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**NETWORK CONNECTION SPECIFICATION
FOR CONNECTION OF CUSTOMER PREMISES
EQUIPMENT (CPE) TO THE
PUBLIC TELECOMMUNICATIONS NETWORKS
(PTNs) IN HONG KONG USING
OPTICAL LEASED CIRCUITS WITH
SYNCHRONOUS DIGITAL HIERARCHY (SDH)
INTERFACE**



**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 requirements for connection of customer premises equipment (CPE) to the public telecommunications networks (PTNs) in Hong Kong using optical leased circuits with Synchronous Digital Hierarchy (SDH) interface.
2. Optical leased circuits may be provided by any one of the Fixed Telecommunications Network Services (FTNS) operators in Hong Kong. The FTNS operators may implement network interface between optical leased circuits and CPE in compliance with this specification. 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 412. 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.ofta.gov.hk>;
 - Making a request for hard copies to:-

Senior Telecommunications Engineer
Standards Section
Office of the Telecommunications Authority
29/F Wu Chung House
213 Queen’s Road East
Wanchai
Hong Kong

Fax: +852 2838 5004
Email: standards@ofta.gov.hk

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

Senior Telecommunications Engineer
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AMENDMENT TABLE

Item	Issue No.	Paragraph	Descriptions
1.	Issue 2	Foreword	Certification and labelling requirements are updated.

CONTENTS

- 1. SCOPE**
- 2. ELECTRICAL SAFETY**
- 3. INTERCONNECT POINT**
- 4. OPTICAL INTERFACE REQUIREMENTS**
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1. SCOPE

This network connection specification sets out the minimum technical requirements for connection of customer premises equipment (CPE) to the public telecommunications networks (PTNs) in Hong Kong using optical leased circuits with Synchronous Digital Hierarchy (SDH) interface.

2. ELECTRICAL SAFETY

2.1 PRINCIPLE OF PROTECTION

In order to safeguard operating personnel, users, and plant, it is essential to prevent the transmission of excessive voltages from the CPE into the public telecommunications networks (PTNs) in Hong Kong.

2.2 SAFETY REQUIREMENTS

The CPE shall comply with HKTA 2001 "Compliance Test Specification - Safety and Electrical Protection Requirements for Subscriber Equipment Connected to the Public Telecommunications Networks in Hong Kong" issued by the TA.

3. INTERCONNECT POINT

3.1 Optical leased circuits may be provided by any one of the Fixed Telecommunications Network Services (FTNS) operators (hereafter referred to as the "network operators") in Hong Kong. Interconnection with the optical leased circuits will require the installation of the network operators' equipment and internal cabling in customer premises. A normal office air-conditioned environment is required as well as a maintained power supply. Either a mains power supply of 220 Vrms \pm 10% taken from the same point in the building distribution as the CPE or a suitable power supply of -48 Vdc \pm 10% should be provided by the customer.

3.2 The interconnect point (IP) marks the division of responsibility between the network operator and the customer (see Figure 1).

3.3 The network operator will provide sockets for connection, disconnection or re-connection of the equipment to the IP. The customer will be responsible for connection and disconnection of the CPE at the IP.

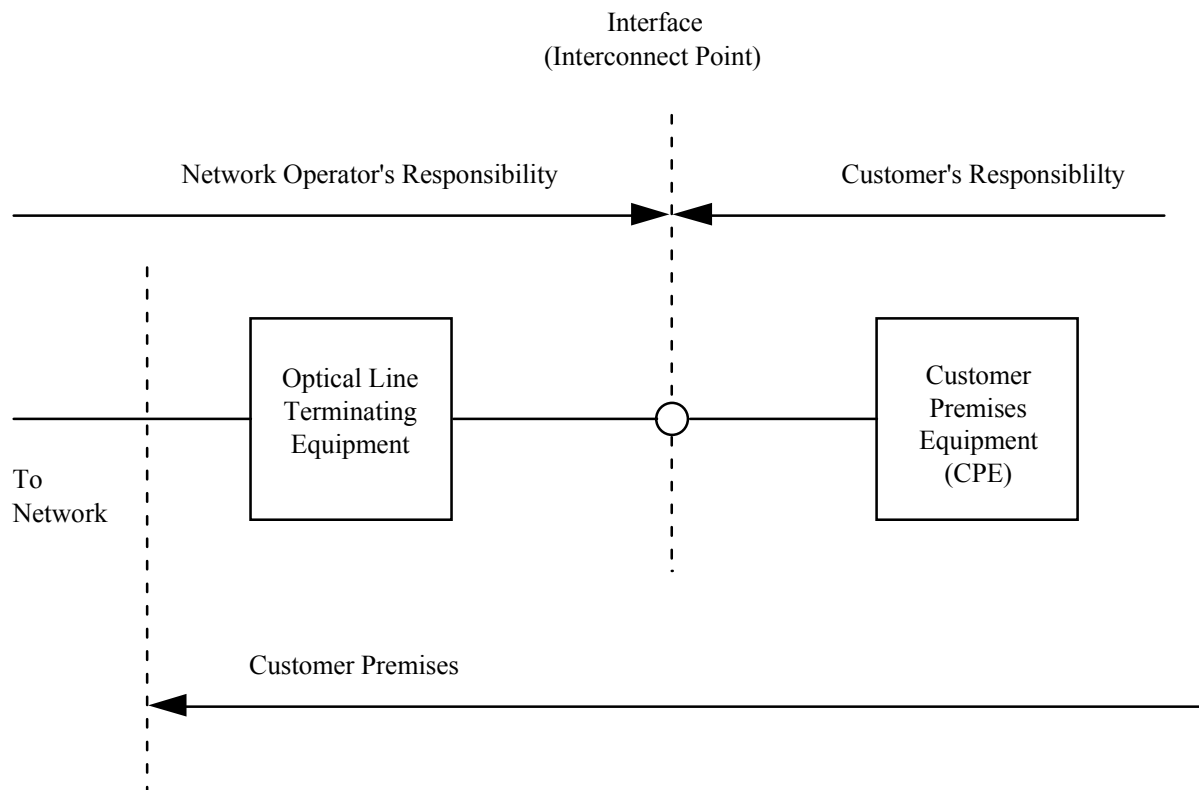


Figure 1 - Interconnection of CPE to the optical leased circuit with SDH interface

4. OPTICAL INTERFACE REQUIREMENTS

The optical interface of the CPE shall conform to ITU-T Recommendations G.957 with the following major characteristics:

- (a) Bit rate : 155.52 Mbit/s (STM-1) with tolerance of ± 20 parts per million (ppm)
- (b) Optical source : 1310 nm or 1550 nm (nominal)
- (c) Type of optical fibre: single mode optical fibre complying with ITU-T Recommendation G.652, G.653, G.654 or G.655
- (d) Optical parameters: compliance with the parameter values for STM-1 interface as specified in Table 2 of ITU-T Recommendation G.957.

Note 1: Other bit rates may be supported by the network at the discretion of individual network operator.

5. REFERENCE

- [1] HKTA 2001 - "Safety and Electrical Protection Requirements for Subscriber Equipment Connected to The Public Switched Telephone Network (PSTN) in Hong Kong" issued by the Telecommunications Authority.
- [2] ITU-T Recommendation G.957 – Optical interfaces for equipments and systems relating to the synchronous digital hierarchy.

- [3] ITU-T Recommendation G.652 - Characteristics of a single-mode optical fibre cable.
- [4] ITU-T Recommendation G.653 - Characteristics of a dispersion-shifted single-mode optical fibre cable
- [5] ITU-T Recommendation G.654 - Characteristics of a cut-off shifted single-mode optical fibre cable
- [6] ITU-T Recommendation G.655 - Characteristics of a non-zero dispersion shifted single-mode optical fibre cable
- [7] IEC 60825-1, Safety of laser products – Part 1: Equipment classification, requirements and user's guide.
- [8] IEC 60825-2, Safety of laser products – Part 2: Safety of optical fibre communication systems.

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