



# PHS MoU Group News

No. 8 February 1997

## Second PHS MoU Group General Meeting Held



2nd General Meeting attendees

Mr. S. Tanaka, Director-General, Japan's Ministry of Posts and Telecommunications, made a congratulatory speech as an honored guest. The meeting, presided by Dr. H. Ishikawa, PHS MoU Group Chairperson, approved the following agenda:

### PHS MoU Technical Specifications:

The specifications, details listed in "Elaboration of PHS MoU Technical Specifications" from Group News No. 7, have already been published and are available from the PHS MoU Group.

### New "PHS MoU Group" logo:

PHS MoU Group will promote its activities under this new logo.

### Document Administration Rules:

Classification of public and non-public documents, approval procedure of technical specifications, etc. of the PHS MoU Group were approved.

### Activities of the Group:

Activities of the Group and of the TWG during July -



December 1996 were reported by Mr. K. Nakada, Secretary-General and Mr. T. Kashiwamura, Chairperson of the TWG.

PHS Technical standards were approved in Australia. The radio frequency band of PHS was allowed in South Africa as well as DECT. November's First Annual PHS World Congress was a successful first international public conference focused on PHS.

### Activity plans:

Activity plans of the PHS MoU Group and the TWG for December 1996 - June 1997 were approved. Schedule of the Technical Specifications will be publicly announced.

### New Members:

The Group welcomed Symbionics Limited as a new signatory Member and ArrayComm Inc. as a new Steering Committee Member.

### Next Meeting:

The next general meeting will be held around June 1997, possibly in Bangkok, Thailand.

### CONTENTS

- Second PHS MoU Group General Meeting Held----- 1
- PHS-Based Service to be Introduced in Thailand ----- 2
- AsiaTELECOM'97 in Singapore----- 3
- NTT Personal Reveals Present PHS Service Status --- 4
- NTT, NEC and PHS-I Launch Trial PHS Service in Vietnam ----- 5
- PHS Subscribers Over 5M in Japan----- 6

# PHS-Based Service to be Introduced in Thailand

**The PCT Service to be introduced in Thailand by TelecomAsia will be the First Public PHS Service offered outside Japan**

TelecomAsia Corporation Public Company Limited (TA) was established in 1991 after it had obtained the BTO (Build, Transfer and Operate) license from the Telephone Organization of Thailand (TOT). After five years of great effort, TA completed the installation of a 2.6 million fixed-line telephone network in the Bangkok Metropolitan Area (BMA) on September 30, 1996. Its complete digital network is considered to be one of the most modern in the world.

With the license grant by the TOT, TelecomAsia announced plans to introduce public PHS service in the Bangkok metropolitan area, which will be the first public PHS service outside Japan. The following is an outline of the PHS service planned by TelecomAsia.

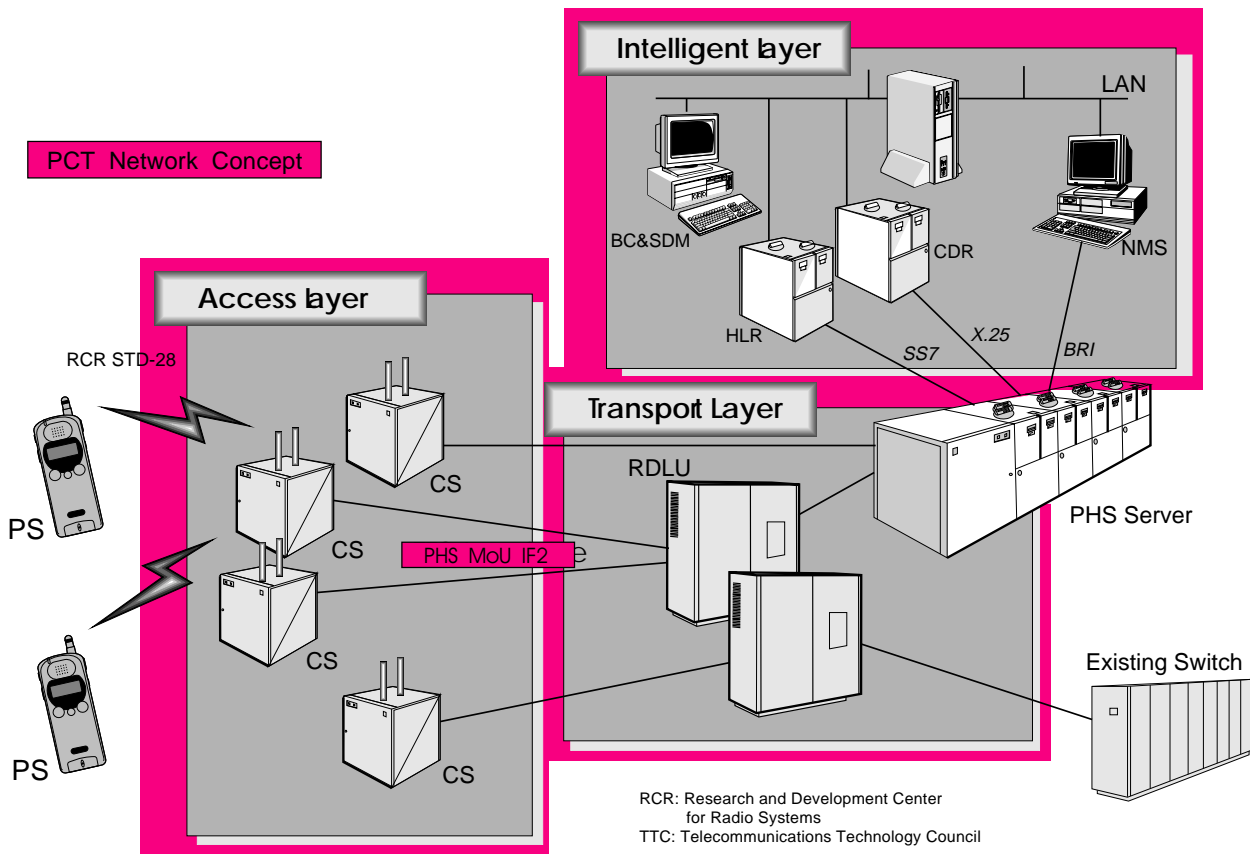
In Thailand, public PHS service is to be introduced slightly different from that in Japan, where the first PHS service is being operated. PHS service in Thailand will

be integrated as part of a fixed-line telephone network with the same subscriber number. The service is called "PCT" (Personal Cordless Telephone).

One universal number for an individual, which can reach them wherever they are, has been discussed over several years but has been limited to applications with a small number of subscribers. PCT service is considered to be one of the earliest network-wide solutions due to its PSTN base approach.

PCT service has evolved by integrating two technologies together, Advanced Intelligent Network for number portability and Wireless Communications technology for mobility of service.

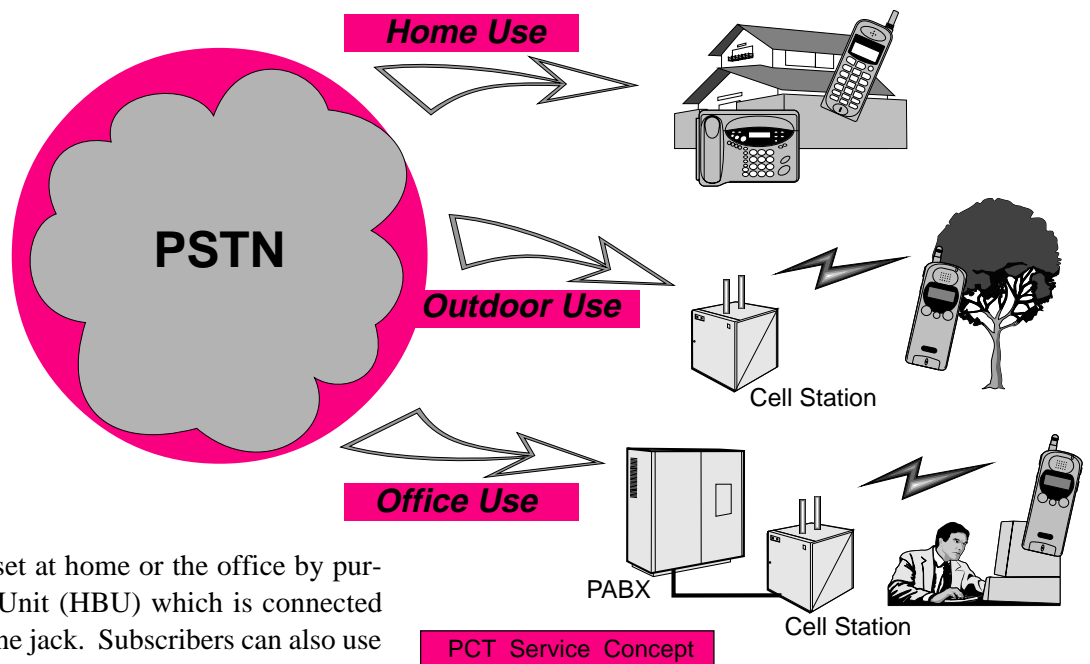
PCT can be described as an extension service of the fixed-line telephone where the subscribers can use their cordless handset outside their premises. To apply for



the service, subscribers simply purchase a PCT handset, and pay an additional fee. If there is an incoming call to the PCT subscriber, the network will check the status and location of the PCT handset and divert the call accordingly.

If the PCT handset cannot be reached, the network will route the call back to the fixed line. Subscribers can also use the PCT handset at home or the office by purchasing a Home Base Unit (HBU) which is connected to any standard telephone jack. Subscribers can also use their PCT handset to make originating calls to any destination as usual from within the radio coverage area of public cell stations.

PCT service is slated to begin in the fourth quarter of 1997. In Japan, PHS subscribers exceeded 5 million by



the end of January 1997. PCT subscribers in Thailand are expected to reach more than 1.5 million in three to five years from the initial introduction.

## AsiaTELECOM'97 in Singapore

AS PART OF ASIATELECOM'97, PHS MULTIMEDIA COMMUNICATIONS COMPANIES AND ORGANIZATIONS WILL GATHER IN SINGAPORE DURING JUNE 1997.

After an interval of four years, one of the world's biggest telecom exhibitions in its class, "AsiaTELECOM'97", will be held at the Singapore World Trade Center from June 9 to 14, 1997. The exhibition has been sponsored by the ITU (International Telecommunication Union) since 1985 in order to showcase up-to-date telecommunication technologies. This will be the fourth time the exhibition has been held. In commemoration of this, Japan's Ministry of Posts and Telecommunications (MPT) plans to arrange a Japanese Pavilion exclusively for PHS technology.

Thirteen approved PHS service providers and manufacturers, listed here, will gather at a 200 square meter booth (Hall 3, #3A12) to display their latest PHS terminals and system equipment focused especially on multimedia communication applications. In addition to each

exhibitor's corner, there will be a common theme corner to highlight PHS's innovative aspects such as the capability to transmit video, etc. with extensive live demonstrations as well. The upcoming Asia TELECOM '97 will definitely be a good chance to obtain hands-on experience of PHS's versatility and usefulness.

### List of Japanese Exhibitors:

- Nippon Telegraph and Telephone Corporation*
- DDI Corporation*
- Casio Computer Co., Ltd.*
- Fujitsu Limited*
- Hitachi, Ltd.*
- Kyocera Corporation*
- Matsushita Communication Industrial Co., Ltd.*
- Mitsubishi Electric Corporation*
- NEC Corporation*
- Oki Electric Industry Co., Ltd.*
- Sanyo Electric Co., Ltd.*
- Sharp Corporation*
- Toshiba Corporation*

# NTT Personal Reveals its Present PHS Service Status

NTT Personal Group (totaling nine companies) launched PHS commercial service in July 1995 and gained 1.54 million subscribers by the end of December 1996. The total number of public Cell Stations (CS) installed by NTT Personal Group will reach 251,000, including nearly 120,000 CS by NTT Central Personal, by the end of March 1997.

The principal service concept of NTT Personal Group is "PHS Seamless World," which illustrates that a PHS terminal can be used as a digital cordless telephone at home, public portable telephone in public spaces and also a wireless PABX terminal in an office environment. In order to achieve this concept, NTT personal Group has developed a variety of new products and services, as follows.

## (1) Home Antenna (Active portable repeater)

Home Antenna is the brand-name of an active portable repeater, which receives radio waves from a public CS and retransmits them to extend the radio coverage. It is designed to extend the reach of CS radio waves into homes, offices and other indoor environments, where public CS is not intended to cover. The airlink between a CS and a Home Antenna is operating in public mode and the one between a Home Antenna and PHS terminal is operating in private mode. The product is especially popular for young customers who have not yet subscribed to existing PSTN services. The weight of the device is about 110grams and power can be provided by an AC adapter or battery.



Home Antenna (active portable repeater)

## (2) PHS/Pager dual mode terminal

This dual mode terminal is already available. A combination of the two-way communications feature of PHS service and the wide coverage of paging services make the best solution for PHS /Pager users.

Please note that this pager system is based on the Japanese pager system. The weight and volume of the terminals are about 140grams and 140cc, respectively, which is slightly larger than an average PHS terminal.

## (3) Office Station Service (OSS)

OSS is the brand-name of a wireless PABX system, which NTT Personal has jointly developed with several PABX vendors. With PALDIO terminals, customers can make/receive calls through a wireless PABX system at the office as well as through a public CS. In this case, a call through OSS is in private mode (PSTN-tariff) and a call through a public CS is in public mode (PHS tariff).

## (4) Voice-Mail/Call Transfer

In the case that a PHS terminal is out of coverage or turned-off, a call is automatically transferred to a voice mail center or a preregistered destination terminal. Presently, more than half of NTT Personal customers are using these additional services.

## (5) 32-kbps Data Service

NTT Personal will begin 32-kbps data service based on the PIAFS standard in April 1997. The service is expected to be one of the most competitive approaches to digital cellular technology. A variety of new applications will be provided such as wireless Internet access, mobile computing and still picture transmission, etc. New PALDIO terminals with 32-kbps data capability are already available. In 1997, NTT Personal will make continued efforts to provide top quality service to their customers, with a special focus on 32-kbps data service.



32-kbps PALDIO Terminal

# NTT, NEC and PHS-I Launch Trial PHS Service in Vietnam

**Nippon Telegraph and Telephone Corporation (NTT), NEC Corporation (NEC), and PHS International Limited (PHS-I) have begun trial Personal Handyphone System (PHS) services in Vietnam in cooperation with Hanoi Posts and Telecommunications. The trial service began in Hanoi on December 17, 1996.**

Prior to the start of the new service, NTT had been engaged in the introduction and promotion of PHS in Vietnam. Activities included a joint PHS technology seminar with the Japanese government and the introduction of PHS technology and equipment at a telecommunications exhibition.

Against this background, Vietnam Posts and Telecommunications views PHS as a new technology with potential for the development of Vietnamese telecommunications. To evaluate PHS technology, the public corporation decided to implement a trial service with Hanoi Posts and Telecommunications, an affiliate of Vietnam Posts and Telecommunications and the main entity for the trial PHS implementation, in cooperation with NTT, NEC and PHS-I.

The trial PHS evaluation will be carried out over a six-month period from December 17, 1996 in Vietnam at each venue of the Department General of Posts and Telecommunications, a telecommunications supervision agency; Vietnam Posts and Telecommunications, a telecommunications operating body; and Hanoi Posts and Telecommunications.

NTT, in cooperation with Hanoi Posts and Telecommunications, will prepare the total plan for the PHS trial service, manage overall operations of the project and gather the data and results. Also, NEC will provide PHS-related equipment and conduct technological support for system operations. In addition PHS-I will test the capacity of PHS for Vietnam and provide service know-how to Hanoi Posts and Telecommunications.

## Trial locations

18 Nguyen Du Street, Hanoi, Vietnam  
(location of both the Department General of Posts and Telecommunications and Vietnam Posts and Telecommunications.)

75 Dinh Tien Hoang Street, Hanoi, Vietnam

(location of Hanoi Posts and Telecommunications)

## Trial period

Six months, from December 17, 1996

## Trial size

Base stations: 40 units

Terminals: 100 units

## Future plans

After the trial service has been analyzed, NTT, NEC and PHS-I will actively introduce PHS in Vietnam.

## Telecommunications Environment in Vietnam

### Country

Name: Socialist Republic of Vietnam

Size: 329,566km<sup>2</sup> (0.9 the size of Japan)

population: About 72.5 million (0.58 times that of Japan [as of 1994])

Capital: Hanoi (population, about 2.1 million [as of 1994])

### Telecommunications Agencies

Supervisory agency: Department General of Posts and Telecommunications (DGPT) - independent of the Ministry of Transport and Communications (as of 1991)

### Operational Entities

Vietnam Posts and Telecommunications (VNPT)

-independent of DGPT as an operating body

-handles domestic and international telecommunications business and the postal business

Hanoi Posts and Telecommunications (HNPT)

-governs Hanoi within VNPT

-handles telecommunications and postal business focusing on Hanoi

### Telephone Subscriptions

General subscriber telephones

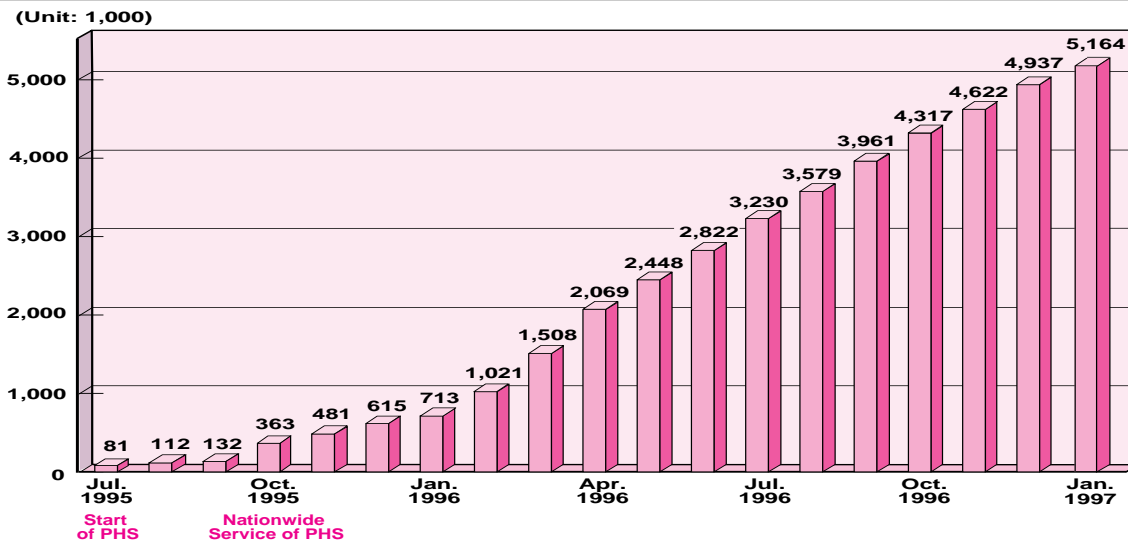
Number of subscriptions: about 750,000

Penetration rate (subscriptions per 100 residents): about 1% (December 1995); 6% nationwide and 20% in Hanoi and Ho Chi Minh City (target for 2000)

Mobile communications

Number of cellular phone subscriptions: about 53,000 (to October 1996)

# PHS Subscribers Over 5M in Japan



## Home Pages of MoU Group & Members

All articles contained in the PHS MoU News are now available on the PHS MoU Group Website at:  
<http://www.phsmou.or.jp>

Additional information and resources will be made available in the future.  
 Below is a list of PHS MoU Group member home page (URL) addresses.

Company Name	URL	Company Name	URL
• ArrayComm, Inc.	<a href="http://www.arraycom.com">http://www.arraycom.com</a>	• Mitsubishi Electric Corporation	<a href="http://www.melco.co.jp">http://www.melco.co.jp</a>
• Casio Computer Co., Ltd.	<a href="http://www.casio.co.jp">http://www.casio.co.jp</a>	• NEC Corporation	<a href="http://www.nec.co.jp">http://www.nec.co.jp</a>
• Cirrus Logic K.K.	<a href="http://www.cirrus.com">http://www.cirrus.com</a>	• Nippon Telegraph and Telephone Corporation	<a href="http://www.nttinfo.jp">http://www.nttinfo.jp</a>
• Fujitsu Limited	<a href="http://www.fujitsu.co.jp">http://www.fujitsu.co.jp</a>	• Nitsuko Corporation	<a href="http://www.nitsuko.co.jp">http://www.nitsuko.co.jp</a>
• Hitachi, Ltd.	<a href="http://www.hitachi.co.jp/Div/jyotsu/jpn">http://www.hitachi.co.jp/Div/jyotsu/jpn</a>	• NTT Central Personal Communication Network Inc.	<a href="http://www.nttphs.co.jp">http://www.nttphs.co.jp</a>
• Hong Kong Telecommunications Ltd.	<a href="http://www.hkt.net">http://www.hkt.net</a>	• PHS International Ltd.	<a href="http://www.phsi.com">http://www.phsi.com</a>
• Ikegami Tsushinki Co., Ltd.	<a href="http://www.ikegami.co.jp">http://www.ikegami.co.jp</a>	• Pioneer Electronic Corporation	<a href="http://www.pioneer.co.jp">http://www.pioneer.co.jp</a>
• Itochu Corporation	<a href="http://www.itochu.co.jp">http://www.itochu.co.jp</a>	• Sharp Corporation	<a href="http://www.sharp.co.jp">http://www.sharp.co.jp</a>
• Japan Radio Co., Ltd.	<a href="http://www.nihonmusen.co.jp">http://www.nihonmusen.co.jp</a>	• ST Telecommunications Pte Ltd.	<a href="http://www.stt.st.com.sg">http://www.stt.st.com.sg</a>
• Kenwood Corp.	<a href="http://www.kenwoodcorp.com">http://www.kenwoodcorp.com</a>	• Sumitomo Electric Industries, Ltd.	<a href="http://www.sumiden.co.jp">http://www.sumiden.co.jp</a>
• Kokusai Denshin Denwa Co., Ltd.	<a href="http://www.kdd.co.jp">http://www.kdd.co.jp</a>	• Tokyo Electric Power Co., Inc.	<a href="http://www.tepco.co.jp/">http://www.tepco.co.jp/</a>
• Kyushu Matsushita Electric Co., Ltd.	<a href="http://www.kme-lab.co.jp">http://www.kme-lab.co.jp</a>	• Toshiba Corporation	<a href="http://www.toshiba.co.jp">http://www.toshiba.co.jp</a>
• Lucent Technologies Japan, Ltd.	<a href="http://www.lucent.com">http://www.lucent.com</a>	• Uniden Corporation	<a href="http://www.uniden.co.jp">http://www.uniden.co.jp</a>
• Matsushita Communications Industrial Co., Ltd.	<a href="http://www.panasonic.co.jp/mci">http://www.panasonic.co.jp/mci</a>	• Victor Company of Japan, Ltd.	<a href="http://www.jvc-victor.co.jp">http://www.jvc-victor.co.jp</a>

The News Editorial Committee of the PHS MoU Group  
 c/o Association of Radio Industries and Businesses  
 14F, Nittochi Bldg., 4-1, Kasumigaseki 1-chome, Chiyoda-City, Tokyo, 100 Japan  
**Tel.:** +81-3-5510-8599 **Fax:** +81-3-3592-1103 **E-mail:** phsmou@po.ijnet.or.jp