67.9
INTEL DX2-50MHz	167.17MHz	21.7MIPS	108.0
CYRIX M7 DX2-50MHz	164.83MHz	19.8MIPS	84.8
INTEL DX-50MHz	167.18MHz	22.4MIPS	108.0
INTEL DX2-50MHz	221.91MHz	28.4MIPS	143.3

# 1.5 AIO4044 Board Layout



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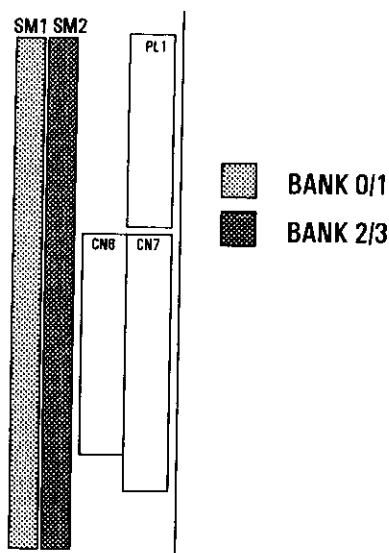
## CHAPTER 2 INSTALLATION

Before the system is ready to operate, the hardware must be set up for various functions of the system. To set up the AIO4044 main board is a simple task. The user only has to set a few jumpers, connectors and sockets.

### 2.1 DRAM INSTALLATION

The AIO4044 main board can support expanded memory from 2MB to 64MB. Either 2MB, 4MB, 5MB, 8MB, 10MB, 16MB, 17MB, 20MB, 32MB, 64MB SIM DRAM can be used on the AIO4044 motherboard.

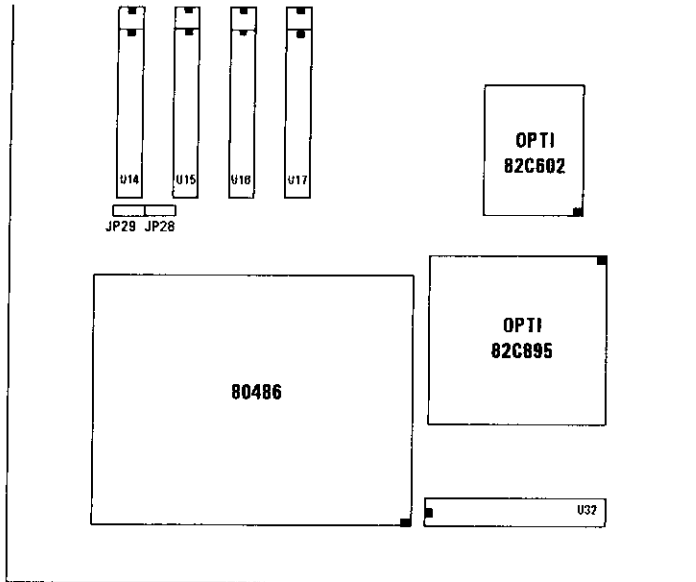
- The board layout below shows the locations of the DRAM memory banks :



■ DRAM Configuration

BANK 0/1	BANK 2/3	TOTAL MEMORY
5M1	5M2	
1MB	1MB	2MB
2MB	NONE	2MB
4MB	NONE	4MB
2MB	2MB	4MB
1MB	4MB	5MB
8MB	NONE	8MB
4MB	4MB	8MB
2MB	8MB	10MB
16MB	NONE	16MB
8MB	8MB	16MB
1MB	16MB	17MB
4MB	16MB	20MB
16MB	16MB	32MB
32MB	NONE	32MB
32MB	32MB	64MB

## 2.2 SRAM INSTALLATION

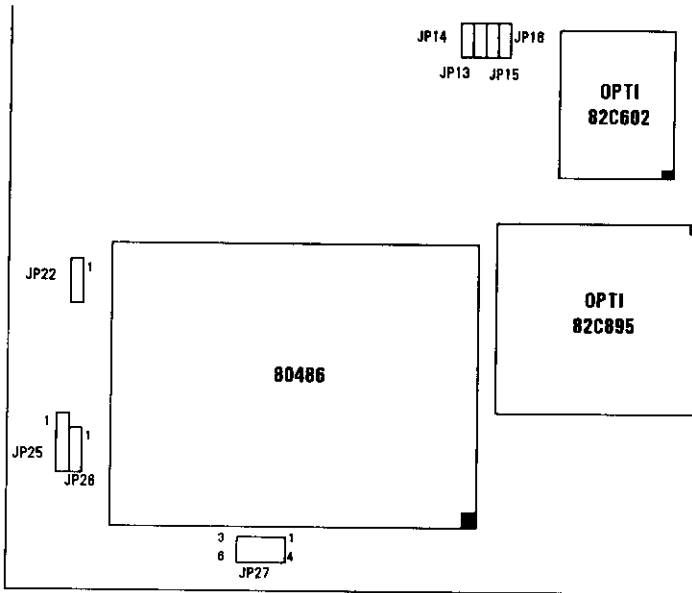


### CACHE CONFIGURATION SIZE

128K *		512K	
TAG RAM (U32)	DATA RAM (U14-U17)	TAG RAM (U32)	DATA RAM (U14-U17)
8K×8	32K×8	32K×8	128K×8
JP29 <input type="checkbox"/>	JP28 <input type="checkbox"/>	JP29 <input checked="" type="checkbox"/>	JP28 <input checked="" type="checkbox"/>

\* : Default Setting

## 2.3 CPU INSTALLATION



### CPU TYPE SELECT

486DX *	P24T	486SX	487SX	Cyrix486S	DX4
JP25 JP26 	JP25 JP26 	JP25 JP26 	JP25 JP26 	JP25 JP26 	JP25 JP26 

### CPU POWER VOLTAGE

FOR 3.3V CPU		FOR 5V CPU	
JP27		JP27	

\* : Default Setting

## INTEL P24C (DX4) CPU CLOCK

P24C CLOCK 3×		P24C CLOCK 2×		P24C CLOCK 2.5×	
JP22	1 <input type="checkbox"/>	JP22	1 <input checked="" type="checkbox"/>	JP22	1 <input type="checkbox"/>
	3 <input type="checkbox"/>		3 <input type="checkbox"/>		3 <input checked="" type="checkbox"/>

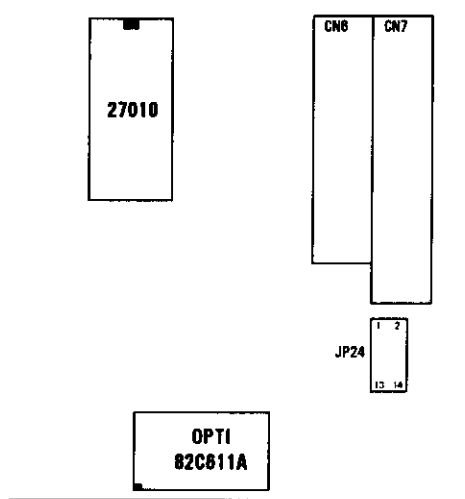
## CPU CLOCK SELECT

25MHz				33MHz				40MHz				50MHz			
JP14	JP13	JP15	JP16	JP14	JP13	JP15	JP16	JP14	JP13	JP15	JP16	JP14	JP13	JP15	JP16
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

\* : Default Setting



## 2.4 IDE INSTALLATION



### JP24 : IDE JUMPER SETTINGS

IDE MODE	0 *	1	2	3
		1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/>	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/>	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/>
IDE ENABLE/DISABLE SELECT	ENABLE *		DISABLE	
	4 <input type="checkbox"/> 6 <input type="checkbox"/>		5 <input type="checkbox"/> 8 <input type="checkbox"/>	
PRIMARY/SECONDARY IDE SELECT	PRIMARY *		SECONDARY	
	7 <input type="checkbox"/> 8 <input type="checkbox"/>		7 <input type="checkbox"/> 8 <input type="checkbox"/>	
IDE READ PREFETCH	ENABLE		DISABLE *	
	9 <input type="checkbox"/> 10 <input type="checkbox"/>		9 <input type="checkbox"/> 10 <input type="checkbox"/>	
IDE FREQUENCY SELECT	25MHz	33MHz *	40MHz	50MHz
	11 <input type="checkbox"/> 12 <input type="checkbox"/> 13 <input type="checkbox"/> 14 <input type="checkbox"/>	11 <input type="checkbox"/> 12 <input type="checkbox"/> 13 <input type="checkbox"/> 14 <input type="checkbox"/>	11 <input type="checkbox"/> 12 <input type="checkbox"/> 13 <input type="checkbox"/> 14 <input type="checkbox"/>	11 <input type="checkbox"/> 12 <input type="checkbox"/> 13 <input type="checkbox"/> 14 <input type="checkbox"/>

\* : Default Setting

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## **SOFTWARE INSTALLATION (SETUPVIC.EXE)**

SETUPVIC is used to configure and maximize the performance of the 82C611A controller, as well as install the DOS and/or Windows device drivers.

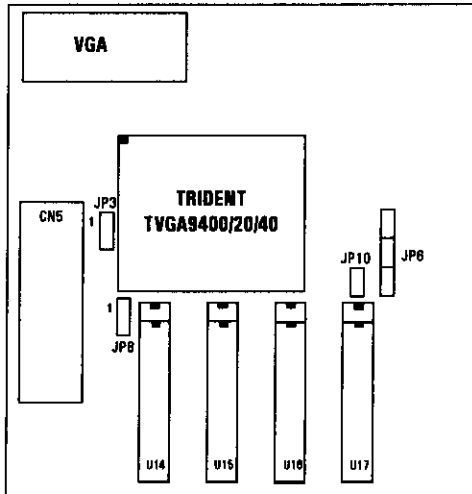
OPTIVIC.SYS      DOS Device Driver Program. Substitutes portions of the BIOS int13 disk-driver to implement 32-bit I/O.

OPTIVIC.386      Windows Virtual Device Driver.

1. Please insert the Driver \ Utilities diskette into your floppy disk drive. (e.g. A:)
2. Change path to sub-directory 611A, then run SETUPVIC.EXE file. Choose the option you would like to perform and proceed.

**When you execute the SETUPVIC.EXE utility, the program will check the 82C611A adapter to ensure that the switch settings are set correctly for the optimal configuration of the drive. If there is any error message be generated, please check the following jumper settings are set correctly or not.**

## 2.5 VGA INSTALLATION



### VGA ENABLE/DISABLE SELECT

ENABLE *		DISABLE	
JP3	JP8	JP3	JP8
1 3	1 3	1 3	1 3

### VGA OUTPUT

NON-INTERLACED	INTERLACED *
JP6	JP6
1	1

### CPU CLOCK

$\leq 33\text{MHz}$ *	$> 33\text{MHz}$
JP10	JP10
1	1

\* : Default Setting