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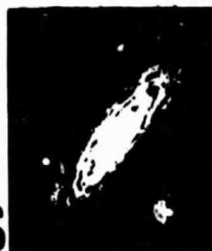
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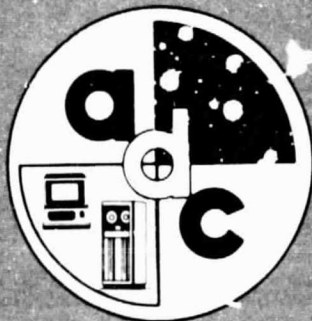


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National Space Science Data Center/
World Data Center A For Rockets and Satellites

Documentation for the Machine-Readable Version
of the
MK CLASSIFICATION EXTENSION CATALOGUE
OF MORRIS-KENNEDY (1983)

October 1983



DOCUMENTATION FOR THE MACHINE-READABLE VERSION

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MK CLASSIFICATION EXTENSION CATALOGUE

OF MORRIS-KENNEDY (1983)

Wayne H. Warren Jr.

October 1983

National Space Science Data Center (NSSDC)/
World Data Center A for Rockets and Satellites (WDC-A-R&S)
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ABSTRACT

Detailed descriptions of the contents and formats of the data and reference files of the machine-readable catalog are provided. The catalog contains MK classifications published in the literature since the issuance of the La Plata catalog of C. Jaschek et al. (1964). The bibliographical references are also given.

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SECTION 1 - INTRODUCTION AND SOURCE REFERENCE

The machine-readable *MK Classification Extension Catalogue* (Morris-Kennedy 1983) provides MK classifications published in the literature since the appearance of the *Catalogue of Stellar Spectra Classified in the Morgan-Keenan System* (C. Jaschek et al. 1964). This version is comprehensive and supersedes all previous versions of the computerized catalog. In addition to the MK types, the catalog contains *UBV* photometry for reference purposes only where such photometry was available; however, for comprehensive photometric data, the catalogs of photoelectric photometry should be consulted. The catalog also contains miscellaneous comments such as identifications for components of multiple-star systems, cluster identifications, etc. for selected stars, although again, this information is for reference only and is not professed to be complete. A second file of the catalog contains the bibliographical references cited in the data file.

This document describes the machine-readable catalog as it is currently being distributed by the Astronomical Data Center. It is intended to enable users to read and process the data without problems and guesswork. Since the machine files are essentially unmodified from the original version received from the author, it would be helpful for the document to be distributed with any machine-readable copy of the catalog.

SOURCE REFERENCE

Morris-Kennedy, F. 1983, Mount Stromlo Observatory, unpublished.

SECTION 2 - TAPE CONTENTS

Byte-by-byte descriptions of the contents of the *MK Classification Extension Catalogue* files are given in Tables 1 and 2. The suggested format specifications apply to FORTRAN formatted reads and can be modified depending upon individual programming and processing requirements. Since data fields are blank where values are missing, care must be exercised when processing data which have valid zero values, e.g. color indices. It is suggested that these fields be read initially with character (A) format specifications and checked for blanks if they are to be used for calculations or search purposes. Default values are always blanks for fields read with character formats. Alternate format specifications are given in parentheses.

Table 1. Tape Contents. *MK Classification Extension Catalogue* (1983).
Data File.

Byte(s)	Units	Suggested Format	Default Value	Description
1- 7	---	A7 (7A1)	---	Number assigned to catalog by the Centre de Données Stellaires, Strasbourg. The four-digit number is followed by a letter "A" (first file) or "B" (second file) and the two-digit year of this edition. All records in this catalog contain 3078A83 or 3078B83.
8	---	1X	---	Blank
9-19	---	11A1	---	Object identification. Entries are ordered in the catalog with the following priority: HD numbers in ascending numerical order; HDE numbers in ascending numerical order; DM numbers in descending zone and increasing numerical order; other designations, such as personal lists, variable-star names etc.;
				where HD is the <i>Henry Draper Catalogue</i> (Cannon and Pickering 1918-1924), HDE its extensions (Cannon 1925-1936, Cannon and

Table 1. (continued)

Byte(s)	Units	Suggested Format	Default Value	Description
				Walton Mayall 1949); DM refers to the Durchmusterung catalogs (see Fernandez, Lortet and Spite 1983 for references).
20-21	---	2X	---	Blank
22-23	hours	I2 (A2)	blank	Right ascension, α , equinox 2000. Where coordinates are unknown, e.g. for faint cluster stars, they are omitted.
24	---	1X	---	Blank
25-28	min	F4.1 (A4)	blank	α
29-30	---	2X	---	Blank
31	---	A1	---	Sign of declination, δ , equinox 2000. Plus signs are omitted.
32-33	°	I2 (A2)	blank	δ
34	---	1X	---	Blank
35-36	'	I2 (A2)	blank	δ
37-38	---	2X	---	Blank
39-55	---	17A1	---	MK spectral type. The W in Wolf-Rayet types will be found in byte 39, as will a left parenthesis for uncertain types. The temperature class is in byte 40, but other characters are also there, e.g. P (peculiar), the D in δ DEL types, etc.; the temperature subclass is in bytes 42-44, but other characters can be there too. Bytes 45-55 contain luminosities, peculiarities, etc.
56-58	---	I3	---	Reference number for the MK type. The references are ordered by number in the second file.

Table 1. (concluded)

Byte(s)	Units	Suggested Format	Default Value	Description
59-60	---	2X	---	Blank
61-65	mag	F5.2 (A5)	blank	V magnitude as taken from the literature. Data are reported to varying precision; if reported to 0.1 mag, byte 65 is blank.
66	---	A1	blank	V if V variable, but if a V magnitude is reported to 0.001, byte 66 contains the last digit; hence the full V field (bytes 61-66) cannot be read as a real number due to the possible occurrence of "V".
67	---	1X	---	Blank
68-71	mag	F4.2 (A4)	blank	B-V color. Plus signs are omitted.
72	---	1X	---	Blank
73-77	mag	F5.2 (A5)	blank	U-B color. Plus signs are omitted.
78-79	---	2X	---	Blank
80-82	---	A3	---	Reference number for source of photometry.
83-88	---	A6 (6A1)	---	Remarks. Can be component identification, variable-star names, cluster membership, HDE numbers (6 digits), miscellaneous identifications. Byte 88 contains an asterisk for stars classified by Morgan and Keenan (1973) for the revised MK system.

Table 2. Tape Contents. *MK Classification Extension Catalogue (1983).*
Reference File

Byte(s)	Suggested Format	Description
1- 7	A7 (7A1)	Number assigned by the Centre de Données Stellaires, Strasbourg (see Table 1)
8	1X	Blank
9-88	8A10 (80A1)	Reference or comments in a generally uniform format, although there are comments at the end of the list. In the bibliography, the reference number is given in bytes 10-12, the bibliographic reference in 14-37, the author(s) in 40-77, and comments (OP for objective- prism classification, PHOT for photometric classifi- cation) at the end of a record.

SECTION 3 - TAPE CHARACTERISTICS

The information contained in Table 3 is sufficient for a user to describe the indigenous characteristics of the files of the *MK Classification Extension Catalogue* to a computer. Information easily varied from installation to installation, such as block size (physical record length), blocking factor (number of logical records per physical record), total number of blocks, tape density, and internal coding (EBCDIC, ASCII, etc.) is not included. These parameters should always be supplied if secondary copies are transmitted to other installations. Parameters relating to the two files of the catalogue are separated by commas.

Table 3. Tape Characteristics. *MK Classification Extension Catalogue* (1983).

NUMBER OF FILES	2
LOGICAL RECORD LENGTH	88, 88
RECORD FORMAT	FB*
TOTAL NUMBER OF LOGICAL RECORDS	35997, 416

* Fixed block length (last block may be short)

SECTION 4 - REMARKS, MODIFICATIONS AND REFERENCES

The machine-readable *MK Classification Extension Catalogue*, version 1983 was received on magnetic tape from the Centre de Données Stellaires, Strasbourg on 1 April 1983. The only modifications made to the data files involved the deletion of three trailing blank records from the data file and thirty-three trailing blank records from the reference file.

REFERENCES

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Fernandez, A., Lortet, M.-C. and Spite, F. 1983, *The First Dictionary of the Nomenclature of Celestial Objects*, *Astron. Astrophys. Suppl.* 52, No. 4.

Jaschek, C., Conde, H. and de Sierra, A. C. 1964, *Catalogue of Stellar Spectra Classified in the Morgan-Keenan System*, *Pub. La Plata Obs., Ser. Astron.* 28, No. 2.

Morgan, W. W. and Keenan, P. C. 1973, *Annu. Rev. Astron. Astrophys.* 11, 29.

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SECTION 5 - SAMPLE LISTING

The sample listing given on the following pages contains logical data records exactly as they are recorded on the tape. Groups of records from the beginning and end of each file of the catalog are illustrated. The beginning of each record and bytes within the record are indicated by the column heading index across the top of each page (digits read vertically).

