



CJK CHARACTERS

Below are examples of all the CJK Unicode blocks contained in the Basic Multilingual Plane and Supplemental Ideographic Plane

**Plane 0 (BMP)**

CJK Radicals Supplement

Kangxi Radicals

Ideographic Description Characters

CJK Symbols and Punctuation

Hiragana

Katakana

Bopomofo

Hangul Compatibility Jamo

Kanbun

Bopomofo Extended

Katakana Phonetic Extensions

Enclosed CJK Letters and Months

CJK Compatibility

CJK Unified Ideographs Extension A

CJK Unified Ideographs

Yi Syllables

Yi Radicals

Hangul Syllables

CJK Compatibility Ideographs

**Plane 2 (SIP)**

CJK Unified Ideographs Extension B

CJK Unified Ideographs Extension C

CJK Compatibility Ideographs Supplement

## USING CJK FONTS IN mPDF

Fonts containing CJK characters are large files, typically 10-30MB. Adobe provides a free download of an 'Asian font pack' allowing you to create PDF files without including (embedding) the font information in the file. This keeps the file size to a minimum and minimises resource usage on your website generating the PDF file. However, users will have to download the Adobe font packs to read the file, and other PDF software will not display the text correctly.

mPDF allows you to embed subsets of CJK fonts keeping file size down, although there is increased memory usage to generate these files.

Some CJK fonts are broken up into 2 files because of the size of the files. One freely available font with almost complete coverage of all CJK characters (in both BMP and SIP) is 'Sun' available from Alan Wood's excellent website: <http://www.alanwood.net/unicode/fonts-east-asian.html>. This comes as 2 files, Sun-ExtA and Sun-ExtB (both about 20MB in size) containing the characters from BMP and SIP respectively.

mPDF allows you to treat these as one font by defining the second file as an SIP-extension of the first in the config\_fonts.php configuration file. The following text includes random characters from the BMP and SIP mixed together:

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This is the entry in the config\_fonts.php configuration file:

```
$this->fontdata = array(
...
    "sun-exta" => array(
        'R' => "Sun-ExtA.ttf",
        'sip-ext' => 'sun-extb',
    ),
    "sun-extb" => array(
        'R' => "Sun-ExtB.ttf",
    ),
...
);
```

This is the HTML code - note only the sun-exta font-family needs to be referenced:

```
<div style="font-family:sun-extA;"> &#40706; &#40712; &#40727; &#x2320f; &#x23225; &#40742; &#40743; &#x2322f; &#x23231;
&#40761; &#40772; &#x23232; &#x23233; &#40773; &#40784; &#x23234; &#x23256; &#40787; &#40794; &#x23262; &#x23281;
&#40802; &#40809; &#x23289; &#x2328a; </div>
```

NB You may also need to edit the value \$this->useAdobeCJK=false in config.php or use new mPDF('-aCJK'), and edit the config\_cp.php configuration file.

## TRUE TYPE COLLECTIONS

TrueType Collections (.ttc files) contain more than one font. mPDF treats each font separately by defining the TTCfontID array in the config\_fonts.php configuration file.

This example uses the Windows MingLiU fonts, which consist of 2 files containing 6 fonts (note that mingliub is not a Bold variant):

Font collection file (mingliu.ttc) contains the following fonts:

- [1] MingLiU (mingliu) Regular
- [2] PMingLiU (pmingliu) Regular (Proportional)
- [3] MingLiU\_HKSCS (mingliu\_hkscs) Regular

Font collection file (mingliub.ttc) contains the following fonts:

- [1] MingLiU-ExtB (mingliu-extb) Regular
- [2] PMingLiU-ExtB (pmingliu-extb) Regular (Proportional)
- [3] MingLiU\_HKSCS-ExtB (mingliu\_hkscs-extb) Regular

This is a sample entry in the config\_fonts.php configuration file:

```
$this->fontdata = array(
    "mingliu" => array(
        'R' => "mingliu.ttc",
        'TTCfontID' => array (
            'R' => 1,
        ),
        'sip-ext' => 'mingliu-extb',
    ),
    "pmingliu" => array(
        'R' => "mingliu.ttc",
        'TTCfontID' => array (
            'R' => 2,
        ),
        'sip-ext' => 'pmingliu-extb',
    ),
    "mingliu_hkscs" => array(
        'R' => "mingliu.ttc",
        'TTCfontID' => array (
            'R' => 3,
        ),
        'sip-ext' => 'mingliu_hkscs-extb',
    ),
    "mingliu-extb" => array(
        'R' => "mingliub.ttc",
        'TTCfontID' => array (
            'R' => 1,
        ),
    ),
    "pmingliu-extb" => array(
        'R' => "mingliub.ttc",
        'TTCfontID' => array (
            'R' => 2,
        ),
    ),
    "mingliu_hkscs-extb" => array(
        'R' => "mingliub.ttc",
        'TTCfontID' => array (
            'R' => 3,
        ),
    ),
);
```

This is sample HTML code:

<div style="font-family:mingliu;"> &#40706; &#40742; &#40772; &#40784; &#40802; &#40809; &#x23289; &#x2328a; </div>  
<div style="font-family:mingliu\_hkscs;"> &#40706; &#40742; &#40772; &#40784; &#40802; &#40809; &#x23289; &#x2328a;  
</div>  
<div style="font-family:pmingliu;"> &#40706; &#40742; &#40772; &#40784; &#40802; &#40809; &#x23289; &#x2328a; </div>