

Title: Public Personal Handy-phone System : Service Specifications of
User scrambling Service

Version: 01

Date: Dec. 17, 1996

PHS MoU Classification: Unrestricted

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History of Revised Versions

Version	Date	Outline
01	17 Dec. 1996	Established

B-SV2.60-01-TS

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1 Definition

The user scrambling is a service to scramble the information between the PS and the network.

2 Description

2.1 General Description

The scrambling can be made between the PS and the network to the information bit by the scrambling service. This service is provided under active station, and the scrambling to the bi-directional information bit is possible from the PS to the network and in the reverse order. The bearer capability under the active station has no restriction.

2.2 Specific Terminology

None identified.

2.3 Qualifications on the Applicability to Telecommunication Service

None identified.

3 Procedures

3.1 Provision/withdrawal

This service is provided parallel to the PHS communication service.

3.2 Normal procedures

3.2.1 Activation/Deactivation/Registration

User scrambling is activated by subscription.

3.2.2 Invocation and Operation

3.2.2.1 Invocation

This service and PHS communication occurs simultaneously. The encryption key which is necessary for scrambling is established before switch to active on PS side and notify to the network. An specific encryption key has no user scrambling effect at all, and information bit is beard as it is.

3.2.2.2 Operation

Before the translation to communication, PS delivers the establishing encryption key to network (CS). As a result, PS and network (CS) share the common encryption key. During the communication, PS generates the scramble pattern based on the method specified by the encryption key, and carries out scrambling by adopting exclusive OR with information bit. The message used in User scrambling is the fixed message of encryption key, which is prescribed on the air-interface.

3.3 Exceptional Procedures

3.3.1 Activation/Deactivation/Registration

None identified.

3.3.2 Invocation and Operation

None identified.

3.4 Alternative Procedures

None identified.

4 Network Capability for Charging

Charging principle is out of the specification described in the document.

5 Interworking Requirement

User scrambling is irrelevant to the interworking as User scrambling is a closed function only between a PS and the network.

6 Interaction with other supplementary services

6.1 Calling User Identification Presentation (CUIP)

No impact, i.e. neither supplementary service affects the operation of the other supplementary service.

6.2 Calling User Identification Restriction (CUIR)

No impact, i.e. neither supplementary service affects the operation of the other supplementary service.

6.3 Call forwarding

6.3.1 Call Forwarding Unconditional (CFU)

No impact, i.e. neither supplementary service affects the operation of the other supplementary service.

6.3.2 Call Forwarding on PS Busy (CFB)

No impact, i.e. neither supplementary service affects the operation of the other supplementary service.

6.3.3 Call Forwarding on No Reply (CFNRy)

No impact, i.e. neither supplementary service affects the operation of the other supplementary service.

6.3.4 Call Forwarding on PS Not Reachable (CFNRc)

No impact, i.e. neither supplementary service affects the operation of the other supplementary service.

6.4 Call barring

6.4.1 Barring of All Outgoing Calls (BAOC)

No impact, i.e. neither supplementary service affects the operation of the other supplementary service.

6.4.2 Barring of Outgoing International Calls (BOIC)

No impact, i.e. neither supplementary service affects the operation of the other supplementary service.

6.4.3 Barring of Outgoing International Calls except call to Home Country (BOIC-exHC)

No impact, i.e. neither supplementary service affects the operation of the other supplementary service.

6.4.4 Barring of All Incoming Calls (BAIC)

No impact, i.e. neither supplementary service affects the operation of the other supplementary service.

6.4.5 Barring of Incoming Calls on Roaming outside Home Country (BIC-roam)

No impact, i.e. neither supplementary service affects the operation of the other supplementary service.

6.5 DTMF Transmission

No impact, i.e. neither supplementary service affects the operation of the other supplementary service.

6.6 Handover

No impact, i.e. neither supplementary service affects the operation of the other supplementary service.

6.7 Subaddress

No impact, i.e. neither supplementary service affects the operation of the other supplementary service.

6.8 User scrambling

Not relevant.