

PHS Built-In PHS/PDC Dual Card “Mobile Card P-in”

DoCoMo launched its PHS 64K data communication service in April 1999. In order to make the most of the fastest 64K service, it also developed the PHS built-in type dual data card called “Mobile Card P-in”.

In this article, the product outline of “Mobile Card P-in” is described.

Setsuko Kondo, Masayuki Kanaya and Kazuto Nakajima

Introduction

■ Background of the “Mobile Card P-in” Introduction

Data communication traffic of PHS and cellular phone has been on the steady increase. It can be said that this increase is due to a full lineup of mobile equipment in addition to the high transmission speed, reduction in price, etc. DoCoMo has accomplished 10% level of PHS's data traffic already in early 1998, and up to 31% in May 1999. It is predicted that this percentage will continue to increase in the future.

Today, data communication is going well, and operators are being required to take flexible measures towards data communication. Especially, there are such strong requests regarding hardware as “card-type PHS terminal suitable for data communication”, “light-weighted PHS information terminal”, “inexpensive PHS information terminal”, etc. from users.

Also, it is getting widespread among users to use mobile phones according to the user's specific purpose; for example, users are tend to use cellular phone with wide service area for conversation and high-speed PHS for data communication.

Under such background, “Mobile Card P-in” was born as a PHS built-in dual data card as shown in Figure 1.

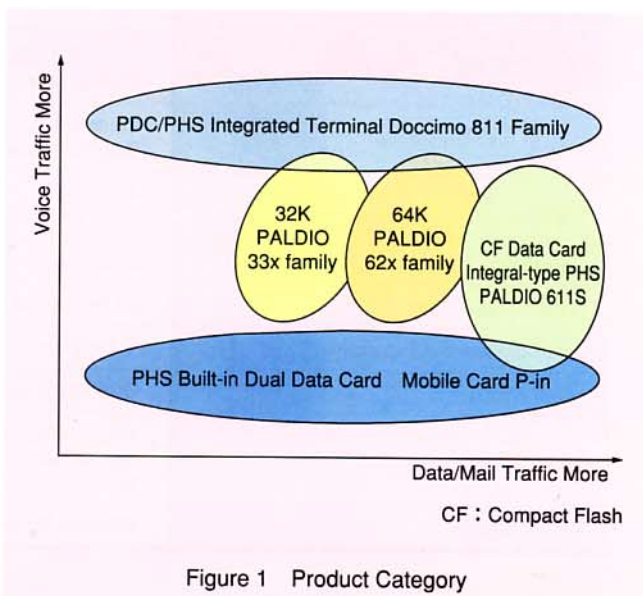
■ Product Outline

Picture 1 shows an outside appearance of the product.

(1) Product features

- ① Small, lightweight and easy to carry.
- ② Smart, simple PHS64K data communication can be realized without cable connection only by putting P-in in a PC card slot of PC.

- ③ In the area PHS cannot be used, data communication using 9600bit/s cellular phone is possible by connecting to the cellular phone with the attached cable, thereby enabling the data communication for wider area.
 - ④ Most suitable for long-term business trip because the operation is based on PC power supply that does not need a charger.
 - ⑤ Voice call is possible with the use of earphone microphone (an extra-cost option).
 - ⑥ Registration for home antenna (32K data communication connection) and office station service mode (OS mode) is possible.
 - ⑦ Data communication as a transceiver (32K data communication connection) is possible.
- (2) Effects of product introduction
- ① Among users of cellular phones, note PCs and Personal Digital Assistant (PDA), a group of users of potential



demand who are interested in high-speed data communication can be secured.

- ② PHS data traffic can be increased by the addition of new types of terminals that support PHS64K data communication.
- ③ The data traffic of cellular phone can be increased by equipping 9600bit/s data communication functionality for cellular phone.



Picture 1 Mobile Card P-in

■ Hardware Specifications

The hardware specifications of “Mobile Card P-in” are shown in Table 1.

Although there is no display part in “Mobile Card-P-in”, the current communication status can be identified by color and way of blinking of the LED (Light Emitting Diode). The color and lighting condition of the LED are changed according to the communication state. For example, red light is used for voice and 32K data communication, green light for 64K data communication, orange light is for OS communications and green blinking light is for call waiting state within service area. Thus, it is able to have an user know connection situation, etc. while using “Mobile Card P-in”.

■ Dialer Software

Figure 2 shows a display of dialer software. With the use of this software, we can easily enjoy transmission and reception of “Chara-Talk” and voice communications with “Mobile Card P-in”.

Besides, it can also start the existing PALDIO’s “Mailer” and “Chara-Mailer”, etc.

■ Future Activities

The recent growth of mobile equipment has been aston-

Table 1 “Mobile Card P-in” Hardware Specification

Item	Specifications
Outer Dimensions	Approx. 114.6 (W)×about 54.0 (D)×about 14.5 (H) mm (Main body only, antenna stored, without accessories)
Data Terminal Equipment (DTE) Interface	PC CARD Standard Type II (68pin)
AT Command	Hayes's AT command compatible
FAX Command	PHS : EIA578 (commonly called Class1) compatible EIA592 (commonly called Class2 draft) compatible Cellular phone : EIA578 (commonly called Class1) compatible
Cellular Phone Interface	Control serial [600bit/s] Communication serial [9600bit/s] (15pin)
Weight	Approx. 50g (Main body only, without accessories)
Applied Line	PHS network/digital mobile telephone line
Transmission Speed	29.2kbit/s/58.4kbit/s/9600bit/s
Data Compression/Expansion	V.42bis
Power Supply	DC5V±5% (supplied from PC slot)
Power Consumption	Approx. 600mW (in case of 64K data communication) Approx. 400mW (in case of 32K data communication, voice communication) Approx. 120mW (in case of cellular phone communication, standby)
Supporting OS	Windows95 / Windows98

