

Egyptian Hieroglyphs in EGPZ/EA

Version 0.1 (March 1, 2005)

1.1 Introduction

EGPZ (Egyptian Hieroglyphs / Private Zone) is a specification for a way to use the Unicode Private Zones for Ancient Egyptian Hieroglyphs. This is to enable work with Unicode in advance of a formal Unicode standard for Egyptian Hieroglyphs, tackle some practical problems, and to address some requirements that will not be covered in a likely initial version of the standard.

Users of Egyptian Hieroglyphs form a large and varied constituency. Ancient Egypt forms a part of the curriculum for 8-11 year old children in the native English-speaking world. Simple activities such as ‘write your name in hieroglyphs’, ‘secret’ writing and ‘writing as art’ are popular and hieroglyphs appear in popular entertainment and children’s games such as ‘Scooby Doo and the Mystery of the Sphinx’. Hieroglyphs and other aspects of Ancient Egyptian Art and history have been a part of the backdrop over the last two centuries of Western culture. Movies such as ‘The Mummy’, TV documentaries, fantasy TV drama such as Stargate SG-1 and many computer and video games are manifest contemporary aspects of this continuing reflection of popular fascination with the period. Visitors to Egypt often have an interest in learning a little about the script and language and courses in Adult Education worldwide teach the subject in greater depth. An amateur Egyptology tradition goes back many years alongside the scholastic traditions that arose in the Nineteenth Century.

However the EGPZ/EA specification given here is primarily intended for specialist use by the academic community, not the wider constituency. The other part of EGPZ - EGPZ/BMP – specifies a useful subset of EGPZ/EA in the Unicode BMP (Basic Multilingual Plane) that addresses most requirements for popular applications and teaching purposes. See www.gameset.com/resources/unicode/egpz.html.

EGPZ/EA uses the Unicode Extended Private Zone A (Plane 15, 0x0F0000 to 0x0FFFFD) to define a catalogue of Egyptian Hieroglyphs. This catalogue is intended to be (eventually) inclusive of all published hieroglyph sign lists. Unlike the normal Unicode character model, sign variants and combinations are admissible by virtue of their use in sign lists, fonts and modern publications. This inclusive approach in no way attempts to mitigate the value of scholarly views about the appropriate representations and treatments of the script or alternative digital methodologies. Indeed it is a given that no expert will regard the EGPZ/EA catalogue an appropriate working definition of the hieroglyphic script.

The domain of applicability of modern coding schemes and the role of typography when working with the hieroglyphic script are topics well discussed for over a century. EGPZ opens up an opportunity for greater consistency for fonts and character oriented software. It does not in itself attempt to address the wider issues, although the intention is to help enable progress with more complex problems.

Over time, revisions of the formal Unicode standard can be expected to introduce increasing degrees of support for the Ancient Egyptian hieroglyphic script and it is probable that the repertoire of characters will be adequate for most popular applications. However EGPZ/EA as a catalogue should continue to be useful. It is unlikely that a formal standard would incorporate this large range of glyph variations and combinations.

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1.1.1 Version 1.0 scope

Version 1.0 of EGPZ/EA contains the EGPZ/BMP sign list (which includes the Oxford/Gardiner signs) combined with those signs given in Hieroglyphica 2000: a total of over 7000 hieroglyphs. These are almost all assigned traditional codes, although the provision of codes following this Gardiner style of classification is not required.

There is an opportunity for further sign lists to be incorporated in version 1.0 if adequate information can be made available. Please contact the author if you have any information on published (or even as yet unpublished) sign lists or fonts.

1.1.2 Documenting the sign list

Because EGPZ/EA is a catalogue of current use, it is not necessary to document the individual hieroglyphs— it is sufficient that a sign belongs to a published set. However it is highly desirable that the source sign lists be well documented. Indeed it would be unreasonable to expect a sign to eventually migrate to part of a formal Unicode standard without adequate documentation and attribution.

Egyptian Grammar ‘List of Hieroglyphic Signs’ exemplifies a level of sign documentation for this purpose. More detail on sources and references, preferably including facsimiles of recorded instances, is desirable.

1.2 Arrangement and content of the sign tables

1.2.1 The 1.0 consolidated sign list

This is a series of (about) 64 128-character segments, expected to define code points in the range 0x0F0000 to 0x0F1FFF (an 8k block). The segments follow the conventional Gardiner classification sequence, with additions of special characters (see EGPZ/BMP specification).

An example of a segment follows on page 4. The Gardiner-style code is noted where applicable. The Unicode sign value (0x0 denotes hexadecimal) is 0x0F0000 + <segment offset> + (<column number>*0x10 + <row number>).

All EGPZ implementations should support a basic Gardiner set (from *Egyptian Grammar*). These codes are marked **bold** in the example.

Gardiner-style codes that differ from Hieroglyphica 2000 are marked in *italics*.

Glyphs are only shown in the example where the sign is also in the EGPZ/BMP specification. For others see Hieroglyphica. (Signs given as ‘BMP+?’ are on the current list for consideration for inclusion in the BMP specification.)

There are just over 7000 entries in the working draft of the complete list and the specification is still open to additional signs. Before this document is updated to include all 64 segments, the BMP part needs to be well defined and software has to be completed to create this documentation from the underlying data tables in order to avoid opportunities for error in hand-made tables.

1.2.2 Special characters

Special characters for cartouche and annotation mirror the set given in EGPZ/BMP. This duplication is to allow independent use of the BMP and EA ranges. For instance, a pure EA implementation can leave the BMP Private Zone untouched and available for non-Hieroglyph purposes.

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1.2.3 Software-specific private area

0xFE000 to 0xFFFFD. Space for up to 8K-2 signs. Provided for software implementation-specific private use. For instance, given program may want to use a sign variant or combination of signs not defined by EGPZ as part of its implementation and use this in private character stream processing or for application-specific font features.








































These codes are not intended for data exchange with other programs - the 'General hieroglyph private area' should be used for such purposes. If software encounters codes in this range in an (unsupported) external source, they can be discarded as an error, notifying the user if appropriate.

1.2.4 General hieroglyph private area

0xFC000 to 0xFDFFF. Space for up to 8K signs. Provided for private use. For example, if a program allows a user to define a 'new' sign or sign combination, a code value can be assigned from this range. Normally, this feature will be used together with some higher-level protocol that allows a description of what the code means.

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Segment 1

	x00	x01	x02	x03	x04	x05	x06	x07
0	 A1	A5b	 A7	A12d	A13o	A15c	 A22	 A28
1	A1a	 A6	A7a	 A13	A13p	 A16	 A23	 A29
2	A1b	BMP+? A6a	 A8	BMP+? A13a	 A14	A16a	A23a	 A30
3	A1c	A6b	A8a	BMP+? A13b	 A14a	A16b	A23b	 A31
4	 A2	A6c	 A9	A13c	A14b	A16c	A23c	A31a
5	A2a	A6d	A9a	A13d	A14c	 A17	A23d	A31b
6	 A3	A6e	A9b	BMP+? A13e	A14d	 A17a	A23e	A31c
7	A3a	A6f	A9c	A13f	A14e	A17b	A23f	 A32
8	A3b	A6g	 A10	BMP+? A13g	A14f	A17c	A23g	 A32a
9	 A4	A6h	BMP+? A10a	A13h	BMP+? A14g	BMP+? A17d	BMP+? A23h	A32b
A	A4a	A6i	A10b	A13i	A14h	 A18	 A24	A32c
B	BMP+? A4b	A6j	 A11	A13j	A14i	 A19	 A25	A32d
C	BMP+? A4c	A6k	 A12	A13k	A14j	 A20	 A25a	A32e
D	A4d	A6l	A12a	A13l	 A15	 A21	 A26	A32f
E	 A5	 A6m	A12b	A13m	A15a	BMP+? A21a	 A27	A32g
F	 A5a	 A6n	A12c	A13n	A15b	A21b	A27a	A32h