# **Hong Kong Supplementary** Character Set - 2015

Version 23.0

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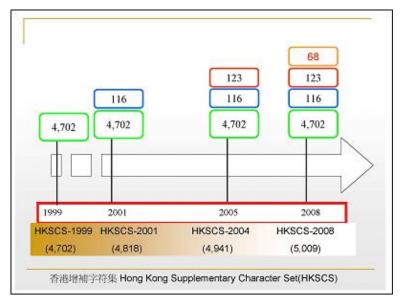
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## **Preface**

Information stored in a computer or transmitted in electronic communication is coded according to a pre-defined coding scheme. For information in Chinese, there are different coding schemes including Big-5, GB (Guo Biao) and the ISO/IEC 10646 international coding standard. When coding schemes do not cover all the Chinese characters used in the Hong Kong Special Administrative Region (HKSAR), users may need to create unencoded characters on their computers and assign internal codes for them in the user-defined area. Among these characters, many are commonly used in the HKSAR. Some of them are used in the names of persons and places while some in the Cantonese dialect. This works well in stand-alone computers, but when computers are connected to each other, these user-defined characters may give rise to problems in communication and data exchange.

One of the initiatives under the Government's "Digital 21" Strategy for IT development is to develop an open and common Chinese language interface in the HKSAR for users who choose to communicate electronically in Chinese. The pivotal elements of this initiative include: (1) building the Hong Kong Supplementary Character Set (HKSCS) as a standard for the Chinese characters used in Hong Kong so as to set up a common platform; (2) migrating to use of the ISO/IEC 10646 international standard gradually to promote the realization of the common Chinese system. ISO/IEC 10646 is an international coding standard being developed under the aegis of the ISO to embrace characters used in all major languages in the world, including traditional and simplified Chinese characters.

To facilitate electronic communication within the Government. Hong Kong Government developed the Government Common Character Set (GCCS) in 1995. The release of the GCCS marked the first step in coordinating the adoption of user-defined Chinese characters



and it was well received by the public as a supplement to the standard character set of Big-5. This supplementary character set was later enhanced by the Government in collaboration with the Chinese Language Interface Advisory Committee (CLIAC), which comprises representatives from academia, language and linguistics associations, the information technology industry and the publishing industry. The enhanced character set included characters collected from various sectors in the HKSAR and represented a common set for the community. It was named the Hong Kong Supplementary Character Set (HKSCS) and was published in September 1999. This version has 4,702 characters and is also known as HKSCS-1999 for aligning with the versions published afterwards.

There were two code allocation schemes for HKSCS when it was initially published, one for the Big-5 system used by Hong Kong at that time and the other for the ISO/IEC 10646 international coding standard.

(HKSCS-2008 is the last version of HKSCS published with Big-5 code points.)

Recognising the need of the public and government departments to add new characters into HKSCS from time to time, the Government worked together with the CLIAC and published the procedures and principles for inclusion of new characters in HKSCS in April 2000. The CLIAC meets regularly to consider applications for inclusion of characters in HKSCS. Once approved, the new HKSCS characters will be submitted to the Ideographic Rapporteur Group (IRG), a working group under the International Organisation for Standardisation (ISO), for inclusion in the new releases of the ISO/IEC 10646 standard as vertical extension.

In December 2001, HKSCS-2001 was released with 116 newly approved characters. In May 2005, HKSCS-2004 was published with a further addition of 123 new characters. In April 2008, HKSCS-2008 was published with 68 newly approved characters, making a total of 5,009 characters. HKSCS-2004 technically aligns with the ISO/IEC 10646:2003 and its Amendment 1 published in April 2004 and November 2005 respectively. In October 2009, five previously unencoded characters in HKSCS-2008 were accepted in ISO/IEC 10646:2003 Amendment 6. As such, all the characters in HKSCS-2008 have been assigned code points in the ISO/IEC 10646 standard, marking an important step of Hong Kong's migration from the Big-5 platform to ISO 10646-enabled platforms. In April 2008, the Government promulgated the revised principles for the inclusion of characters in HKSCS. For newly included HKSCS characters, only ISO/IEC 10646 code points will be assigned and Big-5 code points will

cease to be assigned. All HKSCS characters already assigned with Big-5 code points before will not be affected. This decision is in line with the adoption of the common Chinese language interface which comprises the ISO/IEC 10646 standard and HKSCS as recommended by the "Digital 21" Strategy for IT development.

With the acceptance of five previously unencoded HKSCS-2008 characters by the ISO, HKSCS-2008 aligns technically with the ISO/IEC 10646:2003 and its Amendments 1 to 6. In view of this, the CLIAC has decided to further revise the principles for the inclusion of characters in HKSCS such that newly approved characters will be submitted directly to the ISO for approval before formal inclusion in HKSCS. In addition, characters will not be assigned code points in the Private Use Area (PUA). Instead, they will be given ISO/IEC code points directly once approved by the ISO.

However, HKSCS-2008 has its limitation. At present, the principle for extending it only supports the addition of new characters to ISO/IEC 10646. In other words, HKSCS-2008 only supports Vertical Extension to ISO/IEC 10646. There is no complete character setextension system to define all addindicate the Chinese characters and symbols commonly used in Hong Kong butthat are already coded in ISO/IEC 10646, which makes it confusing to users. Without official definitions of all the Chinese characters and symbols used in Hong Kong-character set, it is also difficult for the industry to support the use of Chinese in electronic communication in Hong Kong.

To support the coding platform of the computer system, ISO/IEC 10646 provides a method named Horizontal Extension to define the Chinese characters used in a certain country or region as a **named character set** <sup>1</sup>. Through this method, we can define and use those accepted Chinese characters and symbols proposed by other countries and regions. This enables vendors to follow the named character set definition to support the common Chinese language interface. In previous Horizontal Extension to ISO/IEC 10646 for the Hong Kong characters, referred to as the H-Column, only those characters in HKSCS are defined. This does not reflect the actual use and cannot completely satisfy the needs of Hong Kong. <u>In addition, there is no definition for the symbols used in Hong Kong.</u>

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 $<sup>^{\</sup>rm 1}\,$  ISO/IEC 10646 allows the defining of named character set to support localization.

To enable vendors to support the Chinese characters used in Hong Kong and the related localization technology, and to help HKSAR to migrate completely from a Big-5-centric coding system to the use of the ISO/IEC 10646 international standard, it is necessary to—form a complete collection as a named character set under the ISO/IEC 10646 international coding standard as the Hong Kong Character Set (HKCS) set up an extension system for HKSCS to make it a supplement to ISO/IEC 10646 rather than Big-5. In this way, the Chinese characters in H-Column in ISO/IEC 10646 and the symbols used in Hong Kong will can be completely defined.

HKSCS-2015 defined in this file will include (1) all <u>Chinese</u> characters and symbols in HKSCS-2008, (2) all <u>Chinese</u> characters and symbols in the Big-5 character set (<u>EtianETen</u> Big-5), and (3) Hong Kong's Horizontal Extension to ISO/IEC 10646. HKSCS-2015 consists of 17,654 ideographic characters and 839 symbols, including (1) 4,579 ideographic characters and 430 symbols in HKSCS-2008, (2) 13,053 ideographic characters and 408 symbols in the Big-5 character set (excluding 33 transmission control codes in Big-5), and (3) <u>22</u>-Hong Kong's Horizontal Extension <u>to ISO/IEC 10646</u>, including <u>22 Chinese</u> characters, and 1 newly added <u>currency</u> symbol, Euro Sign (HD-20AC)<sup>2</sup>.

HKSCS-2015 will be extended if there are future needs in the community. As HKCSHKSCS-2015 has enlarged its scope, the principles for inclusion of new characters in HKSCS-2008 need to be revised accordingly. That is, the principles should include not only Vertical Extension but also Horizontal Extension to ISO/IEC 10646. The revision of the principles and the review of new submissions are already accepted as part of CLIAC's work items.

 $HK_{\underline{S}}CS$ -2015 can be downloaded from  $\underline{x}\underline{x}\underline{x}\underline{x}$ .

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<sup>&</sup>lt;sup>2</sup> For details, see Section 3.62.

# Acknowledgement

To be added

### **Section 1 Overview**

- 1.1 This document specifies the overall coding architecture and code points of HKSCS-2015 in ISO/IEC 10646. The <u>Chinese</u> characters and symbols in Big-5 are also coded accordingly. HKSCS-2015 is fully compatible with the previous versions of HKSCS and the GCCS.
- 1.2 HKSCS-2015 is a complete named character set under the ISO/IEC 10646 international standard, including (1) all <u>Chinese</u> characters and symbols in HKSCS-2008, that is, 5,009 in total, (2) all <u>Chinese</u> characters and symbols in Big-5, namely, 13,461 in total, and (3) <u>Hong Kong's Horizontal Extension to ISO/IEC 10646, including 22 <u>Hong Kong's Horizontal Extension Chinese</u> characters, and 1 <u>newly added currency</u> symbol, Euro Sign (HD-20AC). A total of 18,493 <u>Chinese</u> characters and symbols in HKSCS-2015 will be listed in <u>two-3</u> tables:</u>
  - (1) <u>Table 1 lists all the Chinese characters excluding Compatibility Ideographs.</u>
  - (2) <u>Table 2 lists Compatibility Ideographs.</u> The first table lists the CJK Unified <u>Ideographs</u>, and the second one\_
  - (3) <u>Table 3</u> lists other symbols, including some radicals and components of Chinese characters.
- 1.3 HKSCS-2015 is a coded character set rather than a glyph standard. For glyph guidelines, please refer to "Glyph SpecificationReference Guide" for the Chinese Characters in HKCSHKSCS-2015".

(Note: "Glyph SpecificationReference Guide for the Chinese Characters in HKCSHKSCS-2015" can be found at xxxx.)

1.4 For the purpose of this document, the following definitions will apply:

| Term                     | Definition   |
|--------------------------|--|
| Basic Multilingual Plane | The first code plane in the ISO/IEC 10646 coding           |
| (BMP, Plane 0)           | framework (i.e. "Plane 0" or basic plane). Code points are |
|                          | from $U+0000$ to $U+FFFF$ .                                |
|                          |  |
| Block                    | A continuous collection of code points. The assigned       |

| Term                  | Definition   |  |
|-----------------------|--|--|
|                       | characters to the block share some common characteristics.   |  |
| Character             | A member of a set of elements used for the organisation,     |  |
|                       | control or representation of data.                           |  |
| Character Glyph       | In ISO/IEC 10646, it refers to a character in its abstract   |  |
|                       | form as an image. It is independent of a specific image. The |  |
|                       | basic elements to form an ideograph character are strokes,   |  |
|                       | radicals, components and their relative positions.           |  |
| Character Set         | A defined set of characters.                                 |  |
|                       |  |  |
| CJK Compatibility     | An area defined in the BMP (Plane 0) for compatibility with  |  |
| <u>Ideographs</u>     | CJK Ideographs Blocks. This area is used to include the      |  |
|                       | variants (or duplicate characters) already coded in CJK      |  |
|                       | Ideograph Sources which would otherwise not be coded in      |  |
|                       | ISO/IEC 10646. Code points are from F900 to FAFF. In         |  |
|                       | ISO/IEC10646, these variants and their corresponding         |  |
|                       | standard characters are unified. However, they are assigned  |  |
|                       | different code points in their respective CJK Ideograph      |  |
|                       | Sources already. Therefore, this special area is defined to  |  |
|                       | avoid one character with multiple code points in CJK         |  |
|                       | Ideographs Blocks and at the same time allow round-trip      |  |
|                       | conversion for backward compatibility. Every                 |  |
|                       | Compatibility Ideograph has a corresponds toing a standard   |  |
|                       | character coded in CJK Ideographs Blocks.                    |  |
| CJK Compatibility     | An extended area defined in the SIP (Plane 2) for            |  |
| Ideographs Supplement | compatibility with CJK Ideographs Blocks. Code points are    |  |
|                       | from 2F800 to 2FA1F.   |  |

| Term                             | Definition  |  |  |
|----------------------------------|---|--|--|
| CJK Ideographs Main              | The first block assigned to the unified ideographs including  |  |  |
| Block                            | Chinese, Japanese and Korean. Code points are from U+4E00 to U+9FFF.  |  |  |
| CJK Ideograph Source             | The CJK ideographs in the ISO/IEC 10646 international standard are defined based on the original computer character standards of China, Japan, Korea and other countries and regions. The original computer character standard or specification is called CJK Ideograph Source. The countries and regions are represented by letters as follows: Mainland China (G), Hong Kong (H), Japan (J), South Korea (K), Singapore (S), Taiwan (T), and Vietnam (V). |  |  |
| CJK Unified Ideographs           | A set of ideographs defined in the ISO/IEC 10646 international standard after the process of unification, which is derived from the original character standards of China, Japan, Korea, and other countries and regions. As the first version of the standard includes only characters from China (including Taiwan), Japan and Korea, the name "CJK" has been used ever since.  |  |  |
| Code Point                       | An assigned binary code value to represent a character. To distinguish from other coding standards, the notation of "U+" is used to indicate an ISO/IEC 10646 code point.   |  |  |
| Coded Character Set              | A character set established using a set of unambiguous rules to indicate the relationship between the characters of the set and their coded representation.   |  |  |
| CJK Ideographs  Extension Blocks | All blocks extended after the CJK Ideographs Main Block.  Extension A block is placed on the BMP and the subsequent   |  |  |

| Term                                      | Definition   |
|---|--|
|   | extension blocks are on the Supplementary Ideographic Plane (SIP), Plane 2.  |
| Government Common<br>Character Set (GCCS) | A coded character set developed by the Hong Kong<br>Government in 1995 for Chinese character interchange and<br>processing within the Government.  |
| Horizontal Extension                      | A method provided by ISO/IEC 10646 to list the characters used by a particular country or region X in the X-Column of the CJK Ideographs Main Block and other extension blocks so as to support the coding platforms of the computer systems. The characters used by Hong Kong are listed in the H-Column. |
| Ideograph                                 | Refers to a writing system in which the scripts are not primarily used to represent sound, but to represent meaning. Chinese characters are often referred to as ideographs.   |
| ISO/IEC 10646                             | An ISO standard on a coded character set. It aims at providing one single character set to encompass the characters of all major languages.  |
| ISO/IEC 10646:2003                        | Published in 2004, this version of the ISO/IEC 10646 standard is a single publication following the merger of the previous two releases of the ISO/IEC 10646 standard: ISO/IEC 10646-1:2000 and its supplement ISO/IEC 10646-2:2001.   |
| Named Character Set                       | A character set defined for a particular country, region, or language under ISO/IEC 10646 to support localization. Chinese characters are listed in the X-Column in CJK Ideographs Blocks.   |

| Term                   | Definition   |
|------------------------|--|
|                        |  |
| Private Use Area (PUA) | A block of code points in the ISO/IEC 10646 standard           |
|                        | reserved for users and vendors to give their own definitions.  |
|                        | In principle, it is intended for use by individuals or vendors |
|                        | privately and not for data interchange.                        |
|                        |  |
| Source Reference       | A reference established by associating a CJK Ideograph         |
|                        | code point with one or several values in the source            |
|                        | standards from which the CJK Unified Ideographs in             |
|                        | ISO/IEC 10646 are derived.                                     |
|                        |  |
| Supplementary          | The ISO/IEC 10646 coding framework assigned Plane 2 for        |
| Ideographic Plane      | CJK ideograph extensions. Code points are from U+20000         |
| (SIP, Plane 2)         | to U+2FFFF.  |
|                        |  |
| CJK Unification        | The process of assigning one code point to two or more         |
|                        | CJK character glyphs which, though images seemingly            |
|                        | different, are actually variants representing the same         |
|                        | element in data representation. Consequently, only one of      |
|                        | the variants is selected as the representative.                |
|                        |  |
| Vertical Extension     | A method for adding new ideographs to the CJK Ideographs       |
|                        | Main Block and other extension blocks. Source references       |
|                        | are required when new ideographs are added.                    |
|                        |  |

## **Section 2** Coding Scheme of **HKCSHKSCS-2015**

- 2.1 HKCSHKSCS-2015, as a complete named character set under the ISO/IEC 10646 international coding standard, covers all approved characters that are commonly used characters—in Hong Kong computer systems. HKCSHKSCS-2015 includes (1) all Chinese characters and symbols in HKSCS-2008, (2) all Chinese characters and symbols in the Big-5 character set (EtianETen Big-5), (3) Hong Kong's Vertical Extension Chinese characters and symbols, and (4) Hong Kong's Horizontal Extension Chinese characters and symbols.
- 2.3 Under the ISO/IEC 10646 international coding standard, the four subsets of HKCSHKSCS-2015 as source references are coded as follows:
  - 2.3.1 H-XXXX: used to refer to all characters already coded in HKSCS-2008, in which "XXXX" is the corresponding Big-5 code in HKSCS-2008.
  - 2.3.2 HB(Y)<sup>3</sup>-XXXX: used for all characters in the Big-5 character set, in which "Y" (being optional) can take values of "1" or "2" to indicate the character that belongs to either the basic block or the secondary block in Big-5; "XXXX" is the Big-5 code.
  - 2.3.3 HC-XXXX: used for characters to be vertically extended to ISO/IEC 10646 in the future, in which "XXXX" is an <a href="https://hkscs-2015">https://hkscs-2015</a> assigned source reference code between 0001 and 9999 in sequence.
  - 2.3.4 HD-XXXX(X): used for all characters as part of Hong Kong's Horizontal Extension to ISO/IEC 10646, in which "XXXX(X)" is the code of the character in the ISO/IEC 10646 international standard.
- 2.4 HKSCS-2015 contains 18,493 characters and symbols, including 17,654 Chinese

<sup>&</sup>lt;sup>3</sup> "()" is to indicate an optional item. In actual code point expression, "()" does not appear.

#### characters and 839 symbols, which are listed in 3 tables<sup>4</sup>:

#### 2.4.1 <u>Chinese Characters:</u>

- (1) <u>Table 1 includes all the Chinese characters excluding Compatibility</u> <u>Ideographs, that is, 17,640 in total. The Chinese characters are listed using</u> their code points in ISO/IEC 10646 and source references.
- (2) <u>Table 2 includes 14 Compatibility Ideographs</u>, which are listed using their code points in ISO/IEC 10646, variation sequences, and source references as well as the information of their corresponding standard characters.

#### 2.4.2 Symbols:

<u>Table 3 includes all symbols, which are which are listed in Table 3 using their code points in ISO/IEC 10646 and source references.</u>

It should be noted that all characters shown in the tables use the Song style (print style) glyphs and the glyphs follow the guidelines given in "Glyph Specification Reference Guide for the Chinese Characters in HKSCS-2015".

<sup>&</sup>lt;sup>4</sup> The 22 Chinese characters and 1 currency symbol to be horizontally extended to ISO/IEC 10646 are included in the tables. For details, see Section 3.

# **Section 3 Horizontal Extension to ISO/IEC 10646**

#### 3.1 Horizontal Extension of 22 Chinese Characters

When reviewing the glyphs of the Chinese characters in HKCSHKSCS-2015, CLIAC found that some Hong Kong preferred glyphs were different from character glyphs in Big-5. For example, the character glyph in Big-5 is "兌" (Big-5 0xA749; U+514C), while the Hong Kong preferred glyph is "兑". If we change the glyph of the character "兑" (Big-5 0xA749; U+514C) in Big-5 to "兑", it will have the same glyph with another character "兑" (U+5151). As a result, a character glyph will have two U+ codes<sup>5</sup>, which is a violation of the ISO/IEC 10646 coding rules. On the other hand, the character "兌" cannot be displayed on the Chinese platforms conforming to Hong Kong's standard. Therefore, CLIAC decided to keep the original glyph of the character "党" (Big-5 0xA749; U+514C) in Big-5 and propose Horizontal Extension to ISO/IEC 10646 for the character "兑" (U+5151). In other words, such Chinese characters in ISO/IEC 10646 which were not proposed by Hong Kong will be included in HKCSHKSCS-2015. In this way, we are able to specify the Hong Kong preferred glyphs without violating the mapping between Big-5 and ISO/IEC 10646. Table 14 lists the detailed information of the 22 Chinese characters which will be horizontally extended to ISO/IEC 10646.

#### 3.2 Newly added symbol in HKCSHorizontal Extension of 1 Currency Symbol

The original Big-5 standard does not have the currency symbol for Euro Sign , Big-5 0xA3E1). Since this symbol was added to ISO/IEC 10646 in 2000, Hong Kong computer systems have actually used this symbol Microsoft added this symbol in Windows ME which was published in 2000 even though it was not defined in \_Since HKSCS\_2008 does not include this symbol., \_so\_it is added to HKSCS-2015 defines this symbol through Horizontal Extension and it is coded with U+20AC. This symbol is listed in Table 3 with other symbols.

3 - 1

<sup>&</sup>lt;sup>5</sup> The code in ISO/IEC 10646 is referred to as U+ code.

# Section 34 Problematic Code Points in Big-5 and Solutions in HKCSConversion of Some Characters from Big-5 to ISO/IEC 10646

#### 4.1 Two Chinese Characters with Duplicate Big-5 Code Points

In Big-5, there are two <u>Chinese</u> characters with duplicate Big-5 code points, which are mapped to two different ISO/IEC 10646 code points. The two mappings between Big-5 and ISO/IEC 10646 code points are kept in <u>HKCSHKSCS-2015</u>:

| Seq.   | HKCSHKSCS-2015 (Big-5) | <b>Chinese</b> Character | U+ Code |
|--|------------------------|--------------------------|---------|
| 1  | HB-A461                | 兀                        | U+5140  |
| 1  | НВ-С94А                | 兀                        | U+FA0C* |
| 2  | HB-DCD1                | 嗀                        | U+55C0  |
| 2  | HB-DDFC                | 嗀                        | U+FA0D* |
| *As Compatibility Ideographs, they are also listed in Table 2. |                        |                          |         |

#### 4.2 Three Problematic Numerals

"#" (Big-5 0xA2CD) is currently mapped to "#" (U+5344) in CJK Ideographs Main Block. However, in Big-5, it is grouped with other Suzhou Numerals to represent numbers. Another two Big-5 Suzhou Numerial symbols, namely, "#" (Big-5 0xA2CC) and "#" (Big-5 0xA2CE), had no mapping to ISO/IEC 10646 because they were not yet defined when HKSCS-1999 was first published.are unmapped to ISO/IEC 10646 code points. This problem is probably because the three symbols were added to the standard ISO/IEC 10646 in 2000at a later point in time (ISO/IEC 10646-1:2000). In HKCSHKSCS-2015, the mappings of the three numerals are corrected defined as follows:

<sup>&</sup>lt;sup>6</sup> They are encoded in the CJK Symbols and Punctuation block in the ranges U+3021...U+3029 and U+3038...U+303A. "HANGZHOU NUMERAL" is used in the names of the code points, which is a misnomer. (See page 369 of ISO/IEC 10646:2014) . Since the names of the code points cannot be changes, "HANGZHOU NUMERAL" is used to refer to particular code points.

<sup>&</sup>lt;sup>7</sup> For details about the mapping between Big-5 and ISO/IEC 10646 code points, see Unihan\_IRGSources.txt: http://www.unicode.org/Public/UCD/latest/ucd/Unihan.zip

| Seq. | HKCSHKSCS-2015 (Big-5) | Symbol | U+ Code                             |
|------|------------------------|--------|-------------------------------------|
| 1    | HB-A2CC                | +      | U+3038<br>(HANGZHOU NUMERAL TEN)    |
| 2    | HB-A2CD                | #      | U+3039<br>(HANGZHOU NUMERAL TWENTY) |
| 3    | HB-A2CE                | 卅      | U+303A<br>(HANGZHOU NUMERAL THIRTY) |

#### 4.3 Eight Symbols with 2-1 Mappings

There are eight symbols with both Big-5 code point and HKSCS-2008 code point but only one ISO/IEC 10646 code point. Therefore, both Big-5 code point and HKSCS-2008 code point are mapped to one ISO/IEC 10646 code point. For the conversion from U+ code to Big-5 code, the system should choose one from the Big-5 code point and HKSCS-2008 code point. Details are as follows:

| U+ Code     | Big-5 <sup>8</sup> | HKSCS <u>-2008</u> |
|-------------|--------------------|--------------------|
| U+256D      | НВ-А27Е            | H-F9FA             |
| \<br>U+256E | HB-A2A1            | ↑<br>H-F9FB        |
| U+2570      | HB-A2A2            | H-F9FC             |
| ノ           | 1                  | 7                  |
| U+256F      | HB-A2A3            | H-F9FD             |
| U+2550      | HB-A2A4            | H-F9F9             |
| U+255E      | HB-A2A5            | <br>  H-F9E9       |

<sup>&</sup>lt;sup>8</sup> The images of the symbols in the Big-5 column are from: Computer Chinese Glyph and Character Code Mapping Table, the Industrial Standard of Big-5 in Taiwan, Technical Report C-26, Institute for Information Industry of Taiwan, 1984

| U+ Code | Big-5 <sup>8</sup> | HKSCS <u>-2008</u> |  |
|---------|--------------------|--------------------|--|
| U+256A  | HB-A2A6            | H-F9EA             |  |
| U+2561  | HB-A2A7            | H-F9EB             |  |

The solution of **HKCSHKSCS-2015** is as follows:

- (1) For conversion from Big-5 code to U+ code, both original Big-5 code point (A2XX) and HKSCS code point (F9XX) are mapped to the same U+ code.
- (2) For conversion from U+ code to Big-5 code, four symbols are mapped to the original Big-5 code point (A2XX) and the other four are mapped to HKSCS code points (F9XX). Details are as follows:

| U+ Code | HKCSHKSCS-2015 |
|---------|----------------|
| U+2550  | H-F9F9 (HKSCS) |
| U+255E  | H-F9E9 (HKSCS) |
| U+2561  | H-F9EB (HKSCS) |
| U+256A  | H-F9EA (HKSCS) |
| U+256D  | HB-A27E        |
| U+256E  | HB-A2A1        |
| U+256F  | HB-A2A3        |
| U+2570  | HB-A2A2        |

#### 4.4 Five Symbols without Mapping

In the original Mapping Table<sup>9</sup> of Unicode, five Big-5 symbols are mapped to U+FFFD, which means no mapping. In HKCSHKSCS-2015, the mappings are as follows:

| Big-5   | U+ Code |
|---------|---------|
|         |         |
|         |         |
| HB-A15A | U+2574  |

<sup>&</sup>lt;sup>9</sup> See: http://www.unicode.org/Public/MAPPINGS/OBSOLETE/EASTASIA/OTHER/BIG5.TXT

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| Big-5    | U+ Code |
|----------|---------|
|          |         |
| HB-A1C3  | U+FFE3  |
|          |         |
| HB-A1C5  | U+02CD  |
| III Ares | /       |
|          |         |
| HB-A1FE  | U+FF0F  |
|          |         |
| HB-A240  | U+FF3C  |

#### 4.5 12 Symbols with Problematic Mappings

There are 12 symbols with <u>problematic\_different\_mappings in different source standards and different computer systems: the mappings in the original Mapping Table of Unicode are different from those of Microsoft or Taiwan CNS11643. To avoid the confusion, they are <u>defined in HKSCS-2015</u> as follows:</u>

| Big-5   | U+ Code |  |
|---------|---------|--|
| •       | •       |  |
| HB-A145 | U+2027  |  |
|         |         |  |
| •       | `       |  |
| HB-A14E | U+FE51  |  |
| _       |         |  |
| HB-A156 | U+2013  |  |
| ~       | ~       |  |
| HB-A1E3 | U+FF5E  |  |

| Big-5    | U+ Code         |  |
|----------|-----------------|--|
| $\oplus$ | $\oplus$        |  |
| HB-A1F2  | U+2295          |  |
| <b>⊙</b> | $\odot$         |  |
| HB-A1F3  | U+2299          |  |
| /        | /               |  |
| HB-A241  | U+2215          |  |
| \        | \               |  |
| HB-A242  | U+FE68          |  |
| ¥        | ¥               |  |
| HB-A244  | U+FFE5          |  |
| Ø        | ¢               |  |
| HB-A246  | U+FFE0          |  |
| £        | ${\mathfrak L}$ |  |
| HB-A247  | U+FFE1          |  |
| -        |                 |  |
| HB-A1C2  | U+203E          |  |

#### 4.6 Two Mappings to Be Changed

According to ISO/IEC JTC1/SC2 working group, the <u>code\_pointsmappings</u> of two HKSCS<u>-2008</u> characters in ISO/IEC 10646 are changed as follows:

| Source Reference | Original Code Point | New Code Point |
|------------------|---------------------|----------------|
| H-9D73           | U+4CA4              | U+9FD0         |
| H-91B5           | U+3D1D              | U+2A3ED        |

# **Section 45** Appendices

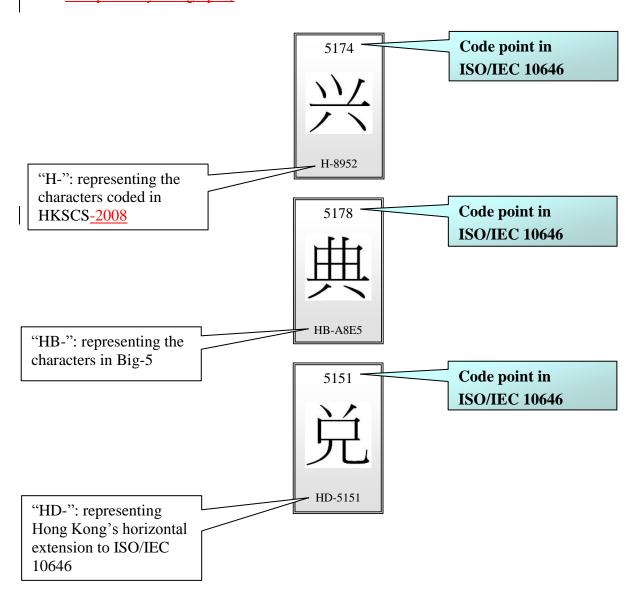
#### 5.1 Overview

This file includes 4 appendices:

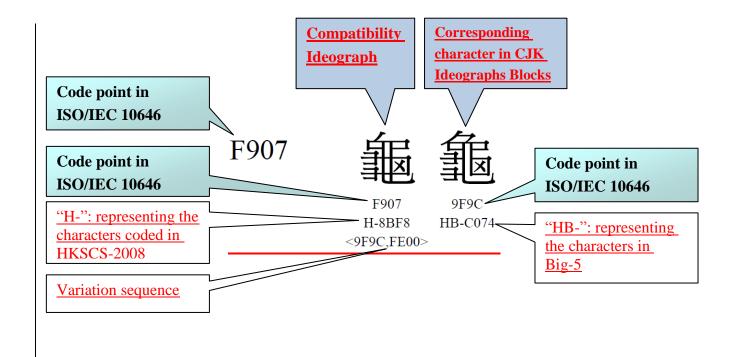
- (1) Table 1 HKSCS-2015 Chinese Character Table (Excluding Compatibility Ideographs)
- (2) Table 2 HKSCS-2015 Compatibility Ideographs Table
- (3) Table 3 HKSCS-2015 Symbol Table
- (4) Table 4 HKSCS-2015 Horizontal Extension Chinese Character List

<u>In the following subsections, some examples are given to illustrate Tables 1-3.</u>

5.2 <u>Examples of Table 2—1 HKSCS-2015 Chinese Character Table (Excluding Compatibility Ideographs)</u>



#### 5.3 Example of Table 2 HKSCS-2015 Compatibility Ideographs Table



## 5.4 Examples of Table 3 HKSCS-2015 Symbol Table

