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**PERFORMANCE SPECIFICATION
FOR PRIVATE PAYPHONE EQUIPMENT
(TO COMPLY WITH INTERIM SINGLE PAYPHONE
COMMON ACCESS (SPCA) REQUIREMENTS)
USING ACCESS LINE
TO BE CONNECTED
TO THE PUBLIC FIXED
TELECOMMUNICATIONS NETWORK
IN HONG KONG**



**TELECOMMUNICATIONS AUTHORITY
HONG KONG**

FOREWORD

1. This specification is issued pursuant to Section 32D of the Telecommunications Ordinance (Cap. 106). This specification sets out the technical and functional requirements of private payphone for connection to the public fixed telecommunications network in Hong Kong over access line provided by either Fixed Telecommunications Network Services (FTNS) operators or a person reselling FTNS with the interim Single Payphone Common Access (SPCA) requirements.
2. The payphone is required to comply with this specification for connection to the fixed telecommunications network in Hong Kong. Supplementary information on network characteristics and services of the FTNS networks may be obtained direct from the operators. Contact information of the FTNS operators can be found in the information note OFTA I 412.
3. At present, the Office of the Telecommunications Authority (OFTA) operates a **Hong Kong Telecommunications Equipment Evaluation and Certification** (“HKTEC”) scheme. Details of the scheme can be found in the information note OFTA I 421. Under the scheme, suppliers or manufacturers may apply to OFTA for certification of their customer premises equipment against this specification. The application procedures for certification of customer premises equipment can be found in the information note OFTA I 416. A prescribed label may be affixed to the equipment which has been certified by the Telecommunications Authority (TA). Details of the labelling arrangement can be found in the Standardisation Guide HKTA 3211.
4. The TA may amend any part of this specification as and when he deems necessary.
5. In case of doubt about the interpretation of this specification, the methods of carrying out the test and the validity of statements made by the manufacturers of the equipment, the decision of the TA shall be final.
6. The TA accepts no responsibility for the satisfactory performance of the CPE connected to the public telecommunications networks. The CPE is not normally evaluated against performance, reliability or quality-of-service parameters.
7. The HKTA specifications and information notes issued by the TA can be obtained through one of the following methods:-
 - Downloading direct through the OFTA’s Internet Home Page. The Home Page address is <http://www.ofa.gov.hk>;
 - Making a request for hard copies to:-

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8. Enquiries about this specification may be directed to:-

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AMENDMENT TABLE

Item	Issue No.	Paragraph	Descriptions
1.	Issue 2	Foreword Para. 2 & Para. 3	Delete contact information for FTNS operators and refer to an information note I 412 issued by OFTA. Add information for the HKTEC Scheme.
2.	Issue 2	Body Para. 2.5-2.7	Add definitions for Payphone Service Provider, Private Payphone and Free Access.
3.	Issue 2	Para. 4.1	Rewrite Para. 4.1 iii to clarify that the "on-the-spot payment" requirement is applicable to cash and stored-value card only.
4.	Issue 2	Para. 4.3	Rewrite Para 4.3.1-4.3.3 to indicate that indirect access and toll-free codes and numbers should be referred to HKTA 3208 "Standardisation Guide for Revising the Free Access Codes and Numbers in Private Payphones" issued by the Telecommunications Authority (TA). Rewrite Para. 4.3.3 to clarify that the digit length of each free access code/number that can be stored and analysed by the payphone is at least 8 digits or more; and to include editorial changes for texts related to payphone service provider. Add Para. 4.3.4 to specify that the free access codes and numbers should be recognised by the payphone in the format of numbering level. Add Para. 4.3.5 to specify that the free access codes and numbers provided in payphones should be re-programmable
5.	Issue 2	Para. 4.4	Add new item c under Para. 4.4.1 on optimal refund of coins.
6.	Issue 2	Para.4.8-4.10	Include editorial changes for texts related to payphone service provider and access network.
7.	Issue 2	Para. 4.11	Rewrite Para. 4.11.2 to clarify that the length of barred number that can be stored and analysed by the payphone is at least 8 digits or more.
8.	Issue 2	Para. 4.12	Rewrite Para. 4.12 iii to limit the requirement to "on-the-spot payment" by cash and stored-value card.
9.	Issue 2	Para. 4.13	Rewrite Para. 4.13 to add flexibility such that it is optional for the payphone to unmute transmitter upon detection of a toll-free code/number.
10.	Issue 2	Para. 6	Include additional reference.
11.	Issue 2	Para. 7	Delete reference to Annex 2
12.	Issue 2	Annex	Delete Annex 2
13.	Issue 3	Foreword	Certification and labelling arrangements are now referred to relevant information notes.

CONTENTS

- 1. SCOPE**
- 2. DEFINITIONS**
- 3. BASIC TECHNICAL REQUIREMENTS**
- 4. FUNCTIONALITY AND OTHER REQUIREMENTS**
- 5. FACILITIES FOR THE DISABLED**
- 6. REFERENCE**
- 7. ANNEXES**

1. SCOPE

This performance specification covers the minimum technical and functional requirements of private payphone for connection to the public fixed telecommunications network in Hong Kong over an access line and which has to meet the interim Single Payphone Common Access (SPCA) requirements.

2. DEFINITIONS

The following definitions will apply in this specification -

2.1 **Payphone** : A payphone means a fixed telephone¹ that is connected to the public switched telephone network operated by an FTNS licensee and that cannot be used to make a telephone call² (other than a free call or a call made through an operator-assisted or automated caller identity verification system) unless the user, immediately prior to using the telephone, makes, or arranges to make, a payment for that particular individual call.

2.2 **“Single Payphone - Common Access” Payphone** : A “single payphone - common access” (SPCA) payphone means a payphone that enables a user to choose, directly or indirectly, the local or international call services provided by any FTNS licensee.

2.3 **Interim Single Payphone - Common Access** : The interim implementation of the common access requirement in a payphone providing -

(a) direct access to the services of the FTNS licensee providing the access line to the payphone concerned, e.g. “001” and “002” calls and calls to the calling card and toll-free services of the FTNS licensee providing the access line; and

(b) indirect access (i.e. through the network to which the payphone is connected) to the services of the other three FTNS licensees. These services will include “00X” calls (other than “001” and “002” calls) and calling card and toll-free services of the FTNS licensees indirectly accessed.

2.4 **Access Line** : An access line is a telephone line which is connected to the payphone and which may either be provided by a FTNS operator or by a person reselling FTNS.

2.5 **Payphone Service Provider** : A Payphone Service Provider (PSP) means a person who, by leasing an access line from an FTNS licensee and using that person's own payphone equipment, provides private payphone services under a licence issued under the Telecommunication Ordinance (Cap. 106).

¹: Fixed payphones are payphones which are fixed in location during usage. Thus a payphone on a mobile trailer is a “fixed payphone” as it is intended to be fixed during usage. This is to be contrasted with a “mobile payphone” on, for example, a taxi which may be used while the vehicle is in motion or temporarily fixed in location, e.g. during stops at traffic lights. Mobile payphones are outside the scope of this Specification.

²: The call may be a voice call or non-voice (e.g. fax or data) call.

- 2.6 **Private Payphone** : A private payphone means a payphone that is located on or over privately owned land or leased land as defined in section 2, Part I of the Land (Miscellaneous Provisions) Ordinance (Cap. 28) and to which members of the general public have access.
- 2.7 **Free Access** : Free access to certain numbering levels provided by a payphone means that the user must not be required to deposit coins or make payment in any other form before access to the concerned numbering levels is provided.³

3. BASIC TECHNICAL REQUIREMENTS

The payphone shall comply with the relevant HKTA-2xxx series specifications including but not limited to :-

1. HKTA 2001 - Compliance Test Specification - Safety and Electrical Protection Requirements for Subscriber Equipment Connected to the Public Telecommunications Networks in Hong Kong; and
2. HKTA 2011 - Network Connection Specification for Connection of Customer Premises Equipment (CPE) To Direct Exchange Lines (DEL) of the Public Switched Telephone Network (PSTN) In Hong Kong.

Further information about the access line provided by the FTNS operator for direct connection with the payphone may be found in Annex 1.

³ Any charge which the payphone service provider may wish to levy for delivering a freephone call should be made by suitable accounting arrangement with the FTNS operator serving the caller.

4. FUNCTIONALITY AND OTHER REQUIREMENTS

4.1 Display Requirements

The payphone shall be able to display to the caller :

- i. Out-of-service visual indication in cases of faults, cash container full condition, etc.;
- ii. the telephone number dialled; and
- iii. the remaining credits (or remaining period for a timed call) of his call for services which require on-the-spot payment (i.e. charging is done at the payphone equipment itself) by cash or stored-value card ⁴.

4.2 Tone Dialling

The payphone shall use tone dialling.

4.3 Access Levels

4.3.1 For fulfilment of the "Single Payphone - Common Access" (SPCA) requirement, the payphone shall be able to allow a user to choose, directly or indirectly, the international call services provided by any FTNS licensee and allow "00X" and "20X" calls to be passed regardless of the payment mode. In particular, the indirect access codes and numbers given in Schedule A of HKTA 3208 "Standardisation Guide for Revising the Free Access Codes and Numbers in Private Payphones" issued by the TA should be accessible. These indirect access codes and numbers shall be classified as free access codes and numbers by the payphone.

4.3.2 The payphone should provide access to toll-free codes and numbers for free-of-charge services provided by FTNS operators. Examples include emergency calls to police (99x), freephone services (800), directory enquiry service and operator service of the FTNS operator providing the access line of the payphone. The list of toll-free codes and numbers is given in Schedule B of the Standardisation Guide HKTA 3208. The toll-free codes and numbers shall be classified as free access codes and numbers by the payphone.

4.3.3 The payphone should support a minimum of 100 free access codes / numbers. The digit length for each free access code / number that can be stored and analysed by the payphone should be at least 8 digits, or more.

4.3.4 The payphone should be able to recognise a free access code / number in the format of numbering level, i.e. by analysing a specified sequence of leading digits for the dialled digits by the user.

⁴ This requirement does not apply to stored value card with a remote charging mechanism, i.e. credit information for the card holder is held and updated by a remote server.

4.3.5 The free access codes and numbers provided by the payphone are subject to change and convenient means shall be provided by the payphone to re-programme the free access codes and numbers.

4.4 **Payment Mode**

4.4.1. For a payphone that accept coins, it should

a. accept multiple of the following Hong Kong coinage through a single coin slot.

Below One Dollar Coins	[Optional]
One Dollar Coin	(\$1)
Two Dollar Coin	(\$2)
Five Dollar Coin	(\$5)
Ten Dollar Coin	(\$10)

N.B.: Coins are subjected to change in size, weight and alloy from time to time.

b. return coin(s) for unsuccessful calls.

c. provide optimal refund of unused coins such that if the caller has inserted several coins and has successfully completed making call(s), the payphone will cash the coin(s) with minimum total credit covering the chargeable value of the call(s) and return the remaining coins.

4.4.2 Regardless of its equipped mode of payment, the payphone should be able to accept credit card information entry through the keypad and be able to send the information to the FTNS operator of the caller's choice. If the payphone is equipped with credit card swiper, it should be able to send credit card information by swiping of card or using keypad to an FTNS operator of the caller's choice if the caller chooses to use credit card mode of payment.

(Note: the credit card swiper mode may not be available for existing payphones.)

4.5 **Answer Detection - Reverse Loop Polarity, Charging Pulse**

The payphone shall be able to recognise Reverse Loop Polarity [or Charging Pulse/Tone] as answer detection signal⁵.

4.6 **CO Pulse Charging**

The payphone shall be able to use Reverse Loop Polarity [or Charging Pulse/Tone as method of charging⁶.

⁵Answer detection signal

The FTNS operators may deploy either Reverse Loop Polarity or Charging Pulse/Tone as answer detection signal. The payphone service provider shall clarify with the concerned FTNS operator to find out the arrangement before connecting their payphone to the payphone access line to ensure the proper function of payphone.

4.7 Digit Length

In the case of an international call, the payphone should be able to pass up to 15 digits in addition to the access code.

4.8 Rate Table - accuracy , update, time-lag in update

The accuracy of the payphone, either residing in the payphone itself or anywhere in the system for real-time charging, shall conform to the tariffs as posted in the payphone in the following manners :-

- a. the number of inaccurately metered calls shall not exceed 1 in 10,000 of total calls;
- b. the number of overmetered calls shall not exceed 1 in 50,000 of total calls;
- c. the absolute summation of the value of all overmetering and undermetering of usage shall not exceed 1 in 20,000 of the value of the total usage had that usage been correctly charged at the published tariffs;
- d. the total value of overmetering of usage shall not exceed 1 in 100,000 of the total value of usage had that usage been correctly charged at the published tariffs.

Notes to payphone service providers (PSPs):

- (i) In view of the difficulties in meeting the above said accuracy during a Rate Table update exercise, the time-lag in updating the Rate Table in the payphone shall, unless approved otherwise by the TA, not exceed 3 calendar days more than the advertised date of change of rate by the payphone service provider (PSP).
- (ii) During the time-lag of the Rate Table update, no caller shall be worse off in making a call through the payphone affected by the Rate Table update exercise. In case the update is a reduction of rate, it may be necessary for the PSP to update the Rate Table in the payphone in advance.

4.9 Charging Rules

When a call is made using any one of the non-coin methods of payment, the payphone should operate without any coin depositing requirement on the caller.⁷

⁶ Method of charging

The FTNS operators may deploy either Reverse Loop Polarity or Charging Pulse/Tone as method of charging. The payphone service provider shall clarify with the concerned FTNS operator to find out the arrangement before the connecting their payphone to the payphone access line to ensure the proper function of payphone.

⁷ Any charge which the payphone service provider may wish to levy under such a situation should be made by suitable accounting arrangement with the FTNS operator serving the caller.

4.10 Credit Authorisation

For the payphone which is able to accept credit card payment, it shall be able to pass on, via the access network, credit authorisation information entered into the payphone by the caller. Details of the information required and the protocol for passing such information would be specified by the FTNS operators. For the payphone which accepts credit cards, it should accept credit cards conforming to ISO standard. The magnetic stripe encoding technique should also conform to the relevant ISO standard.

4.11 Barring Features

4.11.1 Incoming Calls

The payphone should be capable of barring incoming calls. For payphone which accepts incoming calls, it should provide payphone recognition tone in accordance with ITU Recommendation E.180 or equivalent international standards to avoid international collect calls.

4.11.2 Special Access Numbers

The payphone should be capable of barring specific numbers. As soon as the barred number is detected, the call should be terminated. The minimum number of digits for the barred numbers that can be stored and analysed by the payphone should be at least 8 or more digits.

4.11.3 Modes of Operations

The payphone should be capable of barring independently the following modes of operation:

- a). Coin mode
- b). Credit card mode
- c). Stored-value card mode
- d). International direct dialling (IDD) call mode
- e). Local call mode

4.12 Expiry of Credit Operation

For on-the-spot payment (i.e. charging is done at the payphone equipment itself) by cash or stored-value card, the payphone should provide simultaneous visual and audible end-of-credit indication before exhaustion of value of stored-value card ⁴ or the cash deposited.

4.13 Protection for Fraudulent Calls

The payphone should prevent hook-switch manipulation to avoid fraudulent calls. The transmitter of the payphone should be muted immediately after off-hook and unmuted until the answering signal is received. For toll-free codes and numbers, it is optional for the transmitter to be unmuted once the code/number is detected.

5. FACILITIES FOR THE DISABLED

The payphone should be provided with amplifying handset or receiver with inductive coupler. It should also provide the digit 5 indicator for the visually impaired.

6. REFERENCE

- [1] Regulation of Payphone Services in Hong Kong, Statement of the Telecommunications Authority, Hong Kong, 25 April 1997.
- [2] Code of Practice on Tariffs Display at Public and Private Payphone Locations issued by the Telecommunications Authority.
- [3] HKTA 3208 Standardisation Guide for Revising the Free Access Codes and Numbers in Private Payphones issued by the Telecommunications Authority.

7. ANNEXES

Annex 1 : Access Line Interface

- END -

ACCESS LINE INTERFACE

1 Signalling

The access line shall be able to accept DTMF dialling.

The access line shall be able to pass on DTMF signals from the payphone after a call is established.

2 CLI/CPC

In case the caller chooses to dial an indirect-connected FTNS network, the FTNS network providing the access line shall be able to forward Calling Line Identification (CLI) and appropriate Calling Party Category (CPC) to the destination FTNS network.

3 Network routing - 00x, 20x

The FTNS network providing the access line shall be able to route 00x and 20x calls correctly to each of the four FTNS networks.

- END -