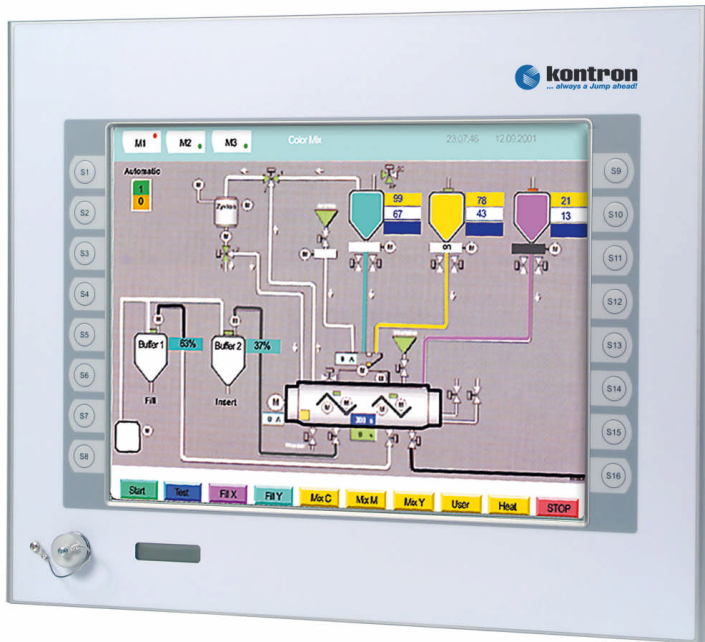![Kontron logo] **kontron**
... always a Jump ahead!

Business Panel
104 / 121 / 150 / 170 / 190

User Manual

BUSINESS PANEL

104 / 121 / 150 / 170 / 190

INDUSTRIAL MACHINE
CONTROL UNIT

USER MANUAL

Manual History

Date	Version	Changes
Mai. 2003	01	First edition
Jan. 2004	02	Kontron Logo, FCC Rules, Changing battery
May 2004	03	Redesign

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CE-CONFORMITY

The following requirements, standards, specifications constitute part of the declaration:

EN 55022 class A   EN 55024   EN 60950
EN 61000-3-2   EN 61000-3-3   EN 61000-6-2

The validation of this declaration depends on the properly use of the product.

FCC Class A Radio Frequency

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to 1/47 CFR Part 15.109 Class A of FCC rules. Operation is subject to the following two conditions:
1. This device may not cause harmful interference and
2. This device must accept any interference received, including interference that may cause undesired operation.

Test to Comply
With FCC Standards
For industrial use
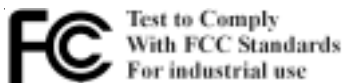
The limits of FCC Part15 class A are designed to provide reasonable protection against harmful interference in residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the

equipment off and on, the user is encouraged to try to correct the interference by more of one or more of the following measures:

1. Reorient or relocate the receiving antenna
2. Increase the separation between the equipment and receiver.
3. Connect the equipment into an outlet on a circuit different from that to which the receiver is connected
4. Consult the dealer or an experienced radio/television technican for help.

Notice1: The changes or modifications not expressly approved by the party responsible for compliance could void the user`s authority to operate the equipment.
Notice2: Shielded interface cables, if any, must be used in order to comply with emission limits.

Table of contents

1. IMPORTANT SAFETY INSTRUCTIONS

This section gives you detailed information about how to maintain a safe working environment while using the Business Panel. You can maintain its condition and performance by following these guidelines. Please read it carefully to ensure maximum safety.

Every time remove the power cords during assembling or removing any component.

The socket-outlet shall be installed near the Business Panel and easily accessible.

An approved power cord has to be used for the power supply of the Business Panel (see item check list).

While unplugging any cable from the Business Panel, disconnect it by the plug head, not by its wire.

Make sure the socket and any extension cords you may use can support the total current load of all the connected devices.

Place the power cord in such a way that people can not step on it. Do not place anything over the power cord.

Be careful about the power supply input voltage. The Business Panel has specific power requirements. (See item technical details)

Please prevent the computer from humidity.

Never pour any liquid into openings, this may cause fire or electrical shock.

Place the computer on a reliable surface when installing. A drop or fall may cause damage.

The opening on the enclosure are for air convection, protect the Business Panel from overheating.

⚠️ **DO NOT COVER THE OPENINGS**

Do not leave the Business Panel in an unconditional environment. Storage temperature above 60°C may damage the Business Panel.

If the Business Panel is not in use for a long time, disconnect it from mains to avoid possible damage by transient overvoltage.

Never open the power supply unit inside of the Business Panel. The appliance doesn't need any maintenance and in case of damage do not open the device.

Never open the body of the Business Panel. For safety reason, the Business Panel should only opened by qualified service staff.

Shut down the running software properly before remove the power cord of the Business Panel. Otherwise data could be lost.

If you had to open the housing of the Business Panel in service cases , all single parts of the plant must first be switched off, after which the Business Panel can be uncoupled from plant. Protect each part to switch on again during service.

Following service activities on the Business Panel could cause failures.

- Metal objects such as screws or tools fall into operating circuit boards.
- Internal cables are removed or inserted during operation.
- Plug-in cards are removed or inserted during the Business Panel is switched on.

All cautions and warnings on the Business Panel should be noted.

The system has to shut down and checked immediately by service staff, if one of the following situation appears:

- The power cord or plug is damaged.
- Liquid has penetrated into the Business Panel.
- The Business Panel has been exposed to moisture.
- The Business Panel has dropped and damaged.
- The Business Panel has obvious sign of breakage.
- The Business Panel has not worked well or you can not get it work according to users manual.

1.1 OPERATORS DUTIES

The operator is responsible to ensure that only trained electrical staff open the housing of the Business Panel.

The contents of these operating instructions must be known by every user of the Business Panel and by every technicians who installs, remove or opens the device.

1.2 THE USERS DUTIES

Every user of the Business Panel must have read these operating instructions. Although he must be familiar with any of the functions of the software installed on the Business Panel.

2. PRODUCT FEATURES

2.1 CPU (SLOT CPU)

- Intel® Pentium® III 600 MHz up to 1,4 GHz,
  Celeron 566MHz up to 1,2 GHz.
- Cache L2 up to 512KB depending Processor
- Intel® 815E Chipset
- Memory SODIMM 128MB up to 512MB
- Realtime clock backup 10 years
- AWARD® PnP Flash Bios 256KB
- Kontron BIOS Plug in
- Watchdog
- Powermanagement APM
- IrDA 1.0
- Systemmanagement temperature, power, fan, operating hours by BIOS.
- Intel® 815E graphic-BIOS
- Hardware monitoring by software

2.2 INTERFACES

- DVI (Digital Visual Interface) and RIIDM®
  (**K**ontron **I**ndustrial **I**nterface for **D**igital **M**onitoring) onboard.
- 2x USB 1.1 (at front side and bracket, optional 2x on bracket).
- 3x Serial RS-232C with FIFO, COM1 and COM2 standard I/O and IRQ, COM3 free selectable. 12V power requirement with polyfuse on Pin10.
- 1x external parallel interface, Centronics ECP and EPP with ChiProtection.
- Ethernet DUAL LAN 10/100 Base TX
  1x based on Intel® 82559ER, 1x based on Intel® 815E in conjunction with included CNR-card.
- 2x PCI Bus Master ports EIDE providing UDMA100, 44 pin connector to HDD and IDE DOM module.
- 1x external PS/2 Mini DIN connector for keyboard and mouse.
- 4slot ATX Backplane (2x PCI, 1x PCI used by CPU, 1x CNR)

2.3 DISPLAY

- ♦ TFT active matrix LCD
- ♦ 262144 colors
- ♦ 10", 12", 15", 17" and 19" display size
- ♦ Resolution :10": 640x480; 12": 800x600: 15": 1024x768: 17": 1280x1024
- ♦ Viewing angle hor. 140° vert. 90°
- ♦ Lightless 250 cd/m^2
- ♦ Video memory up to 13 MB shared with system memory.

2.4 PERIPHERALS

- ♦ Harddiskdrive 2,5" ≥ 20GB.
- ♦ ATX Power supply AC/DC autorange 115/230V.
- ♦ 3,5" inch. Floppy Disk Drive, 1,44MB.
- ♦ CD-ROM-drive Slim line.
- ♦ Touch keyboard on LCD.
- ♦ 16 additional function keys on front.
- ♦ Status readout on front by LCD for Post code and temperature.
- ♦ Embedded architecture longlife electronic components.
- ♦ Long term supply period up to 5 years with unrestricted system responsibility.

2.5 MECHANICS

- ♦ Shock and vibration tested.
- ♦ All connectors build for industrial standards.
- ♦ Front IP65 protected.
- ♦ Mechanic and electronic according to ISO9000:2000.
- ♦ Working temperature 5°-50°.
- ♦ Hardware developed by Kontron concerning for industrial use.

2.6 OPTIONS

- ♦ operating systems Microsoft MSDOS 6.22, Windows® 9x, XP, NT4.0, 2K or LINUX.
- ♦ Input power of 24 volts DC .
- ♦ 128 free programmable keys on front.
- ♦ RS422 or RS485 interface converter instead of RS232.
- ♦ RS232 poweradapter to provide DC power on connector.
- ♦ without floppy or CDROM drive
- ♦ Front USB
- ♦ Compact flash

3. APPROPRIATE USE

The main purpose of the Business Panel is the use and operation on public AC-power-sources according to delivered power cord. The use is restricted to voltages and frequencies which are usually supplied by the power companies of the European Community.

The surrounding area of the Business Panel are closed and dry rooms.

The Business Panel is intended for industrial applications in machine and plant control engineering.

The user is not entitled to change the system or open the body without consultation to Kontron.

4. SYSTEM

4.1 ITEM CHECKLIST

Your Business Panel comes securely packaged in a solid shipping carton. Upon receiving your computer, open the carton and carefully remove the contents.

The shipping carton should contain the following items:

- Business Panel Business Class 1254-xxx-xx
- This User Manual Business Panel
- Half-size SlotCPU support CD
- Power cord 2.5m
- PS/2-Y-adapter
- Software license if it is implemented

Carefully inspect each component to ensure that nothing is missing and/or damaged. If any of these items is missing or damaged, please contact Kontron immediately. Take care of the packing material for future transportation.

4.2 INSTALLATION

⚠️**Attention!**

The weight of the Business Panel **is about 12kg**
Carry it on with both hands!

The Business Panel of this type is developed to work in a control cabinet. Thereby it must be pointed that all the environmental conditions will be considered.

When installing the Business Panel take care that there is enough area for ventilations at front and rear side. For details go to item housing dimensions.

If your Business Panel was delivered without software install a keyboard and mouse.

If operating system and software is installed, the touch is working and calibrated.

Look up for further settings on item "BIOS configuration" or the "Quick Installation Guide" on Half-size SlotCPU support CD.

4.2.1 Safety instructions

Be aware that no power switch is included. Every time you connect the power cord the system starts running.

Connect only the delivered power cord or according with Business Panel and power socket.

Don't connect the power cord on Business Panel at witch you can find evident defects in housing.

Observe that only power will be connected according to the type label on the left top side.

The installation of the Business Panel must be done by a professional or qualified person to ensure the maximum of save handling, installation and function.

4.3 VIEW LEFT SIDE
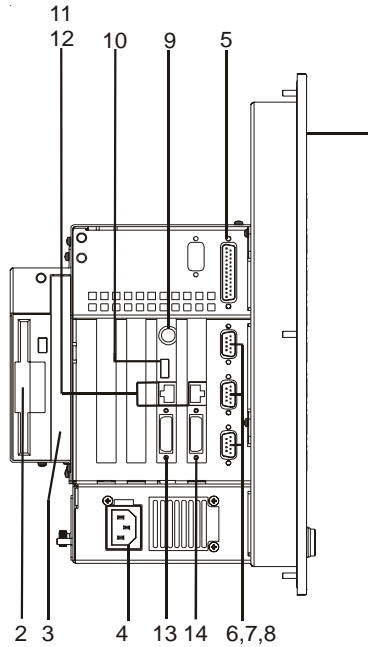
App. 4-1

4.3.1 LCD Display

10", 12", 15", 18" TFT Display *(1)* with Touch Panel and additional function keys

4.3.2 FDD

Floppy disk drive *(2)* 3,5 Inch. Accepts 720MB, 1.44MB floppy discs.

4.3.3 CDD Slimline

The CD-ROM-drive *(3)* allows you to load or start programs from a compact disc.

4.3.4 Power Supply

The main power supply unit *(4)* . No Power switch included. Details see chapter power supply.

4.3.5 LPT Port

Use this parallel port *(5)* to connect a printer or other parallel devices. It corre-
sponds to the IEEE 1284 standard and is addressed by the software as LPT1.

4.3.6 COM Port

Three serial ports *(6-8)* enables you connect a external device with 9 pin DSUB
connector such as mouse or modem. The fourth port is reserved for touch.

4.3.7 PS/2 Port

The PS/2 connector *(9)* allows you to use a PS/2-mouse and PS/2-keyboard.
Both can be connected at the same time via Y-PS/2-adapter.

4.3.8 USB Port

The first USB interface *(10)* provide the connection of any peripheral devices
with USB interface. The second USB interface is placed on the Front Panel.
(See chapter Front View)

4.3.9 LAN Port

This connectors provides an internal 10Base / 100Base-TX dual local area net-
work (LAN) *(11,12)* module. It could be used to connect your Business Panel
to other computers in the network.

4.3.10 DVI Port

This connector *(13)* supports digital and analog signals for VGA- and DVI-
Displays. To connect an VGA-monitor a special build DVI-VGA-adapter is needed.
(available at Kontron)

4.3.11 RIIDM Port (**Kontron I**ndustrial **I**nterface for **D**igital **M**onitoring)

This interface *(14)* is developed by Kontron, build out of a 26 pin HDSUB con-
nector, and provides tree functions. First a digital interface to transmit picture
data for digital monitors. Second a power interface to transmit power (5V/12V)
to the backlight and the main electronic of the monitor. Third a serial interface to
connect the touch screen implemented in the display.

4.4 FRONT VIEW
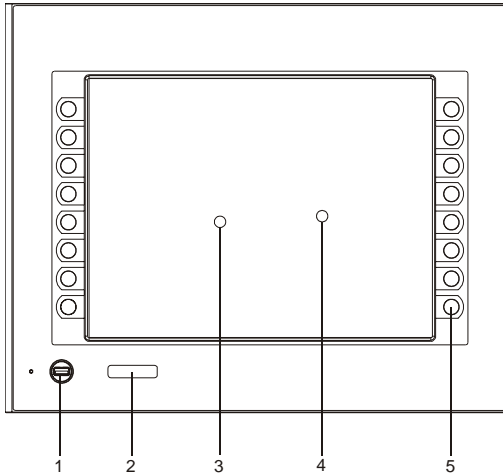
App. 4-2

4.4.1 USB Port

The second USB interface *(1)* provide the connection of any peripheral devices with USB interface. The first USB interface is placed on the left side. (See chapter View left side).

4.4.2 Status Display

Status readout *(2)* on front by LCD 4x7 for CPU CORE temperature while starting the hardware monitor. Optionally you could have the CPU Post code at boot.

4.4.4 LCD Display

Liquid crystal display *(3)* in the size of 10, 12, 15, 17 and 19 inch. Resolution up to 1280x1024 and color depth of 18 Bit.

4.4.5 Touch screen

In frontpanel integrated touch screen *(4)*. Activated by software (e.g. Windows or Linux) to provide mouse functions on display to control your application.

4.4.3 Function keys

Up to 128 special build user defined function keys *(5)*, witch could be programmed according USB keyboard functions.

4.5 VIEW BACKSIDE
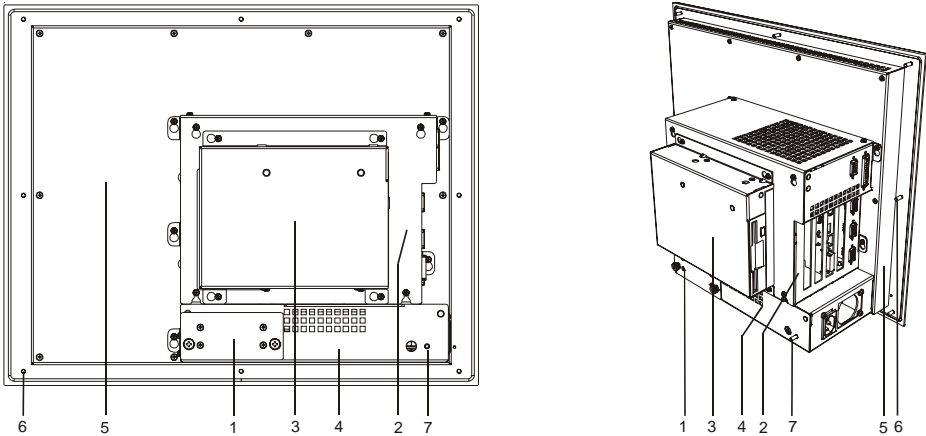
App. 4-3

4.5.1 Harddiskdrive and Compact flash plug in module

Two possible 2,5 " IDE Harddisk drives *(1)* to provide a maximum of flexibility of storage space. HDD could simple removed by opening the two screws on the backside . Optioal you could have here one compact flash card (details see chapter extensions and options).

4.5.2 Electronic backpack

Includes *(2)* the most important electronic devices like half size slot CPU, CNR-card, PCI-Backplane with 2 spare PCI slots and connectors for serial and paral-lel interfaces.

4.5.3 Drive backpack

Inside this case is mounted a floppy disk drive and a CDD disk drive *(3)*.
The Business Panel is also available without this option. (Details see chapter extensions and options).

4.5.4 Power supply

Mounted power supply (4) provides the main power sources.

4.5.5 LCD display

Display *(5)* size of 10, 12, 15, 17 and 19 inch.

4.5.6 Mounting Screws

The *(6)* Business Panel is designed to build in a chassis rag. The distance and value of the mounting bolts depends on the dimension 10",12",15", 17" and 19" of the display. Details see chapter housing dimensions.

4.5.7 Grounding point

Use this bold *(7)* to connect the complete system to ground level.

4.6 Changing CMOS Battery

In dependance to the normal lifetime and state of charge of the CMOS battery, it is necessary to change the Battery. Picture below shows how to do.
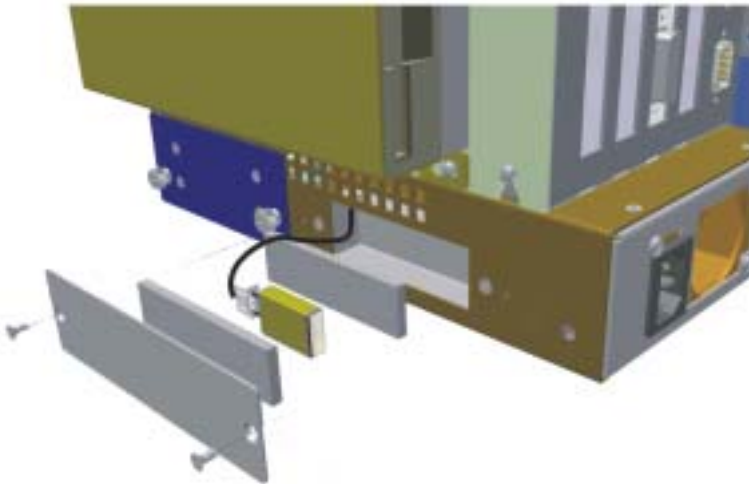
App. 4-4

4.7 POWER SUPPLY

4.7.1 AC/DC POWER SUPPLY

According to usual application the Business Panel is designed with a AC/DC power supply. The input plug is a standard inlet socket 10A/250V UL/CSA/VDE approved. Powerdetection 115-230 by autorange circuit. The power supply is selected to work in a plant. According to this the power supply has no power switch.
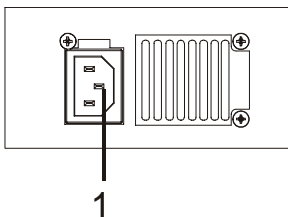
App. 4-5

Parameter	Min	Nom.	Max.	Unit
Input voltage (115VAC)	90	115	135	VAC
Input voltage (230VAC)	180	230	265	VAC
Output power	-	-	180	watt
Power consumption *	-	95	-	watt
Frequency	47	-	63	Hz

* Regular power consumption of Panel-EICS$^{®}$

4.7.2   DC/DC POWER SUPPLY 24V (OPTION)

Depending on the usage of the Business Panel in combination with a plant, it is necessary to work with input voltage of 24V provided by plant. The input plug is a 4 pin clamp block. The power supply has no power switch.

The installation of the input power cable must be done by a professional or trained technician.
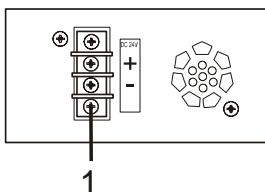
App. 4-6

Parameter	Min	Nom.	Max.	Unit
Input voltage DC	18	24	32	V
Output power	-	-	150	Watt
Power consumption *	-	95	-	Watt

* Regular power consumption of Panel-EICS$^{®}$

5.   AWARD BIOS CONFIGURATION

The system BIOS (Basic Input Output System) provides an interface between the operating system and the hardware of the Half Size Slot CPU. The interface provided by AWARD is compatible with the nonindustrial PCs. The Half Size Slot CPU uses the AWARD Setup program, a setup utility in flash memory that is accessed by pressing the DELETE key at the appropriate time during system boot . This utility is used to set configuration data in CMOS.

5.1. Main menu

CMOS Setup Utility – Copyright (C) 1984 – 2001 Award Software	
Standard CMOS Features	PC Health Status
Advanced BIOS Features	Frequency-/Voltage Control
Advanced Chipset Features	Load Fail-Safe Defaults
Integrated Peripherals	Load Optimized Defaults
Special OEM Features	Set Password
Power Management Setup	Save & Exit Setup
PnP/PCI Configuration	Exit Without Saving
ESC : QUIT	↑ ↓ → ← **Select Item**
F10 : Save & Exit Setup	
Time, Date, Hard Disk Type….	

5.1.1 Standard CMOS Features

The Standard CMOS feature setup includes all the settings of a standard AT-compatible BIOS (date, time, hard disk type, video adapter type, memory...).

```
CMOS Setup Utility – Copyright ( C )  1984 – 2001  Award Software
                      Standard CMOS Features
Date (mm:dd:yy)              Enter Date          
                                                    Item help
Time (hh:mm:ss)              xx:xx:xx            
                                                 Menu Level >
> IDE Primary Master         [ Auto ]
> IDE Primary Slave          [ None ]
> IDE Secondary Master       [ None ]
> IDE Secondary Slave        [ None ]

 Drive A                     [1.44M, 3.5 in.]

 Video                       [EGA/VGA]
 Halt On                     [All, But Keyboard]

 Base Memory                     xxxK
 Extended Memory                 xxxxxxxK
 Total Memory                    xxxxxxxK
```

<u>Options:</u>

Date (mm:dd:yy)	(XXXXX)	*Enter date*
Time (hh:mm:ss)	(XXXXX)	*Enter time*
I**DE Primary Master**	(XXXXX)	*See Capt.. 5.1.1.1 Submenu IDE Drives*
IDE Primary Slave	(XXXXX)	*See Capt.. 5.1.1.1 Submenu IDE Drives*
IDE Secondary Master	(XXXXX)	*See Capt.. 5.1.1.1 Submenu IDE Drives*
IDE Secondary Slave	(XXXXX)	*See Capt.. 5.1.1.1 Submenu IDE Drives*
Drive A	None - 360K - 1.2MB - 720K - 1,44MB - 2.88MB	
Video	EGA/VGA - CGA40 - CGA80 - MONO	
Halt on	All Errors - No Errors - All, but Keyboard - All,but Diskette All,but Disk/Key.	

5.1.1.1 Submenu IDE Drives

```
CMOS Setup Utility – Copyright ( C ) 1984 – 2001  Award Software
                          IDE Primary Master
```

IDE HDD Auto-Detection	Press Enter	Item help
IDE Primary Master	AUTO	
Access Mode	AUTO	Menu Level >
Capacity	XXXX	
Cylinder	XXXX	
Head	XXXX	
Precomp	XXXX	
Landing Zone	XXXX	
Sector	XXXX	

Options:

IDE HDD Auto-Detection *(Press Enter)* (Enabled)

IDE XXX XXX None - AUTO -Manual

Access Mode CHS -LBA -Large - AUTO

Below this you can find the values capacity, cylinder, head, precomp, landing zone, and sector of the detected harddisk drive

5.1.2 Advanced BIOS Features

This Setup page includes all the items of AWARD's special enhanced features. The user can change system related parameters.

```
CMOS Setup Utility – Copyright ( C )  1984 – 2001  Award Software
                     Advanced BIOS Features

                                                        Item help
Virus Warning                   : Enabled
CPU Internal Cache              : Enabled
External Cache                  : Enabled
CPU L2 Cache ECC Checking       : Enabled         Menu Level >
Quick Power On Self Test        : Enabled
First Boot device               : Floppy
Second Boot device              : HDD-0
Third Boot device               : CDROM
Boot other devices              : Disabled
Swap Floppy Drive               : Disabled
Boot up Floppy Seek             : Disabled
Boot up NumLock Status          : ON
Gate A20 Options                : Normal
Typematic Rate Setting          : Disabled
Typematic Rate (chars/sec.)     : 6
Typematic Delay (Msec)          : 250
Security Option                 : Setup
OS Select for DRAM > 64MB       : Non-OS2
Report No FDD for Win95         : YES
Full Screen LOGO Show           : Enabled
```

Options:

Virus Warning	Enabled - Disabled
CPU Internal Cache	Disabled - Enabled
External Cache	Disabled - Enabled
CPU L2 Cache ECC Checking	Enabled -Disabled
Quick Power On Self Test	Disabled - Enabled
First Boot device	Floppy - LS120 - HDD0 - SCSI - CDROM - HDD1 - HDD2- HDD3 - LAN - ZIP100 -USB/FDD- USB/ZIP - Disabled

Second Boot device	Floppy - LS120 - HDD0 - SCSI - CDROM - HDD1 -HDD2- HDD3 - LAN - ZIP100 -USB/FDD- USB/ZIP - Disabled
Third Boot device	Floppy - LS120 - HDD0 - SCSI - CDROM - HDD1 -HDD2- HDD3 - LAN - ZIP100 -USB/FDD- USB/ZIP - Disabled
Boot other device	Disabled - Enabled
Swap Floppy Drive	Disabled - Enabled
Boot up Floppy Seek	Disabled - Enabled
Boot up NumLock Status	Off - On
Gate A20 Options	Normal - Fast
Typematic Rate Setting	Disabled - Enabled
Typematic Rate (Chars/Sec)	6- 8 - 10 - 12 - 15 - 20 - 24 - 30
Typematic Delay (Msec)	250 - 500 - 750 - 1000
Security Option	Setup - System
OS Select for DRAM > 64MB	Non -OS2 - OS2
Report no FDD for WIN95	No -Yes
Full Screen Logo Show	Disabled - Enabled

5.1.3 Advanced Chipset Features

This section allows you to configure the system based on the specific features of the installed chipset. This chipset controls bus speeds and access to system memory resources, such as DRAM and the external cache. It also coordinates communications between the conventional ISA bus and the PCI bus.

```
CMOS Setup Utility – Copyright ( C ) 1984 – 2001  Award Software
                     Advanced Chipset Features
┌───────────────────────────────────────────────┬──────────────┐
│ SDRAM CAS Latency Time          : 3            │   Item help  │
│ SDRAM Cycle Time (Tras/Trc)     : AUTO         │              │
│ SDRAM RAS-to-CAS Delay          : AUTO         │ Menu Level > │
│ SDRAM RAS Precharge Time        : AUTO         │              │
│ System BIOS Cacheable           : Enabled      │              │
│ Video BIOS Cacheable            : Enabled      │              │
│ Memory Hole At 15M–16M          : Disabled     │              │
│ CPU Latency Timer               : Enabled      │              │
│ Delayed Transaction             : Enabled      │              │
│ AGP Grafics Aperture Size (MB)  : 64MB         │              │
│ Power-Supply Type               : ATX          │              │
└───────────────────────────────────────────────┴──────────────┘
```

Options:

SDRAM CAS Latency Time	2- 3
SDRAM Cycle Time (Tras/Trc)	7/9 - 5/7 - AUTO
SDRAM RAS-to-CAS Delay	3 -2 - AUTO
SDRAM RAS Precharge Time	3 -2 - AUTO
System BIOS Cachable	Disabled -Enabled
Video BIOS Cachable	Disabled -Enabled
Memory Hole at 15M-16M	Enabled - Disabled
CPU Latency Timer	Disabled -Enabled
Delayed Transaction	Disabled -Enabled
AGP Graphics Aperture Size (MB)	64 - 32
Power Supply Type	AT -ATX

5.1.4 Integrated Peripherals

Input and output subsystems that depends on the integrated peripherals controller in your system

CMOS Setup Utility – Copyright (C) 1984 – 2001 Award Software Integrated Peripherals		
On-Chip Primary PCI IDE	: Enabled	Item help
On-Chip Secondary PCI IDE	: Enabled	
IDE Primary Master PIO	: Auto	Menu Level >
IDE Primary Slave PIO	: Auto	
IDE Secondary Master PIO	: Auto	
IDE Secondary Slave PIO	: Auto	
IDE Primary Master UDMA	: Disabled	
IDE Primary Slave UDMA	: Disabled	
IDE Secondary Master UDMA	: Disabled	
IDE Secondary Slave UDMA	: Disabled	
USB Controller	: Enabled	
USB Keyboard Support	: Disabled	
Init Display First	: PCI Slot	
AC97 Audio	: Disabled	
AC97 Modem	: Disabled	
IDE HDD Block Mode	: Enabled	
Power On Function	: BUTTON ONLY	
Onboard FDC Controller	: Enabled	
Onboard Serial Port 1	: 3F8 / IRQ4	
Onboard Serial Port 2	: 2F8 / IRQ3	
UART Mode Select	: Normal	
UR2 Duplex Mode	: Half	
TxD, RxD Polarity Active	: Lo, Hi	
Use IR Pins	: IR-Rx2Tx2	
Onboard Parallel Port	: 378 / IRQ7	
Parallel Port Mode	: Printer	
ECP Mode Use DMA	: 3	
Onboard Serial Port 3	: 3E8	
Serial Port 3 Use IRQ	: IRQ10	
Onboard Serial Port 4	: 2E8	
Serial Port 4 Use IRQ	: IRQ11	

Options:

On-Chip Primary PCI IDE	Disabled -Enabled
On-Chip secondary PCI IDE	Disabled -Enabled
IDE Primary Master PIO	Auto - Mode0 - Mode1 - Mode2 - Mode3 - Mode4
IDE Primary Slave PIO	Auto - Mode0 - Mode1 - Mode2 - Mode3 - Mode4
IDE Secondary Master PIO	Auto - Mode0 - Mode1 - Mode2 - Mode3 - Mode4
IDE Secondary Slave PIO	Auto - Mode0 - Mode1 - Mode2 - Mode3 - Mode4
IDE Primary Master UDMA	Auto - Disabled
IDE Primary Slave UDMA	Auto - Disabled
IDE Secondary Master UDMA	Auto - Disabled
IDE Secondary Slave UDMA	Auto - Disabled
USB controller	Enabled- Disabled
USB Keyboard Support	Disabled -Enabled
Init Display first	PCI Slot - AGP
AC97 Audio	Auto - Disabled
AC97 Modem	Auto - Disabled
IDE HDD Block mode	Disabled - Enabled-
Power on Function	Any key - Button only
Onboard FDC controller	Disabled - Enabled
Onboard Serial Port 1	Disabled - 3F8 / IRQ4 - 2F8 / IRQ3 - 3E8 / IRQ4 - 2E8 / IRQ3
Onboard Serial Port 2	Disabled - 3F8 / IRQ4 - 2F8 / IRQ3 - 3E8 / IRQ4 - 2E8 / IRQ3
UART Mode Select	Normal - IrDA - ASK/ IR
UR2 Duplex Mode	Full - Half
TxD, RxD Polarity active	Hi,Hi - Hi,Lo - Lo,Hi - Lo,Lo
Use IR Pins	RxD2,TxD2 - IR-Rx2Tx2
Onboard Parallel Port	Disabled - 378 / IRQ7 - 278 / IRQ5 - 3BC / IRQ7
Parallel Port Mode	SPP - EPP1.9+SPP - ECP - EPP1.9+ECP - EPP1.7+SPP - EPP1.7+ECP - Printer
ECP Mode Use DMA	3 - 1
Onboard Serial Port 3	Disabled - 3F8 - 2F8 - 2E8 - 3E8

Serial Port 3 Use IRQ	IRQ10- IRQ11 - IRQ3 - IRQ4
Onboard Serial Port 4	Disabled - 3F8 - 2F8 - 3E8 - 2E8
Serial Port 4 Use IRQ	IRQ10 - IRQ11- IRQ3 - IRQ4

5.1.5 Special OEM Features

This setup page could be used to sets special OEM Adjustments

CMOS Setup Utility – Copyright (C) 1984 – 2001 Award Software Special OEM Features		
Watchdog Timer	Disabled	Item help
Watchdog Timeout active for		
WDT Timeout [sec]		Menu Level >
WDT Timeout [min]		

Options:

Watchdog Timer	Enable - Disable
Watchdog Timeout active for	NMI - Reset
WDT Timeout (sec)	0 - 59
WDT Timeout (sec)	0 - 13

• Power Management Setup

5.1.6 **Power Management**

This page allows the user to modify the power management parameters .

```
CMOS Setup Utility – Copyright ( C ) 1984 – 2001  Award Software
                        Power Management
```

Power Management	User define	Item help
Video Off Method	V/H SYNC + Blank	
Video Off in Suspend	YES	Menu Level >
Suspend Type	Stop Grant	
MODEM Use IRQ	NA	
Suspend Mode	Disabled	
HDD Power Down	Disabled	
Soft-Off by PWR-BTN	Instant Off	
Power On by Ring	Disabled	
Resume by Alarm	Disabled	
Date (of month) Alarm	Xxxx	
Time (hh:mm:ss) Alarm	Xxxx	
** *Reload Global Timer Events* **		
Primary IDE 0	Disabled	
Primary IDE 1	Disabled	
Secondary IDE 0	Disabled	
Secondary IDE 1	Disabled	
FDD, COM, LPT Port	Disabled	
PCI PIRQ [A-D]#	Disabled	

Options:

Power Management	User define - Min saving - max saving
Video off method	Blank screen - V/H Sync+Blank - DPMS
Video off in suspend	No - Yes
Suspend type	Stop Grant - PWRON/ Suspend
Modem use IRQ	NA - 3 - 4 - 5 - 7 - 9 - 10 -11
Suspend mode	Disabled - 1..60 min
HDD Power Down	Disabled - 1..15 min
Soft-off by PWR-Btn	Instand-off - Delay 4sec.
Power On by ring	Disabled - Enabled
Resume by alarm	Disabled - Enabled

| Date (of month) alarm | XXXXX |
| Time (hh:mm:ss) alarm | XXXXX |

* * Reload Global Timer Events * *

Primary IDE 0	Disabled - Enabled
Primary IDE 1	Disabled - Enabled
Secondary IDE 0	Disabled - Enabled
Secondary IDE 1	Disabled - Enabled
FDD, COM, LPT Port	Disabled - Enabled
PCI PIRQ (A-D)#	Disabled - Enabled

5.1.7 PnP/PCI Configuration

This Setup page is used to sets plug and play and PCI configuration options.

```
CMOS Setup Utility – Copyright ( C ) 1984 – 2001 Award Software
                         PnP / PCI Configuration
PnP OS installed           : NO              Item help
Reset Configuration Data   : Disabled
Resources Controlled by    : Auto (ESCD)     Menu Level >
IRQ Resources              [Press Enter]
DMA Resources              [Press Enter]
PCI / VGA Palette Snoop    : Disabled
```

Options:

PNP OS installed	No- Yes
Reset configuration data	Disabled - Enabled
Resources controlled by	Auto/ ESCD - Manual
IRQ Resources	Press ENTER

IRQ 3 assigned to	PCI/ISA PNP - Legacy ISA
IRQ 4 assigned to	PCI/ISA PNP - Legacy ISA
IRQ 5 assigned to	PCI/ISA PNP - Legacy ISA
IRQ 7 assigned to	PCI/ISA PNP - Legacy ISA
IRQ 9 assigned to	PCI/ISA PNP - Legacy ISA
IRQ 10 assigned to	PCI/ISA PNP - Legacy ISA
IRQ 11 assigned to	PCI/ISA PNP - Legacy ISA
IRQ 12 assigned to	PCI/ISA PNP - Legacy ISA
IRQ 14 assigned to	PCI/ISA PNP - Legacy ISA
IRQ 15 assigned to	PCI/ISA PNP - Legacy ISA
DMA Resources	Press ENTER
DMA-0 assigned to	PCI/ISA PNP - Legacy ISA
DMA-1 assigned to	PCI/ISA PNP - Legacy ISA
DMA-3 assigned to	PCI/ISA PNP - Legacy ISA
DMA-5 assigned to	PCI/ISA PNP - Legacy ISA
DMA-6 assigned to	PCI/ISA PNP - Legacy ISA
DMA-7 assigned to	PCI/ISA PNP - Legacy ISA
PCI/VGA Palette Snoop	Disabled - Enabled

5.1.8 PC-Health Status

This setup page displays the actual CPU environment parameters and allows the user to set some environmental parameters.

```
 C M O S   S e t u p   U t i l i t y  –  C o p y r i g h t  ( C )  1 9 8 4  –  2 0 0 1   A w a r d   S o f t w a r e
                                    P C   H e a l t h   S t a t u s
 Thermal Throttle Duty Cycle        Default              Item help
 CPU Warning Temperature            65°C
 Chassis Warning Temperature        50°C            Menu Level >
 Current CPU Temperature            XXXX
 Current Board Temperature          XXXX
 Current CPUFAN1 Speed              XXXX
 Current Chass. Temperature         XXXX
 Control ChassisFAN1 Speed          255
 Current ChassisFAN1 Speed          XXXX
 Current ChassisFAN2 Speed          XXXX
 Vcore (V)                          XXXX
 +2.5V (V)                          XXXX
 +3.3V (V)                          XXXX
 +5V (V)                            XXXX
 +12V (V)                           XXXX
 +3.3V Standby (V)                  XXXX
 +5V Standby (V)                    XXXX
 +5V ATX-Standby (V)                XXXX
 -5V (V)                            XXXX
 -12V (V)                           XXXX

 PIC Revision                       XXXX
 Oper. Timecounter [hour]           XXXX
 Oper. Timecounter [year]           XXXX
```

Options:

Thermal Throttle Duty Cycle	Default - 87.5% - 75.0% - 62.5% - 50.0% - 37.5% - 25.0% - 12.5%
CPU Warning Temperature	30°C - 100°C
Chassis Warning Temperature	20°C - 100°C
Control Chassis FAN1 Speed	0 - 255

6.   SOFTWARE INSTALLATION

6.1   APPLICATION SOFTWARE AND OPERATING SYSTEM

The Business Panel is designed to work with different operating systems. If your system was delivered with operating system all the drivers for hardware are installed. If your Business Panel was delivered without operating system you could enter and display BIOS settings. To install operating system and application software follow the installation instructions

6.2 HARDWARE DRIVERS

To get full function of Business Panel at different operating systems it is necessary to install drivers for the implemented hardware. All the drivers are stored on the provided half-size-slot-CPU support CD. Drivers also available at the online support at **http://www.kontron.com**.

To install drivers from CD, put the CDROM in CDD Drive. If your operating system supports the autostart function the software will start automatically. If not look for hint in root directory. After this choose your operating system and the unit to load the driver.

If you need additional help please contact Kontron customer service.

7.   EXTENSION AND OPTIONS

7.1   EXTENSION

To enhance the functions of the Business Panel it is possible to install two additional PCI devices to the slots of the backplane. Please pay attention to the main power supply total output power.

To mount one new PCI device open the cover of the electronic backpack. Remove the spare slot plate and install the PCI device in the card slot. Screw the PCI device together with chassis, and close the cover.

Please note, every time you open the Business Panel work on a antistatic save environment.

Spare PCI Slots
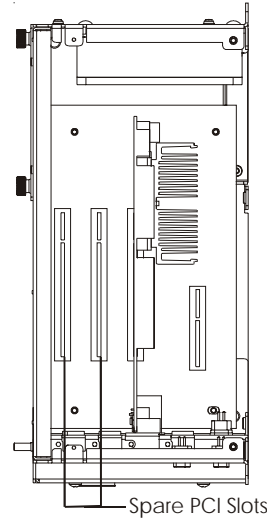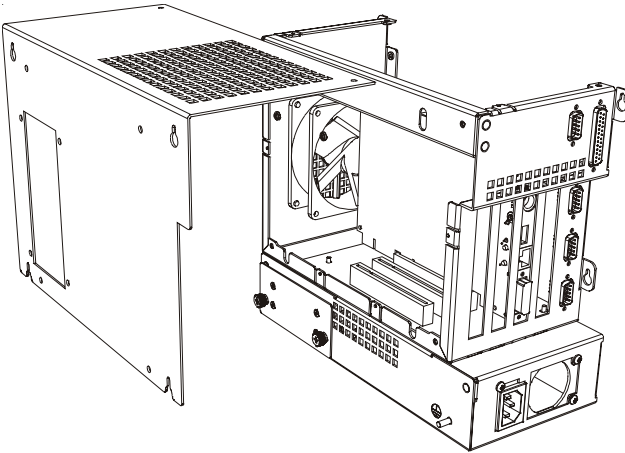
App. 7-1

7.2 OPTIONS

The Business Panel is constructed in modular architecture. This gives you the possibility to change the basic configuration of the system.

Possible Options:

- ◆ Floppy disk drive
- ◆ CDD Drive
- ◆ Drive backpack
- ◆ Compact Flash
- ◆ Main power supply 115/230VAC
  or 24 VDC
- ◆ Display size 10", 12", 15", 17" and 19"
- ◆ DVI-VGA adapter
- ◆ USB connector on Front
- ◆ Status readout on front by LCD
- ◆ Function keys on front.
- ◆ Different HDD, memory an CPU size
- ◆ Splitted Display from main electronic
  up to 5m

For more information please contact Kontron sales department:
sales@kontron.com

8.   MAINTENANCE

The Business Panel is designed and produced under rules of DIN EN ISO 9000 :2000. One of the main development intentions was to reduce the terms of service. As a result, with exception of cleaning and changing CMOS Battery, no great service is to do.

In case off any error kindly note the remarks below.

To analyze the error please check first all connections and configuration of the software. Do not open the Business Panel. Don't try to repair the hardware inside.

⚠️ **No warranty after unqualified engagement**

8.1 CUSTOMER SERVICE

To get more technical information and help depending errors on the Business Panel please contact Kontron customer service.

> **Phone:**   **+49 (0)94 61 950-104 or -102**
> **FAX:**   **+49 (0)94 61 950-200**
> **E-Mail:**   **service @ kontron.com**

8.2   CLEANING

To clean the surface of the Business Panel use a soft lintfree cloth. It should be slightly moisted with a mild detergent solution or any computer cleaning kit.

Never use alcohol, petroleum-based solvents or aggressive agents to clean the Business Panel. Also never poor any liquids directly in the Business Panel.

To clean the liquid-crystal display (LCD) screen use soft clean lintfree cloth, moisted with a mild glass cleaner, and gently wipe the surface. Never apply liquids directly on the screen surface. Do not use paper towels to clean the display screen. Paper can scratch the display touch film.

8.3 RETURN AND REPAIR

Kontron Embedded Computers GmbH has started a service management system according DIN EN ISO 9001:2000 to reduce the terms of repair. This provides a fast, high quality and effective repair.

8.3.1 Return Material Authorization Numbers (RMA)

Before send back the defective device please follow the hints below then request a RMA number by Kontron customer service.

- Return only Kontron product specified on the RMA request.

- Request a separate new RMA number for each Kontron product.

- If we receive a shipment containing not authorized products, we may send it back.

- Please check before requesting an RMA number if there is a real defect on the system. If not we could charge the costs for handling.

To request a RMA number fill out the form „Fault report" and send him to Kontron customer support. You can get the form as a download on http://www.kontron.com. For additional questions please contact the customer service by fax or E-Mail.

Fill out all the menu items on the form and send it to Kontron by FAX or online.

Describe the error detailed as possible. A detailed report is a base for a fast and effective analyze of errors and repair.

After getting back the "Fault report" send the defect device, including the fault report and your delivery note, to the following address.

Kontron Embedded Computers GmbH
Warenannahme Service
Werner-von-Siemens-Str. 1
D-93426 Roding

8.3.2 Packaging

To return a system use the origin Kontron or equivalent packaging. Parts or components of the system must be returned in anti-static-bags.

Always enclose a copy of original delivery note and the fault report.

Kontron is not responsible for damage during shipment. We recommend you to insure the shipment.

	Fault Report	**RMA Nr.**

Fault Report

Company: _____ Date: _____

Contact : _____ Email: _____

Address: _____

Phone: _____ Fax: _____

Hint: _____

| **Device description**	**Delivery Items**

Designation: _____ Delivery note number: _____

ROI-Article-No. : _____ Delivery note date _____

Serial number: _____

Operating System: _____ Version: _____

For return single system components please note system serial number: _____

Detailed error description (please fill out in type characters)

Error detected: ☐ always   ☐ sporadically   ☐ in constellation with: _____

_____

_____

_____

_____

_____

Delivery to: Kontron Embedded Computers GmbH, Werner-von-Siemens Strasse1,
93426 RODING, Wareneingang Service

App. 8-1

9. TECHNICAL DETAILS
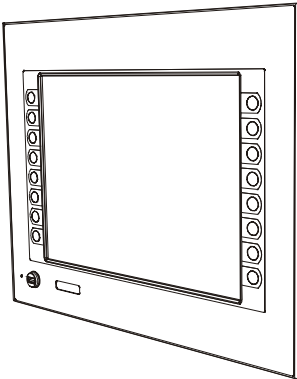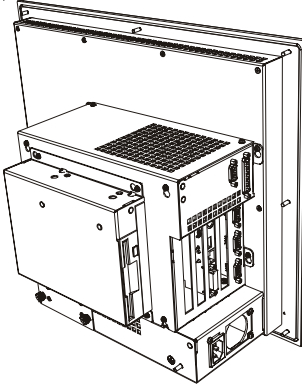

- zinc plated surface

- Front main color RAL 26090005

- Weight approx. 12kg

- dimensions 452 x 362 x 195 mm
  (Details see housing dimensions)

- Vibration tested EN 60068-2-6
  operation: 10....150Hz > 1G

- Shock tested EN 60068-2-27
  in operation: 15G

- EMC-emission EN 55011 class A

- Immunity level EN 61000-6-2

- operation temperature ratings:
  5 - 45 °C

- Storage temperature ratings:
  -20 - +60 °C

App. 9-1

9.1 HOUSING DIMENSIONS

9.1.1 ALL CHASSIS
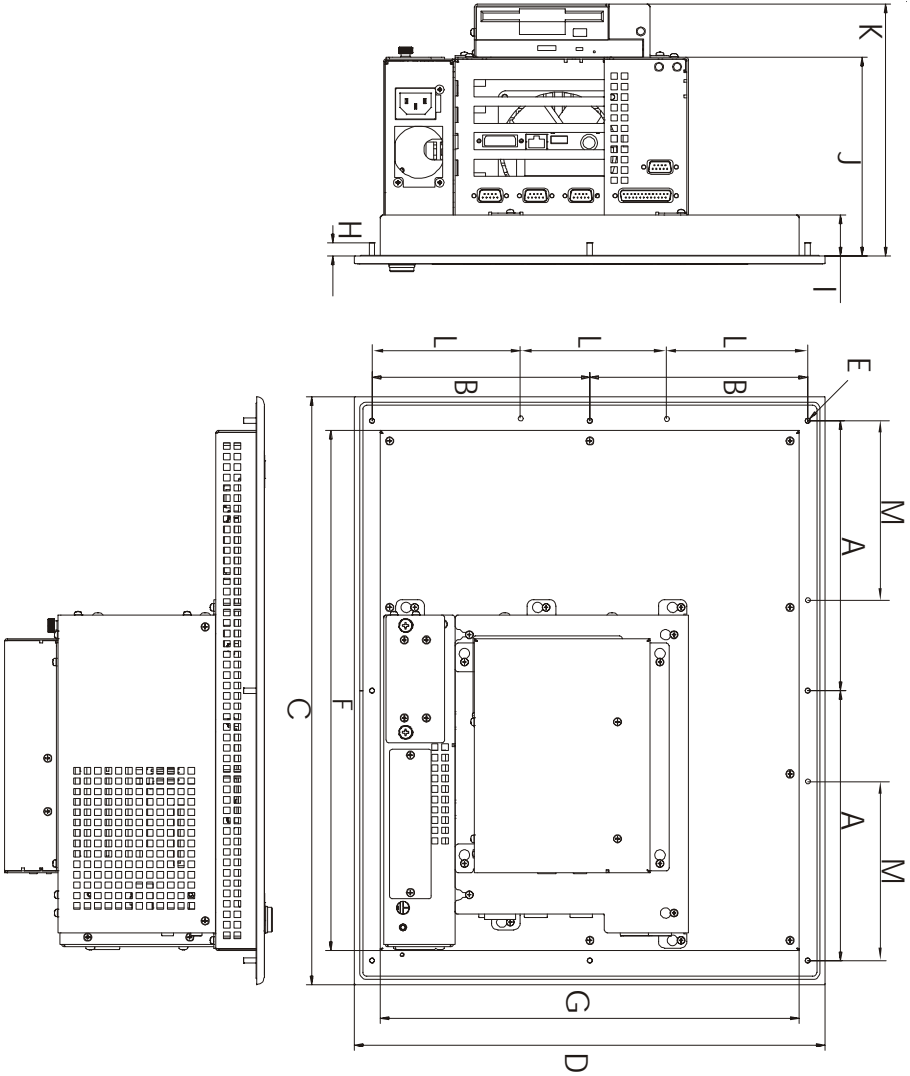
App. 9-2

System type	A	B	C	D	E	F	G	H	I	J	K	L	M
10.4" Business Panel	144.0	134.0	325.0	295.0	M4	270.0	250.0	10	31.3	152.6	193.6	-	-
12.1" Business Panel	181.5	149.7	400.0	326.5	M4	350.5	287.0	10	31.3	152.6	193.6	-	-
15" Business Panel	207.5	167.5	452.0	362.0	M4	400.0	322.5	10	31.3	152.6	193.6	-	-
17" Business Panel	-	-	465.0	390.0	M4	410.0	346.0	10	43.0	164.3	205.3	121.0	142.7
19" Business Panel	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

*all values in mm

10. DISPOSAL

In order to dispose a Business Panel, it must be removed from the plant and fully dismantled. Electronic part such as disc drives and circuit boards must be disposed of in accordance with national electronic scrap regulations.

For details ask your local waste disposal department.

11. APPENDIX

ILLUSTRATION CONTENTS