

# WATCHDOG SYSTEM RECOVERY CARD



User Manual  
WatchDog I for Windows NT  
(WD-005)

Distributed by



CHUAN YUNG INTERNATIONAL CO. LTD.

<http://www.cyic.com>  
<http://www.watchdogcard.com>

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## Section I: Introduction

Ever since the introduction of PC, there is the struggle between users and their systems. Of course, a personal computer increases the quality of life in many ways when it's working. However, it's also a nightmare to everyone who has to use one. With more and more popularity of Windows, operating system and its applications becomes larger in sizes and more difficult and time consuming to re-install every time.

WatchDog System Recovery Card delivers you a solution. With WatchDog System Recovery Card, you don't have to worry about someone who changes your CMOS data, formats your hard drives, tampering with your PCs. Even when you install some software and accidentally corrupted the computer's original settings. WatchDog will perform a recovery operation to reset your system settings back to what you had them originally. Perhaps viruses or other causes have corrupted your hard disk. No need to worry. Simply Reboot the machine with WatchDog Recovery Card and **EVERYTHING\* RECOVERS!!!**

### SYSTEM REQUIREMENTS

IBM 286 PC Compatible or above  
640K memory  
ISA slot  
1 Hard Drive  
VGA Monitor

## Section II: Specification

<b>Operating System Support</b>	DOS, OS/2, Windows 95, Window NT ... etc.
<b>Instant Recovery OS Support</b>	DOS, Windows 9x, Windows NT
<b>BIOS Support</b>	Virtually All Made of BIOS
<b>Expansion Slot Required</b>	ISA
<b>Main Memory Used</b>	< 5KB space need
<b>Hard Drive Interface Support</b>	IDE, EIDE, SCSI, UDMA-33, UDMA-66
<b>Hardware Requirements</b>	IBM PC compatible / 386 or higher / Color Monitor / HDD
<b>CMOS backup / restore</b>	Yes (Auto analyze)
<b>Reboot and Auto restore</b>	Yes
<b>Upgrade from Floppy Disk</b>	Yes
<b>IRQ and I/O</b>	Not required
<b>Language</b>	English / Chinese
<b>ROM Address Select</b>	Adjust by jumper (Default C8000H)
<b>ROM Address Options</b>	C8000H / CC000H / D000H / D4000H / D8000H / DC000H
<b>Physical Size</b>	10.5cm X 5cm
<b>Default Boot-up</b>	Yes
<b>Multiple Boot-up</b>	Up to 15 Operation Systems
<b>Public Area of Data Disk</b>	One (can be accessed by all Operation Systems)
<b>Auto Bootup Menu Delay</b>	1 to 99 Seconds
<b>Disable Boot Disk</b>	Yes
<b>Backup Boot Disk</b>	Yes
<b>Restore Boot Disk</b>	Yes
<b>User Password</b>	Yes
<b>Supervisor Password</b>	Yes
<b>S.M.A.R.T. Support</b>	Yes
<b>Hard Drive Copy</b>	Yes
<b>Preset Boot Disk Auto Restore</b>	Yes (any time/day/week/month)
<b>Data Disk Auto Clear</b>	Yes
<b>Uninstallation</b>	Yes
<b>Boot-up Title String</b>	Yes
<b>FCC</b>	Yes (Class B)

# Section III: Installation

## Step One: Prepare the host system and the adapter

When you are ready to begin, power down the host system. Referring to your host system owner's manual, remove the cover to gain access to the motherboard and expansion slots. The recovery card contains sensitive electric components that can be easily damaged by static electricity. Simply touch the power supply to discharge any static electricity.

## Step Two: Install the adapter

To install the recovery card, remove the mounting screw and the existing bracket from the rear panel behind the selected ISA slot. WatchDog System Recovery Card requires a ROM address for its function. Please ensure there is no conflict between WatchDog and other devices in the system; e.g., SCSI controller or some video card.

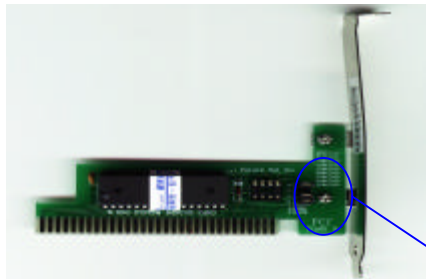


Figure 1: WatchDog System Recovery Card

ROM Address	Jumper J1	Jumper J2	Jumper J3
C400	OPEN	CLOSE	CLOSE
C800	CLOSE	OPEN	CLOSE
CC00	OPEN	OPEN	CLOSE
D000	CLOSE	CLOSE	OPEN
D400	OPEN	CLOSE	OPEN
D800	OPEN	OPEN	OPEN
DC00	OPEN	OPEN	OPEN

Then, press the WatchDog card into the selected ISA slot. Align the mounting bracket and reinstall the mounting screw. Put back the cover to the system.

## Step Three: Power up the System

Once the adapter is installed, power up the system. As the system powers on, the BIOS perform a self-test.

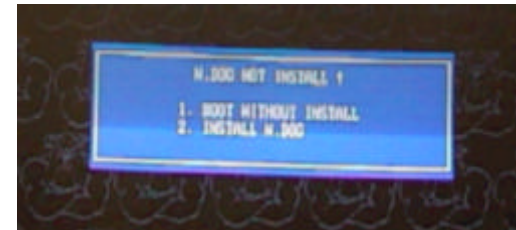


Figure 2: First Screen of WatchDog prior to Installation

Select "2" to install WatchDog System Recovery Card. A setup menu will be shown on the screen, press <F2> to change language mode if necessary

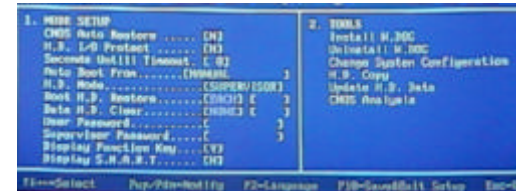


Figure 3: WatchDog Setup Menu

## Step Four: Make WatchDog Partition

In order to have your data protected, data must be resided in a WatchDog partition. Create a WatchDog partition from the WatchDog tools under the setup menu. Up to 15 WatchDog partitions could be installed at one time. Select Install W.DOG to make watchdog partition. A red dialog box will be shown and give a warning WatchDog is about to remove the existing content of the hard drive and create the WatchDog partition. This action is similar to that of the DOS command FDISK.

After confirm of action, WatchDog will come to the partition setup menu. In this screen, you need to fill in some information (those indicated blue in color):

Hard Drive Capacity = [4000MB]				CYL: 8374 HDS: 16 SEC: 63		
How many partitions to create...[5]				PUBLIC DATA [500MB]		
S	NO	VOLUME LABEL	CAPACITY	FILE SYSTEM	RECOVERY MODE	ACCESS SPEED
Y	A	DOS 6.22	100MB	FAT16	SYSTEM SET	HIGH
Y	B	WIN 3.11	600MB	BIGDOS	SYSTEM SET	HIGH
Y	C	WIN 98	800MB	FAT32	SYSTEM SET	DRIVER
Y	D	WIN NT4	1000MB	NTFS	SYSTEM SET	DRIVER
Y	E	OS/2 3.0	500MB	NTFS	BACKUP FIX	HIGH

- How many partitions would you like to create – WatchDog can have up to 15 partitions provided there is enough space at the hard drive. WatchDog will automatically divided the hard drive space evenly when you put in the number of partitions you desired.
- S – When selected as “Y”, the corresponding partition will be shown at the WatchDog startup menu. Otherwise, the corresponding partition will be hidden away from user.
- NO. – This is an automated number that assigned on the order of partition being created.
- Volume Label – The name of the partition that you want to label it as.
- Capacity – Although WatchDog has already divided the partitions evenly, the capacity of each partition can be altered until it has been saved.
- File System – Depending on the operating system you are going to install into the machine, select the suitable file system from the below options:

File System	Description
FAT16	Microsoft File system for partition capacity under 540MB
<b>BIGDOS</b>	File system for partition capacity under 2.1GB
FAT32	File system for Win 9x and capable of configuring partition greater than 2.1GB
NTFS	File system for Win NT and OS/2 (HTFS) for long filename types
OTHERS	DOS-12, Split, BtMgr, DM, GB, 386/ix, PCIX, Speed, BBT, CP/M, UNIX...

- Recovery Mode – Each partition created by WatchDog can be configured with different methods of recovery. Options available are shown as below:

Recovery Mode	Description
<b>SYSTEM SET</b>	Depend on overall WatchDog Mode setup. It can be modified at the Mode Setup Section of the Main setup screen or the WatchDog startup menu
AUTOFIX	Scheduled recovery on boot every time, day, week, or month
MANUAL	Keep changes until users press function key at boot. <F3> to backup and <F4> to recover
BACKUP FIX	Use for operating system other than MS DOS/Windows 9x/ Win NT
SUPERVISOR	Allow user to READ/WRITE to hard drive as if WatchDog does not exist. Use during software installation
DISABLE	Does not use WatchDog function at all

- Access Speed – Toggle of F-CACHE feature. Options are described as below:

Access Speed	Description
<b>High</b>	Toggle ON F-CACHE technology, thus enable faster access for WatchDog Recovery
Normal	Toggle OFF F-CACHE technology. This is set if there is any conflict between WatchDog F-CACHE function and system
Driver	For Windows 95/98 and Windows NT Only. With the install of the device driver after installation of operating system. This enable true 32-bit access for WatchDog

Please note that all partitions are to be set as SYSTEM SET in the first run, as shown in the example, except if that is for BACKUP FIX mode. At Mode Setup, it is to be set as disable. After SAVE and EXIT, WatchDog will reboot the system. The PC at this point will reboot itself at least twice for CMOS analysis and creating WatchDog partitions.



## SECOND UNTIL TIMEOUT.....[       ]

Startup delays that WatchDog provides at boot. The system will stay at the WatchDog Startup Menu for 0~99 seconds.

## AUTO BOOTING SEQUENCE .....[   ]

You can choose which operation system you decide to boot automatically from when you power on your computer. If you choose [MANUAL], WatchDog will show all operation systems available for you to select at the WatchDog Startup Menu (Figure 4).

## W.DOG H. D. MODE .....[   ]

[AUTO FIX] -- Every time computer is power up, hard drive will return to the original state with no prompt.

[MANUAL] -- WatchDog will keep last hard drive condition when boot up. Press <F3> to recover to original state. Press <F4> to update hard drive data at setup menu.

[SUPERVISOR] -- Software will be installed to hard drive with no way to recover. Previous state will not be recovered.

## BOOT H. D. RESTORE.....[   ]       [       ]

Enable at AUTOFIX mode only. Preset the time for Recovery process to be done. If recovery scheduled time is due but the system is either off or being used, the recovery process will take place during the next boot.

First Bracket	Second Bracket	Description
NONE		Does not recover
EACH		Recover every time the machine is boot
DAY	0 – 23	Recover during the first boot after the selected hour of the day
WEEK	MON / TUE / ... / SUN	Recover during the first boot after midnight of the selected week day
MONS	1 – 28	Recover during the first boot after midnight of the selected date of the month

## DATA H. D. CLEAR.....[       ]       [       ]

**Public Data Partition can be set to be reformatted at a scheduled basis. It is similar to that of the above function, BOOT H. D. Restore.**

First Bracket	Second Bracket	Description
NONE		Does not recover
EACH		Recover every time the machine is boot
DAY	0 – 23	Recover during the first boot after the selected hour of the day
WEEK	MON / TUE / ... / SUN	Recover during the first boot after midnight of the selected week day
MONS	1 – 28	Recover during the first boot after midnight of the selected date of the month

## USER PASSWORD .....[   ]

Computer will prompt for user password at boot. Security features of computer use for designated users only.

## SUPERVISOR PASSWORD .....[   ]

This password intends to prevent others to change WatchDog setup. Hold down the <PgDn> key when booting. The computer will prompt you a password for accessing the setup menu. When the supervisor password menu is entered at the Startup Menu, WatchDog will switch to [SUPERVISOR] mode temporarily.

## DISPLAY FUNCTION KEY.....[       ]

Options	Description
Y	Display Function key at WatchDog Startup Menu (Figure 4)
N	Hidden Function key at WatchDog Startup Menu

## DISPLAY S. M. A. R. T. ....[   ]

S. M. A. R. T. stands for Self-Monitoring, Analysis and Reporting Technology. It analysis hard drive access speed, rpm, and possible life span left on the hard drive. When displayed, 9 devices are shown. Because hard drive manufacturers

have not standardized which device is which, the Device number will represent different portions of the hard drive depending on which make of the hard drive. The green portion represents the healthy status of the hard drive components. When the green portion is less than the 50% of the red portion, it means the particular component of the hard drive is dying. Because WatchDog only recovers data but not physical damages, this SMART display indicates when would be a nice time to get a backup of the drive.

#### **DISPLAY TITLE ..... [ ]**

A title string up to 50 characters can be displayed at the WatchDog Startup Menu during boot. For example: CYIC Ltd.

## **2. WATCHDOG TOOL BOX**

### **MAKE WATCHDOG PARTITION**

In order to protect your data using WatchDog Recovery Card, data have to be installed at a WatchDog partition. Because WatchDog uses its own hard drive format to achieve data recovery and multi-booting function, all original hard drive data will be destroyed as if you do a <fdisk> command in DOS. Up to 15 operating system could be installed at one time.

Public Data Area can be shared among all operating system partition. It's totally open to users with no protection by WatchDog. This partition performs as a normal hard drive. WatchDog creates a mirror partition for backup purposes. It will be the same sizes as your biggest WatchDog partition. Please ensure to plan your partition sizes carefully. For details of how to create WatchDog Partition, please refer to Installation coverage starting from page 6.

### **UNINSTALLATION**

**Please refer to Section V for details.**

### **CHANGE BOOT SYSTEM NAME**

After installing of WatchDog, you could modify system name using this function. You can also modify access speed here.

### **H. D. COPY**

Hard drive could be copied from one to another using this function. Hard drive data could be copied from either <C> to <D> or vice versa. This function is available only at WD003 version and above.

### **UPDATE H. D. DATA**

This function available is only available in [MANUAL] mode. It updates the current hard drive data.

## ***Section V: Uninstallation***

When WatchDog System Recovery Card is uninstalled from the system, software install using WatchDog will be gone with it. This is because all software are actually installed into a WatchDog created partition. If you decide to discontinue your use of WatchDog System Recovery Card, please follow the instruction as below:

1. Backup all your data to a removable media or network area.
2. Go into WatchDog Setup Menu and choose Uninstall
3. Confirm action by “Y”. Save and exit when done.
4. Use a boot disk to reboot from <A:>
5. Run “FDISK /MBR”
6. Reinstall all system and software as needed.

## ***Section VI: Y2K Compliance Statement***

WatchDog System Recovery Card does not use any date-specific function or perform any analysis on stored data. Therefore, all WatchDog System Recovery Card series are Year 2000 compliant.

## ***Appendix: FCC Compliance Statement***

This equipment has been tested and found to comply with limits for a Class B digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in residential installations. This equipment generates, uses, and can radiate radio frequency energy, and if not installed and used in accordance with the instruction, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause interference to radio or television equipment reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna
- Move the equipment away from the receiver
- Plug the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio or television technician for additional suggestions

You are cautioned that any change or modifications to the equipment not expressly approve by the party responsible for compliance could void your authority to operate such equipment.

This device complies with Part 15 of the FCC Rules. Operation is subjected to the following two conditions:

- 1) this device may not cause harmful interference and this device must accept any interference received, including interference that may cause undesired operation.

## WATCHDOG SYSTEM RECOVERY CARD WIN9x / NT INSTALLATION INSTRUCTION

1. Prepare hard drive for WatchDog install.  
Make sure partition is empty without existing partition.
2. Boot system with WatchDog mounted onto an available ISA slot in PC.
3. Select option#2 to setup WatchDog
4. Make WatchDog Partition
5. Select "Y" to confirm partition.
6. Select how many partitions desired.  
WatchDog can support up to 15 operation at 1 hard drive.
7. Input system volume label.
8. Specify volume capacity. Since WatchDog requires the equal spaces for partition backup, the maximum partition will be half of the total hard drive capacity. Please note that WatchDog does not protect public partition. You could select public partition to be empty.
9. For File System, select "FAT32" for Windows 9x or "NTFS" for NT
10. Select "SYSTEM SET" for system mode.
11. Press <F10> to make partition and exit.
12. Press <F10> to save and exit.
13. Power off computer without using Ctrl-Alt-Del.
14. Install and setup WIN9x/WIN NT as usual. Please note that partition has been created already by WatchDog. Do not recreate partition by Fdisk.
15. After all setup procedures are finished and installation is satisfied, reboot system and press <F3> to backup hard drive content.
16. Restart computer and press <F10> when "Starting Windows 9x" is displaying to enter the WatchDog setup screen.
17. Select "MANUAL" or "AUTOFIX" for system mode.
18. Press <F10> to save and exit.

Now, WatchDog protects your hard drive. If any data loss or crash to your hard drive, simply reboot the system and press <F4> to restore data from WatchDog backup partition. Press <F3> to Backup partition when other application has been installed.



## Frequently Asked Questions

### How come WatchDog always complain CMOS settings has been changed and restore CMOS settings?

Press and hold <PgDn> after CMOS post screen at boot. Use CMOS Analyze at WatchDog Setup Menu to re-evaluate CMOS settings to solve this situation.

### What if supervisor password of WatchDog setup menu is forgotten?

Please download and run "PASSWORD.EXE" from our download area. This program will display a corresponding code. From this code, we could provide a corresponding password to reset your WatchDog password to 1234567890. Because of security reason, we will ONLY provide this password code on dealers' request. We are sorry for any inconvenience.

### How WatchDog functions when installed at a network workstation?

WatchDog functions in each machine as a stand-alone. It's like you need a video card for each machine to run properly. After you have set your machines to your satisfaction working with network, install WatchDog and it will recover to this stage. WatchDog won't alter any network settings for your machine.

### What happened when WatchDog fail to work?

You can still boot your PC with the current hard drive, only without the WatchDog partition. If your WatchDog System Recovery Card is still under warranty, please visit the dealer and ask for replacement. Otherwise, you may have to buy a new one. All new version of WatchDog is backward compatible. Then, all you have to do is insert the replacement card back to the computer. No setup is necessary.

### How do I get upgrade?

All WatchDog System Recovery Cards model WD-004 and above equip with a FLASH EPROM. Upgrade is downloadable at our web site at <http://www.watchdogcard.com>. With registration at our web site, we will inform you upgrade availability during the warranty period (one year).