

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17

3GPP2 S.R0025
Version: 1.0
Version Date: September 22, 2000



3RD GENERATION
PARTNERSHIP
PROJECT 2
"3GPP2"

Wireless Pay Phone

Stage 1 Description

18
19

COPYRIGHT
3GPP2 and its Organizational Partners claim copyright in this document and individual Organizational Partners may copyright and issue documents or standards publications in individual Organizational Partner's name based on this document. Requests for reproduction of this document should be directed to the 3GPP2 Secretariat at secretariat@3gpp2.org. Requests to reproduce individual Organizational Partner's documents should be directed to that Organizational Partner. See www.3gpp2.org for more information.

20

2 +1 973 581 6981, shila@lucent.com

1 **Editor:** 3GPP2 TSG-S, Dr. Shila Heeralall, Lucent Technologies,

3 ***Revision History***

4 *Version 1.0.0 Initial release by TSG-S September 22, 2000*

5 *Version 1.0.1 Addressed editorial comments from 3GPP2 October 13, 2000*

6 *(Removed all occurrences of TIA, and globally changed "Editor's note" to*
7 *"Note")*

8

Wireless Feature Description: Wireless Pay Phone

Table of Contents

6	1. WIRELESS PAY PHONE	5
7	1.1 NORMAL PROCEDURES WITH SUCCESSFUL OUTCOME.....	6
8	<i>Authorization</i>	6
9	<i>De-Authorization</i>	6
10	<i>Registration</i>	6
11	<i>De-Registration</i>	6
12	<i>Origination</i>	6
13	<i>Page Response</i>	6
14	<i>Flash</i>	6
15	<i>Idle State</i>	6
16	<i>Conversation State</i>	6
17	<i>Activation</i>	6
18	<i>De-Activation</i>	7
19	<i>Invocation</i>	7
20	1.2 NORMAL OPERATION WITH SUCCESSFUL OUTCOME.....	7
21	<i>Call Detail Record</i>	7
22	1.3 EXCEPTION PROCEDURES WITH UNSUCCESSFUL OUTCOME.....	7
23	<i>Authorization</i>	7
24	<i>De-Authorization</i>	8
25	<i>Registration</i>	8
26	<i>De-Registration</i>	8
27	<i>Origination</i>	8
28	<i>Page Response</i>	8
29	<i>Flash</i>	8
30	<i>Idle State</i>	8
31	<i>Activation</i>	8
32	<i>De-Activation</i>	8
33	<i>Invocation</i>	8
34	<i>Exceptions While Roaming</i>	8
35	<i>Exceptions During Intersystem Handoff</i>	8
36	1.4 ALTERNATIVE PROCEDURES.....	9
37	1.5 INTERACTIONS WITH OTHER WIRELESS SERVICES.....	9
38	<i>Call Delivery (CD)</i>	9
39	<i>Call Forwarding - Busy (CFB)</i>	9
40	<i>Call Forwarding - Default (CFD)</i>	9
41	<i>Call Forwarding - No Answer (CFNA)</i>	9
42	<i>Call Forwarding - Unconditional (CFU)</i>	9
43	<i>Call Transfer (CT)</i>	9
44	<i>Call Waiting (CW)</i>	9
45	<i>Calling Number Identification Presentation (CNIP)</i>	9
46	<i>Calling Number Identification Restriction (CNIR)</i>	9
47	<i>Conference Calling (CC)</i>	9
48	<i>Do Not Disturb (DND)</i>	10
49	<i>Flexible Alerting (FA)</i>	10
50	<i>Message Waiting Notification (MWN)</i>	10
51	<i>Mobile Access Hunting (MAH)</i>	10
52	<i>Password Call Acceptance (PCA)</i>	10
53	<i>Preferred Language (PL)</i>	10

S.R0025 Ver 1.0 Wireless Pay Phone Stage 1 Description

1 *Priority Access and Channel Assignment (PACA)*.....10
2 *Remote Feature Control (RFC)*.....10
3 *Selective Call Acceptance (SCA)*.....10
4 *Subscriber PIN Access (SPINA)*.....10
5 *Subscriber PIN Intercept (SPINI)*.....10
6 *Three-Way Calling (3WC)*10
7 *Voice Message Retrieval (VMR)*10
8 *Voice Privacy (VP)*.....11
9 *Asynchronous Data Service (ADS)*.....11
10 *Calling Name Presentation (CNAP)*.....11
11 *Calling Name Restriction (CNAR)*.....11
12 *Data Privacy (DP)*.....11
13 *Emergency Services (9-1-1)*.....11
14 *Group 3 Facsimile Service (G3 Fax)*.....11
15 *Network Directed System Selection (NDSS)*.....11
16 *Non-Public Service Mode (NP)*.....11
17 *Over the Air Service Provisioning (OTASP)*.....11
18 *Service Negotiation (SN)*11
19 *User Group (UG)*11
20 *Short Message Delivery (SMD-PP)*.....12
21 *Wireless Messaging Teleservice (WMT)*.....12
22 *Wireless Paging Teleservice (WPT)*12
23 *System Functionality*.....12
24 *Subscriber Confidentiality*.....12
25 *Network Services*.....12
26 *Wireless Local Loop*.....12
27 **2. THE INTRODUCTION SECTION OF SPECIFICATIONS SERIES13**
28 **3. WIRELESS FEATURE DESCRIPTION: SYSTEM FUNCTIONALITY15**
29 **4. WIRELESS FEATURE DESCRIPTION: MOBILE STATION FUNCTIONALITY17**

List of Tables

32 TABLE 1: 2-WAY FOR WIRELESS PAY PHONE 7

33

1. Wireless Pay Phone

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48

Wireless Pay Phone is a public telecommunications service feature that allows mobile station support of pay phone applications. The Wireless Pay Phone feature is useful to subscribers that originate or receive calls at a pay phone.

The feature may be comprised of two signaling capabilities. The first signaling capability is that which allows a serving system to convey answer supervision. The second signaling capability is that which allows a serving system to meter calls.

(Note: A serving system may convey answer supervision using Alert-signaled or Flash- signaled Line Control. A serving system may meter using Alert-signaled or Flash-signaled Meter Pulses.)

Answer element of supervision is used by the mobile station as an indication that the called party has answered the call, enabling the pay phone to initiate charging for the call. Metering is generated by the mobile station to indicate to the pay phone that charging is to occur based on meter pulses received throughout the duration of a call, but metering may also be used at the onset of a call as an indication of Answer Supervision.

Line Control - Line Control allows the network to convey line polarity, which is useful as an answer supervision indication. Line Control specification and notification of the mobile station enables specification of Polarity Included, Toggle Mode, Reverse Polarity and Power Denial Time. These are specified in IS-95B section 7.7.5.15.

(Note: A serving system permits signaled Alert or Flash-with-Line Control specification and notification of the mobile station. The specifications of the parameters in IS-95B are:

- Polarity Included 0 or 1
- Toggle Mode 0 or 1
- Reverse Polarity 0 or 1
- Power Denial Time 0 - 1275 milliseconds (range)

Meter Pulses - Meter Pulses, as an entity, specifies and notifies the mobile station of the number of meter pulses and frequency of the alert tone. Meter Pulses specification and notification enables specification of Pulse Frequency, Pulse On/Off Time and Pulse Count. The parameters are specified in IS-95B section 7.7.5.13.

Currently, the serving system permits signaled Alert or Flash-with-Meter Pulses specification and notification of the mobile station. Alternative metering requirements may be developed as needed. The IS-95B specifications are:

- Pulse Frequency 10 - 20470 hertz (range)
- Pulse On Time 0 - 1275 milliseconds (range)
- Pulse Off Time 0 - 1275 milliseconds (range)
- Pulse Count 0 - 15 (range)

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49

1.1 Normal Procedures With Successful Outcome

Authorization

Wireless Pay Phone may be provided after pre-arrangement with the service provider. During pre-arrangement, the service provider will allocate use of Line Control and/or Meter Pulses by the Wireless Pay Phone feature.

De-Authorization

Wireless Pay Phone may be withdrawn after pre-arrangement with the service provider or, for administrative reasons, may be made generally unavailable.

Registration

Wireless Pay Phone has no registration.

De-Registration

Wireless Pay Phone has no de-registration.

Origination

Wireless Pay Phone allows the serving system to convey Line Control and/or Meter Pulses to the mobile station pay phone application. As a result of pre-arrangement with the service provider, a wireless pay phone application may be optioned for use of Line Control as an answer-supervision indicator. Conversely, as a result of pre-arrangement with the service provider, a wireless pay phone application may be optioned for use of Meter Pulses for meter pulses.

Page Response

Wireless Pay Phone has no page response.

Flash

Wireless Pay Phone has no flash.

Idle State

Wireless Pay Phone has no idle state.

Conversation State

Meter Pulses are sent during conversation state.

Activation

Wireless Pay Phone may be provided after pre-arrangement with the service provider.

De-Activation

Wireless Pay Phone may be withdrawn after pre-arrangement with the service provider or, for administrative reasons, may be made generally unavailable.

Invocation

Wireless Pay Phone may be provided as result of service provider pre-arrangement.

1.2 Normal Operation with Successful Outcome

The following table describes the call party actions and system reactions for Wireless Pay Phone:

	State 2-Way	Condition The controlling subscriber is alerting the other party, or the controlling subscriber is in a two-way conversation with the other party.
XID	Call Party Action	System Reaction
3K	The controlling subscriber goes on-hook.	Stop metering. Release the controlling subscriber and the other party. Go to the idle state.
3E	The controlling subscriber requests a disconnect by pressing the END key.	Stop metering. Release the controlling subscriber and the other party. Go to Idle State.
3D	The other party disconnects.	Stop metering. Release the controlling subscriber and the other party. Go to Idle State.
3N	The other party answers.	Either start metering or provide answer supervision and start metering.. Allow a conversation with the new party. Remain in the 2-way state.

Table 1: 2-Way for Wireless Pay Phone

Call Detail Record

The serving system for the Wireless Pay Phone feature should provide call detail record information for the following:

- Wireless Pay Phone call duration
- Local calls
- Toll calls

1.3 Exception Procedures With Unsuccessful Outcome

Authorization

None Identified.

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48

De-Authorization

None Identified.

Registration

None Identified.

De-Registration

None Identified.

Origination

None Identified.

Page Response

None Identified.

Flash

None Identified.

Idle State

None Identified.

Activation

None Identified.

De-Activation

None Identified.

Invocation

None Identified.

Exceptions While Roaming

None Identified.

Exceptions During Intersystem Handoff

None Identified.

1 **1.4 Alternative Procedures**

2
3 None Identified.
4

5 **1.5 Interactions With Other Wireless Services**

6
7 **Call Delivery (CD)**

8
9 None Identified.

10
11 **Call Forwarding - Busy (CFB)**

12
13 None Identified.

14
15 **Call Forwarding - Default (CFD)**

16
17 None Identified.

18
19 **Call Forwarding - No Answer (CFNA)**

20
21 None Identified.

22
23 **Call Forwarding - Unconditional (CFU)**

24
25 None Identified.

26
27 **Call Transfer (CT)**

28
29 None Identified.

30
31 **Call Waiting (CW)**

32
33 None Identified.

34
35 **Calling Number Identification Presentation (CNIP)**

36
37 None Identified.

38
39 **Calling Number Identification Restriction (CNIR)**

40
41 None Identified.

42
43 **Conference Calling (CC)**

44
45 None Identified.
46

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51

Do Not Disturb (DND)

None Identified.

Flexible Alerting (FA)

None Identified.

Message Waiting Notification (MWN)

None Identified.

Mobile Access Hunting (MAH)

None Identified.

Password Call Acceptance (PCA)

None Identified.

Preferred Language (PL)

None Identified.

Priority Access and Channel Assignment (PACA)

None Identified.

Remote Feature Control (RFC)

None Identified.

Selective Call Acceptance (SCA)

None Identified.

Subscriber PIN Access (SPINA)

None Identified.

Subscriber PIN Intercept (SPINI)

None Identified.

Three-Way Calling (3WC)

None Identified.

Voice Message Retrieval (VMR)

None Identified.

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50

Voice Privacy (VP)

None Identified.

Asynchronous Data Service (ADS)

None Identified.

Calling Name Presentation (CNAP)

None Identified.

Calling Name Restriction (CNAR)

None Identified.

Data Privacy (DP)

None Identified.

Emergency Services (9-1-1)

None Identified.

Group 3 Facsimile Service (G3 Fax)

None Identified.

Network Directed System Selection (NDSS)

None Identified.

Non-Public Service Mode (NP)

None Identified.

Over the Air Service Provisioning (OTASP)

None Identified.

Service Negotiation (SN)

None Identified.

User Group (UG)

None Identified.

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39

Short Message Delivery (SMD-PP)

None Identified.

Wireless Messaging Teleservice (WMT)

None Identified.

Wireless Paging Teleservice (WPT)

None Identified.

System Functionality

None Identified.

Subscriber Confidentiality

None Identified.

Network Services

None Identified.

Wireless Local Loop

None Identified.

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20

21 **2. The Introduction Section of Specifications Series**

22
23
24
25
26
27
28
29

3GPP2 proposes additions to the Lists of Series Parts to reflect the introduction of a new Wireless Pay Phone feature definition.

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18

1.4 Organization

The main parts are categorized as the following:

- Part xxx series entitled "Wireless Pay Phone Feature Descriptions" describes functionality that shall be required to support Wireless Pay Phones.

4. Listing of Series Parts

Table 3: Listing of Parts

NAME	NUMBER	REVISION	DATE
Mobile Station Functionality	See Specification Series	A	February 2000
System Functionality	See Specification Series	A	February 2000
Wireless Pay Phone	See Specification Series	B	MMYY

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16

3. Wireless Feature Description: System Functionality

17
18
19
20
21
22
23

3GPP2 proposes the addition of Line Control and Meter Pulse to the Signals Applied to the Mobile Station Section to reflect the introduction of a new Wireless Pay Phone feature.

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24

**Wireless Feature Description:
System Functionality**

1.5 Signals Applied Toward the Mobile Station

Line Control

Line Control is the control that is sent to set the landline current feed state. Line Control is used to provide the Wireless Pay Phone feature answer supervision as an indication of called party answer. Line control specification and notification of the mobile station enables specification of Line Control Polarity Included, Toggle Mode, Reverse Polarity and Power Denial Time parameters.

Meter Pulses

Meter Pulses sent to the mobile station represent landline meter pulses. Meter Pulses specify and notify the mobile station Meter Pulses Pulse Frequency, Pulse-On Time, Pulse-Off Time and Pulse-Count parameters.

1 Add the following new section to the Mobile Station Functionality section:
2
3

4 **1.17. Signals Produced by the Mobile Station**

5
6 **Line Control**

7 Upon the mobile station's receipt of Line Control, the mobile station shall apply the
8 corresponding land line current feed to the line. Line Control is used by the mobile
9 station to provide answer supervision to the Wireless Pay Phone. The Line Control is
10 signaled to the mobile station, using values of Line Control Polarity Included, Toggle
11 Mode, Reverse Polarity and Power Denial Time parameters.
12

13
14 **Meter Pulses**

15 Upon the mobile station's receipt of Meter Pulses, the mobile station shall apply the
16 corresponding land line meter pulses to the line. Meter Pulses are used by the mobile
17 station to provide meter pulses to the Wireless Pay Phone. The Meter Pulses are signaled
18 to the mobile station using values of Meter Pulses Pulse Frequency, Pulse-On Time,
19 Pulse-Off Time and Pulse Count parameters.
20

21
22 END