Warning
=======
To ensure the reliability of the Computer, DO NOT reconfigure the
board while the Power is ON.

If you wish to reconfigure the board,make sure that the power to the
system is OFF before changing any hardware setting such as Jumper
setting or DIP switch.

Checklist
=========
Your 486DX Cache board pakage contain the following:
* 486DX Cache Mother board.
* User's manual.

ABOUT THIS MANUAL
=================
This manual is designed to provide the basic information necessary for the
end user to understand and properly use of the 586 VIP Cache Motherboard.
The mother board ensure superlative performance and complete compatibility
with software written for IBM PC/AT 80286 type, 80386 type and 80486
type of processor.

TRADEMARKS
==========
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Mother Board Features
=====================

* Support Intel 486DX 25/33/50 MHz, 486DX2 50/66 MHz, P24T
  and M6 PGA CPU.

* Support Internal cache (CPU) write-back.

* Direct Map cache organization with write-through/write-back selec-
  tion.

* Optional 64KB, 128KB or 256KB external cache.

* Flexible DRAM size support for 256K, 1M, 4M or 16M SIMM
  Modules.

* Shadow system and Video BIOS select.

* Cache system and Video BIOS select with write -protect.

* Hardware turbo speed switch and software keyboard switchable
  CPU speed.

* Built-in RTC with battery back-up CMOS memory for system
  configuration data.

* Accomodates Two 8 bit slots , Six 16 bit slots and Three VESA
  2 Master/i Slave on board.

* Support Cyriw Cx487S (C6) Co-processor.

* Dimension: 22 x 25 CM with 4 Layers.

Jumpers and Connectors reference
================================
Before installing the mother board, make sure the jumpers setting are
set for your configuration. The Function of each jumpers are as fol-
lows:

JP2   Mono / Color Monitor Selector

JP4,JP1O,JP11   Cache Option

JP6,JP7,JP8   CPU Type Selector i CHIPSET)

JP12,JP13,JP16   CPU Type Selector
JP17,JP18,JP20

JP23,JP24   VL- BUS Option

JP9,JP15,JP33   Clock Generator Frequency Selector (INT.)

JP14   Clock Generator Frequency Selector (EXT.)

JP5,JP21,JP31   CPU CLK Selector

JP22,JP32,P4- P6   Cyrix Co-processor Selector
W4- W6

JP28   Turbo LED connector

JP27   Turbo Switch connector

JP30   Speaker connector

JP1   External Battery Connector

J1   Keyboard Connector

P1,P2   Power Supply Connector

JP29   Keylock/Power LED Connector

JP26   Reset Connector

JP2 Mono/Color Monitor selector
===============================
Mono/Color Monitor selector is used to select the type of video dis-
play you are using. The choice is between CGA and MONO. CGA is
only for CGA display. MONO is for all other display including EGA,
VGA and MONO. The default is MONO.

JP2 OPEN MONO
JP2 CLOSE COLOR

JP4,JP1O,JP11 Cache Option
=========================
SIZE   JP4   JPIO JPI1   BANK O   BANK I   TAG RAM (U8)

```
64K     OPEN    1-2   OPEN    8K * 8    8K * 8     8K * 8
128K    1-2     2-3   CLOSE   32K * 8              8K * 8
256K 1-2,3-4    1-2   CLOSE   32K * 8   32K * 8    32K * 8


BANK O : U13,U15,U22,U26
BANK 1 : U14,U17,U24,U28


JP8,JP7,JP8 CPU Type Selector (CHIP)
====================================
CPU Type Selector is used to select different type of 486 CPU.

CPU TYPE      JP6   JP7   JP8
486           1-2   1-2   1-2
P24T          1-2   2-3   1-2
M6            2-3   1-2   2-3


JP12,JP13,JP16,JP17,JP18,JP20 CPU Type Selector
===============================================
CPU TYPE    JP12    JP13   JP16    JP17    JP18   JP20
486SX       CLOSE   1-2    1-2     CLOSE   OPEN   1-2
487SX       CLOSE   1-2    1-2     CLOSE   1-2    2-3
486DX       CLOSE   1-2    1-2     CLOSE   2-3    2-3
M6+C6       OPEN    1-2    2-3     CLOSE   2-3    2-3
M6          OPEN    1-2    2-3     OPEN    3-4    1-2
P24T        CLOSE   2-3    2-3     CLOSE   1-2    2-3


JP23,JP24 VL-BUS Option
=======================
JP23             JP24
CLOSE 1 WS       CLOSE >33MHz
OPEN  O WS       OPEN  <=33MHz


JP14 Clock Generator Frequency Selector (F.XTERNAL)
===================================================
Clock Generator Frequency selector is used to select different frequen-
cy of the clok generator. The frequency is depend of the MHz of the
CPU you are using.

FREQUENCY               JP14
              1-2       3-4       5-6
50 MHz        OPEN      CLOSE     OPEN
66 MHz        CLOSE     OPEN      OPEN
40 MHz        CLOSE     CLOSE     OPEN


JP9,JP15 Clock Generator Frequency Selector (INTERNAL)
======================================================
FREQUENCY     JP9       JP15       JP33
50 MHz        2-3       2-3        1-2
66 MHz        1-2       2-3        1-2
40 MHz        2-3       2-3        2-3


JP5,JP21,JP31 CPU CLK Selector
==============================
CLOCK TYPE              JP5   JP21   JP31
486DX- 40/50 MHz
40/50 MHz OSC.          2-3   2-3    2-3

OTHER CPU
DOUBLE FREQUENCY OSC.   1-2   1-2    1-2


JP22,JP32,P3-P7,W3-W8 Cyrix Co-processor Selector
```

```
==================================================
When using Cyrix CPU Cx486S (M6 PGA) you can select Cx487S
(C6) Math co-processor for floating point arithmetic.


                87DLC mode          C6
JP22              1-2              2-3
JP32             CLOSE             OPEN
P4- P6         ALL OPEN        ALL CLOSE
W4- W6        ALL CLOSE         ALL OPEN


NOTE:If you used C6 Co-processor you must removed the TTL in
      U20 (74LS32).

      C6 for 87DLC mode must removed the ersistor in R41.



JP3,W2,W9 Micellaneous Jumpers
==============================
JP3 INT/EXT. RTC   P2 XCLK2I        W9 PQFP CPU ENABLE/DISABLE
1-2 (DEFAULT)      CLOSE (DEFAULT)  OPEN  (ENABLE)
2-3 (OPTION)       OPEN  (OPTION)   CLOSE (DISABLE)

NOTE: The Micellaneous Jumpers is only for factory setting used not
      for the end user unless advice by the manufacturer.



Connectors
==========
JP1    External Battery connector is used for the external battery.
       This is use when internal battery is not conected.

JP27   Turbo switch connector will be connected to the turbo switch
       of your computer case. This is used to toggle the system
       speed between fast and slow processing speed.

JP26   Reset switch connector will be connected to the reset switch of
       your computer case. Resetting the system, it will restart the
       computer from self-test without turning off the power supply.
       This connection is always in OFF position.

JP28   Turbo LED connector will be connected to the turbo LED of
       your computer case. The LED will light up when the systen is
       running in high processing speed. (Note the positive and nega-
       tive of the LED)

JP29   Keylock and Power LED connector will be connected to your
       computer case. Keylock is used to lock the keyboard. Power
       LED will light up when you turn on your power supply.

JP30   Speaker connector will be connected to the speaker of your
       computer case.

P1,P2 Power Supply connector is connected from the output of the
       power supply. Most of the power supply has two connectors
       which will be connected to the main board. Each connector
       has six wires, two of the wires are black. To connect to the
       main board, make sure that the black wires is in the middle.
       Wrong connection will cause damage of the main board.

J1     Keyboard connector. This is used for inputting signal from
       the keyboard.


Memory Configuration
====================
The system board Memory can be expanded from IMB to 64MB.Mem-
ory can be installed by using 256K, 1M, 4M and 16M SIMM RAM
Module.
```

```
MEMORY SIZE          BANK O              BANK 1
1M                   256K
2M                   256K                256K
4M                   1M
8M                   1M                  1M
16M                  4M
32M                  4M                  4M
64M                  16M
128M                 16M                 16M
5M                   256K/1M             1M/256K
20M                  1M/4M               4M/1M
```

AMI BIOS SETUP
================
AMI BIOS support has a built-in setup program that allows the users to
modify the basic system configuration. This type of information is stored in
CMOS so that it retains the setup information when the power is turned off.

1.   Turn on or reboot the system. when the below message appears at the
        bottom of the screen during the POST (Power On Self Test) press DEL
        key to enter setup.

2.   Press the DEL key to enter the AMI BIOS program and the main menu
        will appear on the screen. The main menu allows you to select from
        ten setup functions and two exit choices.

3.   For the safe, please select "AUTO CONFIGURATION WITH BIOS DEFAULTS"
        for setup.

                        --- end of manual ---