PA-2400

Hardware Manual

(Version 1.00)

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Casio Computer Co., Ltd.

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1. Overview

This manual describes the hardware specifications of the H/PC (PA-2400). It uses the Windows CE US Ver2.0 operating system.

The Casio PA-2400 is the next model up from the PA-2100 (CASSIOPEIA Pen Version operating under Japanese-language OS Ver1.01) .
This H/PC has been developed for overseas markets. It has pen input capability and is based on the CASSIOPEIA Key Version, which is the generic consumer model that is similar to the Japanese-language Ver1.01 model.
This manual describes the hardware specifications of the H/PC (PA-2400) which uses the Windows CE operating system.
(Windows is a registered trademark of Microsoft Corporation in United States and/or other countries.)

1.1 Features

This H/PC has the Windows CE US Ver2.0 open-platform OS pre-installed.

Table 1.1 Differences from Ver1.01

Item		Windows CE Ver2.0	Windows CE Ver1.01
1	OS environment	Network compatible * Print function added Sound and backlight controllable from OS	
2	Font	True type font	MS gothic
3	Concurrent use of multiple cards	Concurrent use of Compact Flash and PC Card (SRAM, ATA) (Storage Card and Storage Card2) First card inserted is identified as the Storage Card. If two cards are inserted simultaneously, CF is identified as the Storage Card.	Can not be used concurrently Substituted by a system that uses a Linear Flash Card
4	Application	Enhanced Pocket Word, Excel, IE, etc. Pocket PowerPoint Inbox with file attachment capability Enhanced Pocket Office (Zoom capability, etc., added) Enhanced Pocket Outlook (Ink capability, etc., added)	Pocket Word, Excel, etc.
5	Expandable Memory	Expandable to 43 MB maximum (Main memory: 8 MB/CF: 15 MB /ATA: 20 MB)	Expandable to 28 MB maximum (Main memory:8 MB/ ATA: 20 MB)
6	AP development environment	Visual C++ Ver5.0 and Windows CE SDK , Visual Basic Ver5.0, or Visual J++ Ver1.1	Visual C++ Ver5.0 and Windows CE SDK

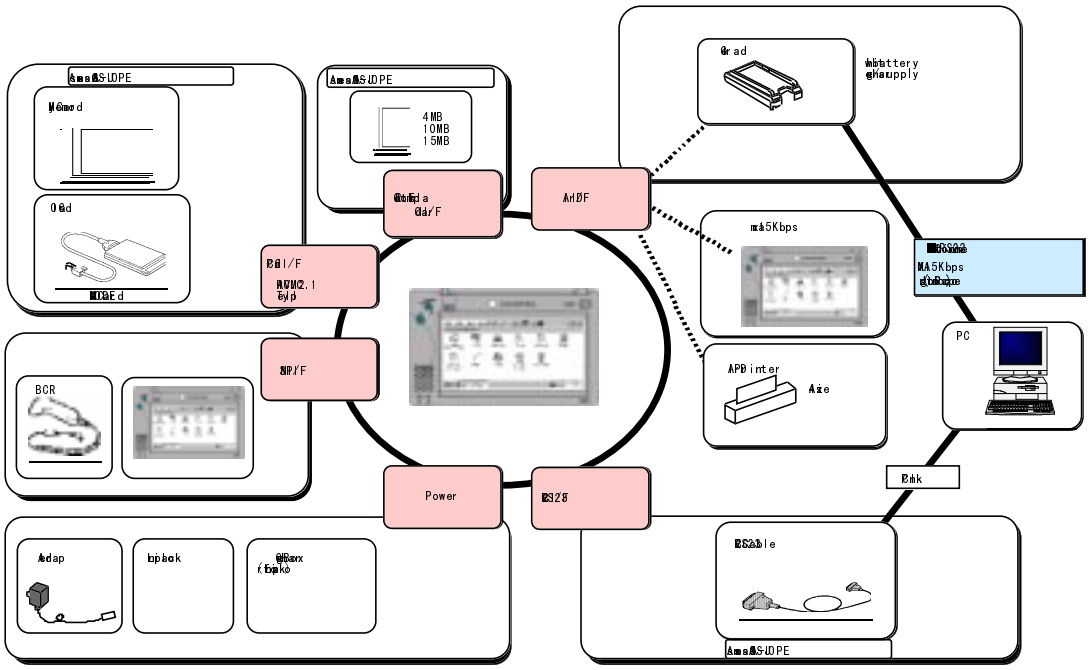
Note:

* LAN Card is available.

2. System Configuration

2.1 System Block Diagram

Fig. 2.1 System Block Diagram



2.2 Available Model

Table 2.1 Available Model

Model	Memory Size			Remark
	DRAM	Mask ROM	FROM	
PA-2400	8 MB	16 MB (OS: 8 MB x 2)	-	Pen version

2.3 Options

Table 2.2 List of Options

Option	Model	Description	Remark
I/O Box (Master)	PA-2110IF-E	IrDA - SCSI conversion	Based on DT-860IO-E
I/O Box (Satellite)	PA-2111IF-E	IrDA - RS-232C conversion	Based on DT-860IO-E
Battery pack (720 mA/H)	PA-2020LI	Lithium-ion rechargeable battery pack	
Dual recharger	PA-2040DCHG-E	Recharges the battery pack.	New product
AC adaptor	AD-C50200-U	for PA-2400	AC input : 120V
	AD-C50200-G	for PA-2400	AC input : 230V
	DT-825ADP-U	for Satellite/Master I/O Boxes	AC input : 120V
	DT-825ADP-G	for Satellite/Master I/O Boxes	AC input : 230V
PC connection cable	TPX1375-010100 (no. 33356594)	RS-232C cross-type cable	To be supplied with PA-2400.
3-pin cable	SB-62	For connecting Casio digital camera and an existing model	Existing product
3-pin BCR	BR-100	Pen scanner	Existing product
CF card adapter	CF-AD1-S	CF to PCMCIA conversion	New product
I/O Box daisy-chain connection cable	DT-888RSC	RS-422	Common to DT-860IO-E
I/O Box cable	DT-882RSC	RS-232C cross-type (9-pin female to 25-pin male)	Common to DT-860IO-E
	DT-883RSC	RS-232C cross-type (9-pin female to 25-pin female)	Common to DT-860IO-E
	DT-887AX	RS-232C cross-type (9-pin female to 9-pin female)	Common to DT-860IO-E
	SB-751HF	SCSI cable between PA-2110IF-E and PC	
	SB-752HF	SCSI cable between PA-2110IF-E and PC	
	SB-753HP	SCSI cable between PA-2110IF-E and PC	
IrDA printer	HP Laser Jet 6Pse	Laser jet printer	available from Hewlett Packard

DT-860IO-E : I/O Box for Casio Handy Terminals DT-800 and DT-800M50RC

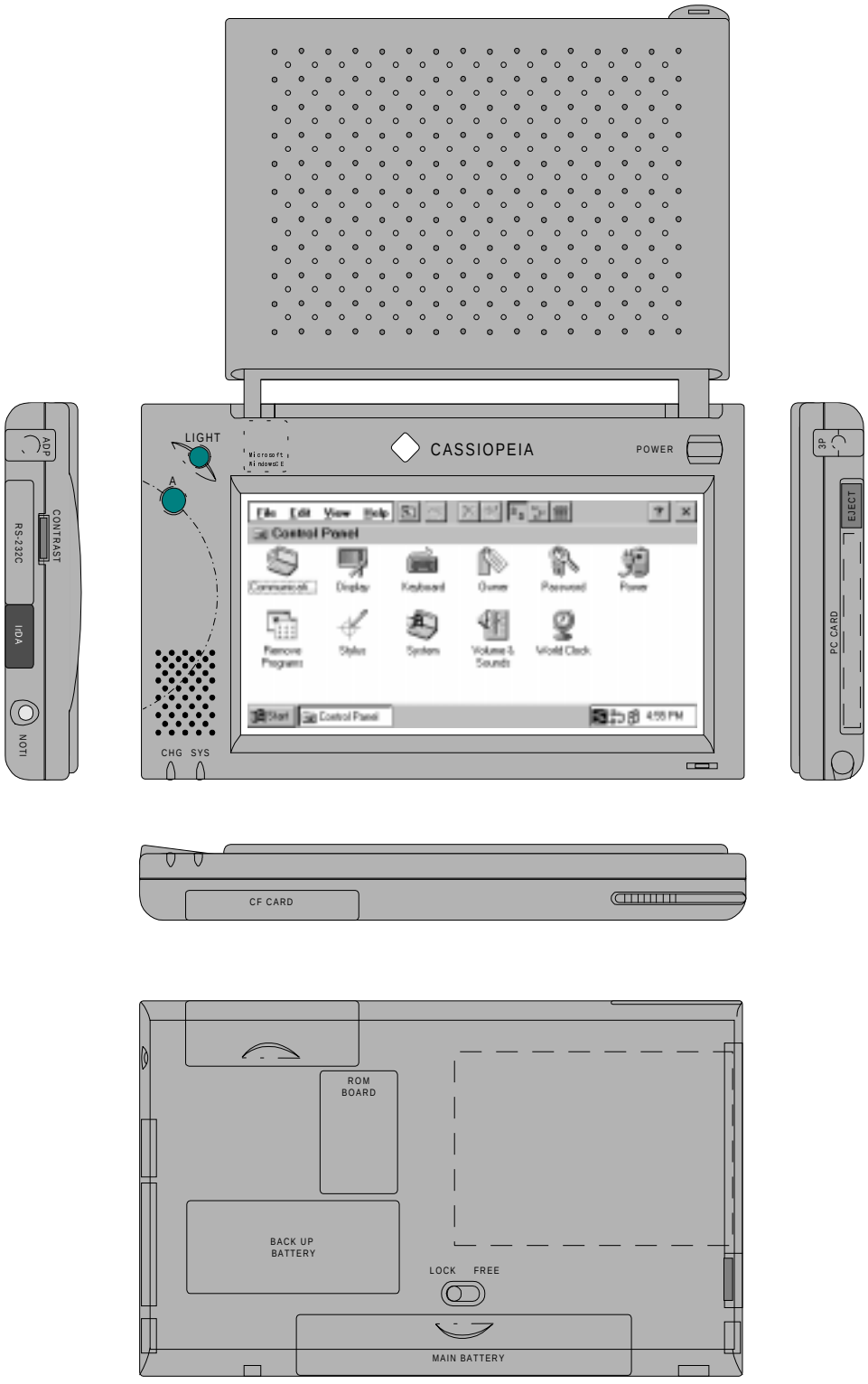
2.4 PC Card

Table 2.3 List of Available PC Cards

Type	Model / Standard		Remark
SRAM card	DT-635MC	256 KB	Existing products
	DT-636MC	512 KB	
	DT-637MC	1 MB	
	DT-638MC	2 MB	
ATA flash card	DT-9031BFMC	4 MB	Existing products
	DT-9032BFMC	6 MB	
	DT-9033BFMC	10 MB	
	DT-9034BFMC	20 MB	
CF card	CF-4-S	4 MB	OEM from SANDISK (new)
	CF-10-S	10 MB	
	CF-15-S	15 MB	

3. External View

Fig. 3.1 External view of PA-2400 Hardware



4. Specifications of Devices

4.1 CPU

Table 4.1 CPU

Item	Specification	Remark
CPU	Hitachi SH-3 (Sindbad)	
Clock	80 MHz	

4.2 Memory

Table 4.2 Memory

Item	Specification	Remark
DRAM	8 MB	System memory, object storage memory
MASK ROM	16 MB	System ROM

4.3 Touch Panel

Table 4.3 Touch Panel

Item	Specification	Remark
Type	Analog resistance membrane (non-glare)	
Resolution	480 (H) x 240 (V) dots	A/D 10-bit

4.4 Display

Table 4.4 Display

Item	Specification	Remark
LCD panel	FSTN	
Backlight	EL backlight	Color: blue-green
Display size	480 (H) x 240 (V) dots	
Dot pitch	0.275 mm/pitch	
Gradation	B/W 4 levels	
Contrast	Hardware control + temperature compensation	

4.5 Switches

Table 4.5 Switches

Item	Specification	Remark
POWER switch	Toggle switch for power ON/OFF	
SIP key	Toggle switch for SI panel ON/OFF	
LIGHT switch	Toggle switch for EL backlight ON/OFF	
RESET switch	Bootup	Pin hole on the rear housing
Notification switch	Notification LED OFF	
CF card lock switch	Power OFF by opening the cover	
ROM board cover switch	Power OFF by opening the cover	
Card lock switch	Mechanical lock (the system is operable with this mechanism unlocked)	
Battery lock switch	Power OFF by opening the cover	

4.6 Communication Ports

16-pin Serial Interface

Table 4.6 16-pin Serial Interface

Item	Specification	Remark
Synchronization	Start/stop method	RS-232C level
Connector type	16-pin	
Baud rate	110 bps to 115.2 Kbps	
Pin assignment	Pin 1 NC, Pin 9 DOCKB 2 NC, 10 CTS 3 DGND, 11 DCD 4 NC, 12 RxD 5 NC, 13 TxD 6 ADP IN, 14 RTS 7 ADP IN, 15 DTR 8 DGND, 16 DGND	

IrDA Interface

Table 4.7 IrDA Interface

Item	Specification	Remark
Synchronization	Start/stop method	
Baud rate	Max. 115.2 Kbps (IrDA 1.0)	
IrDA device	CIM-10S-T	

3-pin Interface

Table 4.8 3-pin Interface

Item	Specification	Remark
Synchronization	Start/stop method	
Baud rate	110 bps to 38.4 Kbps	

4.7 PC Card Interface

Table 4.9 PC Card Interface

Item	Specification	Remark
Standard	Conforms to PC Card Standard	
Slot	1 slot, Type II	
Power supply	Vcc: 3.3V/5V	
Applicable card	Refer to Chapter 2.4. PC Card.	

4.8 CF Card Interface

Table 4.10 CF Card Interface

Item	Specification	Remark
Slot	1 slot	
Power supply	Vcc: 3.3V	
Applicable card	Refer to Chapter 2.4. PC Card.	

4.9 Power Supply

Table 4.11 Power Supply

Item	Specification	Remark
Main battery	Lithium-ion battery pack Operating time: Approx. 15 hours (adequate for 10 minutes of continuous display, or 1 minute of continuous input) Approx. 10 hours (adequate for 90 Pocket Word strokes/minute)	
	Alkaline dry cell: LR6 x 2 Operating hours: Approx. 25 hours (adequate for 10 minutes of continuous display, or 1 minute of continuous input) Approx. 10 hours (adequate for 90 Pocket Word strokes/minute)	
Sub-battery	Button-type lithium battery (CR2032 x 1) Vanadium secondary battery (IVR2430 x 1) Backup time: Approx. 5 years (only if the fresh main battery is being installed always.)	
Memory backup period	With low voltage Alkaline dry cell: 28 days (counting when “Low battery” indication appears) With fresh Alkaline dry cell: 56 days	Days of backup period are only estimate. They may vary depending on environment.
	With low voltage lithium-ion battery pack: 22 days (counting when “Low battery” indication appears) With fully charged lithium-ion battery pack: 36 days	
Contact-type recharging terminal	Supplies power and recharges battery if terminal is placed on I/O Box.	Recharges battery via I/O Box.

4.10 Speaker

Table 4.12 Speaker

Item	Specification	Remark
Speaker	Dynamic speaker, 20 mm diameter. Sampling rate: 10-bit D/A 8/11.025/22.05 KHz	For audio output

4.11 Microphone

Table 4.13 Microphone

Item	Specification	Remark
Microphone	Electronic condenser type Sampling rate: 10-bit AD 8/11.025/22.05 KHz	For audio input

4.12 LED

Table 4.14 LED

Item	Specification	Available LED	Remark
LED	Alarm notification x 1	Notification LED	Red
	Battery status indication x 1	Full-charge condition LED	Green