

Appendix I

Reference Records

Reference records are formal ways of encoding “library-type” information pertaining to a Humdrum document. Reference records provide standardized ways of encoding bibliographic information — suitable for computer-based access.

Humdrum reference records are designated by three exclamation marks at the beginning of a line, followed by a multi-letter code, followed by an optional number, followed by a colon, followed by some text.

Over 80 reference codes are pre-defined in Humdrum. Each of these reference records is described below under seven categories: (1) authorship information, (2) performance information, (3) work identification information, (4) imprint information, (5) copyright information, (6) analytic information, and (7) representation information. A final section discusses how to cite electronic documents.

Authorship Information

!!!COM: Composer’s name. In some cases, opinions differ regarding the best spelling of a composer’s name. If so, all common spellings should be given — each alternative separated from the previous by a semicolon. E.g.

!!!COM: Chopin, Fryderyk; Chopin, Frederick

With respect to accents, refer to the discussion concerning the **!!!RLN:** reference record (see below). If a work was composed by more than one composer, then each composer’s name should appear on a separate **!!!COM:** record with a number designation prior to the colon. For example,

!!!COM1: Composer, A.

!!!COM2: Composer, B.

!!!COA: Attributed composer. This may include attributions known to be false. Several attributions may be combined on a single record by separating each name by a semicolon. Note that if a document contains both **!!!COA:** and **!!!COM:** records, then the attributed composer is explicitly assumed to be false.

!!!COS: Suspected composer. This reference code indicates the belief of the editor or producer of the document as to the true identity of the composer(s). If more than one composer is suspected, each name should appear on a separate **!!!COS:** record with a number designation prior to the colon.

!!!COL: Composer's abbreviated, alias, or stage name. e.g. Madonna.

!!!COC: Composer(s) corporate name. Corporate names may include the names of popular groups (especially when the actual composer is not known). Corporate names may also include business names, e.g. Muzak.

!!!CDT: Composer's dates. The birth and death dates should be encoded using the ****Zeit** format described in the *Humdrum Reference Manual*. The ****Zeit** format provides a highly refined representation, including methods for representing uncertainty, approximation, and boundary dates (e.g. prior to ..., after ...).

!!!CNT: Nationality of the composer. This reference information is encoded using the language of the nationality. Thus a German composer is encoded as *Deutscher* rather than German, and a French composer is encoded as *Francais* rather than French. Where the composer changed nationality, successive nationalities should be listed (in chronological order) separated by semi-colons.

!!!LYR: Lyricist. The name of the lyricist. If more than one lyricist was involved in the work, then each lyricist's name should appear on a separate **!!!LYR:** record with a number designation prior to the colon. If the composer was also the lyricist, this should be explicitly encoding using the independent **!!!LYR:** record — rather than implicitly assumed.

!!!LIB: Librettist. The name of the librettist. If more than one librettist was involved in the work, then each librettist's name should appear on a separate **!!!LIB:** record with a number designation prior to the colon. If the composer was also the librettist, this should be explicitly encoding using the independent **!!!LIB:** record — rather than implicitly assumed.

!!!LAR: Arranger. The name of the arranger. If more than one arranger was involved in the work, then each arranger's name should appear on a separate **!!!LAR:** record with a number designation prior to the colon.

!!!LOR: Orchestrator. The name of the orchestrator. If more than one orchestrator was involved in the work, then each orchestrator's name should appear on a separate **!!!LOR:** record with a number designation prior to the colon.

!!!TXO: Original language of vocal/choral text. The name of the language should be encoded in that language. For example, *russki* rather than Russian.

!!!TXL: Language of the *encoded* vocal/choral text. The name of the language should be encoded in the language used for encoding. For example, *Italiano* rather than Italian.

!!!TRN: Translator of text. The name of the translator of any vocal, choral, or dramatic text. If more than one translator was involved in the work, then each translator's name should appear on a separate **!!!TRN:** record with a number designation prior to the colon.

Performance Information

Humdrum representations may encode performance-activity information rather than (or in addition to) score-related information. If the representation encodes a given performance (such as a MIDI performance), then the following reference records may be pertinent.

!!!MPN: Performer's name. If more than one performer was involved in the work, then each performer's name should appear on a separate **!!!MPN:** record with a number designation prior to the colon.

!!!MPS: Suspected performer. If more than one performer is suspected, each name should appear on a separate **!!!MPS:** record with a number designation prior to the colon.

!!!MRD: Date of performance. The performance date should be encoded using the ****date** format described in the *Humdrum Reference Manual*.

!!!MLC: Place of performance. (Local language should be used.)

!!!MCN: Name of the conductor of the performance.

!!!MPD: Date of first performance. The date of first performance should be encoded using the ****date** format described in the *Humdrum Reference Manual*.

Work Identification Information

!!!OTL: Title. The title of the specific section or segment encoded in the current file. Titles must be rendered in the original language, e.g. *Le sacre du printemps*. (Title translations are encoded using other reference records.)

!!!XEN: Translated title (in English). (Note that reference codes are also available for translations to languages other than English, French, German, or Japanese.)

!!!XFR: Translated title (in French). (Note that reference codes are also available for translations to languages other than English, French, German, or Japanese.)

!!!XDE: Translated title (in German). (Note that reference codes are also available for translations to languages other than English, French, German, or Japanese.)

!!!XNI: Translated title (in Japanese). (Note that reference codes are also available for translations to languages other than English, French, German, or Japanese.)

!!!OTP: Popular Title. This reference record encodes well-known or alias titles such as Pathétique Sonata.

!!!OTA: Alternative title. This reference record encodes earlier or alternate titles.

!!!OPR: Title of larger (or parent) work from which the encoded piece is a part. For example, Gute Nacht (OTL) from *Winterreise* (OPR).

!!!OAC: Act number. For operas and musicals, this reference record encodes the act number as an Arabic (rather than Roman) numeral. The number may be preceded by the word Act as in Act 3.

!!!OSC: Scene number. For operas and musicals, this reference record encodes the scene number as an Arabic (rather than Roman) numeral. The number may be preceded by the word Scene as in Scene 3.

!!!OMV: Movement number. For multi-movement works such as sonatas and symphonies, this reference record encodes the movement number as an Arabic (rather than Roman) numeral. The number may be preceded by the word Movement or mov. etc., as in mov. 3.

!!!OMD: Movement designation or movement name. Typically movements may be named according to the tempo (e.g. "Allegro ma no troppo") or according to a style, genre or form (e.g. "Fugue"), or according to a programmatic title (e.g. "In Full Flower").

!!!OPS: Opus number. The number may be preceded by the word Opus as in Opus 23. Once again, Arabic numerals are used.

!!!ONM: Number. The number may be preceded by the abbreviations No. or Nr. as in No. 4.

!!!OVM: Volume. The volume number may be preceded by the abbreviation Vol. as in Vol. 2. Arabic numbers are used.

!!!ODE: Dedication. Name of person or organization to whom the work is dedicated. If the work was dedicated to more than one person, then each dedicatee's name should appear on a separate **!!!ODE:** record with a number designation prior to the colon.

!!!OCO: Commission. Name of person or organization that commissioned the work. If the work was commissioned by more than one person, then each commissioner's name should appear on a separate **!!!OCO:** record with a number designation prior to the colon.

!!!OCL: Collector. Name of person who collected or transcribed the work. If the work was collected by more than one person, then each collector's name should appear on a separate **!!!OCL:** record with a number designation prior to the colon.

!!!ONB: Free format note related to the title or identity of the encoded work. Nota bene. If more than one such note is encoded, each should appear on a separate **!!!ONB:** record with a number designation prior to the colon.

!!!ODT: Date of composition. The date (or period) of composition should be encoded using the ****date** or ****Zeit** formats described in the *Humdrum Reference Manual*. The ****date** and ****Zeit** formats provides a highly refined representation, including methods for representing uncertainty, approximation, and boundary dates (e.g. prior to ..., after ...).

!!!OCY: Country of composition. Local names should be used, such as 'Espana'.

!!!OPC: City, town or village of composition. Local names should be used, such as 'Den Haag.'

Imprint Information

!!!PUB: Publication status. This reference record identifies whether the document has ever been "published". One of the following English terms may appear: published or unpublished.

!!!PPR: First publisher. Name of the first publisher of the work.

!!!PDT: Date first published. The date of publication should be encoded using the ****date** format described in the *Humdrum Reference Manual*.

!!!PPP: Place first published. (Local language should be used.)

!!!PC#: Publisher's catalogue number. This should not be confused with better known scholarly catalogues, such as those of Koche1, Hoboken, etc.

!!!SCT: Scholarly catalogue abbreviation and number. E.g. BWV 551

!!!SCA: Scholarly catalogue (unabbreviated) name. E.g. Koche1 117.

!!!SMS: Manuscript source name. For unpublished sources, the manuscript source name.

!!!SML: Manuscript location. For unpublished sources, the location of the manuscript source.

!!!SMA: Acknowledgement of manuscript access. This reference information may be used to encode a free format acknowledgement or note of thanks to a given manuscript owner for scholarly or other access.

Copyright Information

!!!YEP: Publisher of electronic edition. This reference identifies the publisher of the electronic document.

!!!YEC: Date and owner of electronic copyright. This reference identifies the year and owner of the copyright for the electronic document.

!!!YER: Date electronic edition released.

!!!YEM: Copyright message. This record conveys any special text related to copyright. It might convey a simple warning (e.g. All rights reserved.), convey registration or licensing information, or indicate that the document is shareware.

!!!YEN: Country of copyright. This reference identifies the country in which the electronic document was created, or where the copyright was established. In effect, it identifies the country under whose laws the copyright declaration is to be interpreted.

!!!YOR: Original document. This reference identifies any original source or sources from which encoded document was prepared. Note that original documents may themselves be copyrighted, and that permission may be required in order to create an electronic derivative document. Original

documents may also have lapsed copyrights.

!!!YOO: Original document owner. If the electronic document was prepared from a copyrighted original document, this reference identifies the copyright owner of the original document. Note that unless the electronic and original documents have the same owner, some licensing agreement or other legal arrangement is necessary in order to create an electronic derivative document.

!!!YOY: Original copyright year. If the electronic document was prepared from a copyrighted original document, this reference identifies the year of copyright for the original document. Note that some licensing agreement or other legal arrangement is necessary in order to create an electronic derivative document.

!!!EED: Electronic Editor. Name of the editor of the electronic document. If more than one editor was involved in the work, then each editor's name should appear on a separate **!!!EED:** record with a number designation prior to the colon.

!!!ENC: Encoder of the electronic document. This reference identifies the name of the person or persons who encoded the electronic document. (Not to be confused with the electronic editor.) If more than one encoder was involved in the work, then each encoder's name should appear on a separate **!!!ENC:** record with a number designation prior to the colon.

!!!EMD: Document modification description. This record type is used to chronicle all modifications made to the original electronic document. EMD records should indicate the date of modification, the name of the person making the modification, and a brief description of the type of modification made. For each successive modification, a separate **!!!EMD:** record should appear with a number designation prior to the colon.

!!!EEV: Electronic edition version. This reference identifies the specific editorial version of the work. e.g. Version 1.3g Only a single **!!!EEV:** record can appear in a given electronic document.

!!!EFL: File number. Some files are part of a series or group of related files. This record indicates that the current document is file *x* in a group of *y* files. The two numbers are separated by a slash as in:

!!!EFL: 1/4

!!!EST: Encoding status. This record indicates the current status of the document as it is being produced. Free-format text may indicate that the encoding is in-progress, list tasks remaining, or indicate that the encoding is complete. **!!!EST:** records are normally eliminated prior to distribution of the document.

!!!VTS: Checksum validation number. This reference encodes the checksum number for the file — excluding the **!!!VTS:** record itself. When this record is eliminated from the file, any POSIX.2 standard **cksum** command can be used to determine whether the file originates with the publisher, or whether it has been modified in some way. (See the Humdrum **veritas** command described in Section 4.) Note that this validation process is easily circumvented by malicious individuals. For true security, the checksum value should be compared with a printed list of checksums provided by the electronic publisher.

Analytic Information

!!!AFR: Form designation. This is a free-form text record that can be used to identify the form (if appropriate) of the work. E.g. fuga, sonata-allegro, passacaglia, rounded binary, rondo.

!!!AGN: Genre designation. This is a free-form text record that can be used to identify the genre of the work. E.g. opera, string quartet, barbershop quartet.

!!!AST: Style, period, or type of work designation. This is a free-form text record that can be used to characterize the style, period, or type of work. This reference can include any term or terms deemed appropriate by the producer of the document. Designations might include keywords or keyphrases such as: Baroque, bebop, Ecole Notre Dame, minimalist, serial, reggae, slendro, heterophony, etc.

!!!ASW: Associated Work. Some works are associated with other works, such as plays, novels, paintings, films, or other musical works. E.g. Shakespeare's Othello. This reference allows associated works to be explicitly identified by author and title.

!!!AMT: Metric Classification. Meters for a file may be classified as one of the following eight categories: simple duple, simple triple, simple quadruple, compound duple, compound triple, compound quadruple, irregular, or various.

!!!AIN: Instrumentation. This reference is used to list all of the instruments (including voice) used in the work. Instruments should be encoded using the abbreviations specified by the *I tandem interpretation described in Appendix II. Instrument codes must appear in alphabetical order separated by spaces.† E.g.

```
!!!AIN: clars corno fagot flt oboe
```

Representation Information

!!!RLN: ASCII language setting. This reference identifies the language code in which the file was encoded. This is applicable only to computer platforms which provide extended ASCII text capabilities (e.g. Danish or Spanish characters).

!!!RDF: User-defined signifiers. All Humdrum representations provide some signifiers (ASCII characters) that remain undefined. Users are free to use these undefined signifiers as they choose. When undefined signifiers appear in a give document, the **!!!RDF:** code should be used to specify what the signifiers denote. E.g.

```
!!!RDF1: X=hands cross, left over right
!!!RDF2: x=hands cross, right over left
```

!!!RDT: Date encoded. This reference uses the Humdrum **date format to identify the date(s) when the document was encoded.

!!!RNB: Representation note. This reference provides a free-format text that conveys some document-specific note related to matters of representation.

!!!RWG: Representation warning. This reference may be used to encode explicit warnings concerning the encoded material.

Electronic Citation

Electronic editions of music might be cited in printed or other documents by including the following information. The author (e.g. **!!!COM:**), the title — either original title (**!!!OTL:**) or translated title (e.g. **!!!XEN:**). The editor (**!!!EED:**), publisher (**!!!YEP:**), date of publication and copyright owner (**!!!YED:**), and electronic version (**!!!EEV:**). In addition, a full citation ought to include the validation checksum (**!!!VTS:**). This number will allow others to verify that a particular electronic document is precisely the one cited. A sample electronic citation might be:

Franz Liszt, Hungarian Rhapsody No. 8 in F-sharp minor (solo piano).
Amsterdam: Rijkaard Software Publishers, 1994; H. Vorisek (Ed.),
Electronic edition version 2.1, checksum 891678772.

In Humdrum files it does not matter where reference records appear. Since it is common for users to inspect the beginning of a file in order to check whether the file is being properly processed, the number of reference records at the beginning of the file should be kept to a minimum. A good habit is to place the composer, title of the work, and copyright records at the beginning of the file, and to relegate all other reference records to the end of the file.

Further Reference Record Codes

The following table provides further pre-defined reference codes not identified in the preceding discussion.

Code	Language
!!!XAL:	translated title in Albanian
!!!XAB:	translated title in Arabic
!!!XAM:	translated title in Armenian
!!!XAZ:	translated title in Azeri
!!!XBE:	translated title in Bengali
!!!XBU:	translated title in Bulgarian
!!!XCB:	translated title in Cambodian
!!!XCA:	translated title in Cantonese
!!!XHR:	translated title in Croatian
!!!XCE:	translated title in Czech
!!!XDA:	translated title in Danish
!!!XNE:	translated title in Dutch
!!!XEN:	translated title in English
!!!XET:	translated title in Estonian
!!!XSU:	translated title in Finnish
!!!XFL:	translated title in Flemish
!!!XFR:	translated title in French

!!!XGA: translated title in Gaelic
!!!XDE: translated title in German
!!!XGR: translated title in Greek
!!!XHB: translated title in Hebrew
!!!XHI: translated title in Hindi
!!!XHU: translated title in Hungarian
!!!XIC: translated title in Icelandic
!!!XIT: translated title in Italian
!!!XNI: translated title in Japanese
!!!XJV: translated title in Javanese
!!!XKO: translated title in Korean
!!!XLI: translated title in Lithuanian
!!!XLA: translated title in Latin
!!!XLV: translated title in Latvian
!!!XMG: translated title in Malayalam
!!!XMA: translated title in Mandarin
!!!XMO: translated title in Mongolian
!!!XNO: translated title in Norwegian
!!!XPL: translated title in Polish
!!!XPR: translated title in Portugese
!!!XRO: translated title in Romanian
!!!XRU: translated title in Russian
!!!XSR: translated title in Serbian
!!!XSK: translated title in Slovak
!!!XSN: translated title in Slovenian
!!!XES: translated title in Spanish
!!!XSW: translated title in Swahili
!!!XSV: translated title in Swedish
!!!XTA: translated title in Tamil
!!!XTH: translated title in Thai
!!!XTI: translated title in Tibetan
!!!XTU: translated title in Turkish
!!!XUK: translated title in Ukranian
!!!XUR: translated title in Urdu
!!!XVN: translated title in Vietnamese
!!!XWE: translated title in Welsh
!!!XHO: translated title in Xhosa
!!!XZU: translated title in Zulu