General Disclaimer

One or more of the Following Statements may affect this Document

- This document has been reproduced from the best copy furnished by the organizational source. It is being released in the interest of making available as much information as possible.

- This document may contain data, which exceeds the sheet parameters. It was furnished in this condition by the organizational source and is the best copy available.

- This document may contain tone-on-tone or color graphs, charts and/or pictures, which have been reproduced in black and white.

- This document is paginated as submitted by the original source.

- Portions of this document are not fully legible due to the historical nature of some of the material. However, it is the best reproduction available from the original submission.

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

82-20

NSSDC/WDC-A-R&S 82-20

DOCUMENTATION FOR THE MACHINE-READABLE VERSION

OF THE

GENERAL CATALOGUE OF TRIGONOMETRIC STELLAR PARALLAXES

AND SUPPLEMENT

Wayne H. Warren Jr.

June 1982

National Space Science Data Center (NSSDC)/
World Data Center A for Rockets and Satellites (WDC-A-R&S)
National Aeronautics and Space Administration
Goddard Space Flight Center
Greenbelt, Maryland 20771

TABLE OF CONTENTS

Table

SECTION 1 - INTRODUCTION AND SOURCE REFERENCE

The *General Catalogue of Trigonometric Stellar Parallaxes* (Jenkins 1963) is a compilation of only trigonometric parallaxes determined from photographic plates. The 1963 edition of the catalogue is a reprint of an earlier edition (Jenkins 1952) containing parallax values received before June 1950, with the addition of a 1963 supplement containing all determinations available in December 1962. The machine-readable version of the catalogue contains the basic data of the 1952 edition, with the new absolute parallax values in Section I of the 1963 Supplement, plus the new stars in Section II. The miscellaneous corrections listed in Section III of the 1963 Supplement have been made. The data and remarks on the right-hand pages of the published catalogue are not included in this machine-readable version.

This document describes the machine-readable version of the catalogue as distributed by the Astronomical Data Center. It is intended to enable users to read and process the data without problems and guesswork. The source reference should be consulted for details concerning the compilation of the main catalogue and supplement, the probable errors, and the weighting system used to combine determinations from different observatories. A copy of this document should be supplied with any machine-readable copy of the catalogue.

SOURCE REFERENCE

Jenkins, L. F. 1963, *General Catalogue of Trigonometric Stellar Parallaxes* (New Haven: Yale University Observatory).

SECTION 2 - TAPE CONTENTS

A byte-by-byte description of the contents of the *General Catalogue of Trigonometric Stellar Parallaxes* is given in Table 1. The suggested format specifications are for FORTRAN formatted read statements and can be modified depending upon individual programming and processing requirements. Since data fields contai: blanks where data are absent, care must be exercised when processing the catalogue for search or computational purposes, particularly for data which can have valid zero values. In this case, it is safest to buffer the data in or read them with character (A) format specifications and check for blanks before processing. Note that the additional decimal place for each star included from the Supplement is located at the end of a logical record rather than immediately following the star number. Alternate format specifications are given in parentheses.

Table 1. Tape Contents. *General Catalogue of Trigonometric Stellar Parallaxes.*

Byte(s)	Units	Suggested Format	Description
1- 4	---	I4	Sequential number by which the catalogue is ordered. Although the numbering system initially corresponded strictly to increasing right ascension, several RA corrections have destroyed the strict correspondence. There are also exceptions to the general rule of North to South ordering for stars having the same RA.
5-12	---	A8	Durchmuscerung number (BD for zones +89° to -22°, CD for zones -23° to -51°, CPD for zones -52° to -89°). The sign is always in byte 5, the zone in bytes 6-7, and the number in bytes 8-12. The field is blank when no DM number is present.
13	---	A1	Suffix for DM number. Field contains a lower case "a" for two supplemental BD stars (Nos. 1624 and 4098 [Barnard's Star]) or an asterisk if a CD number is given south of the -51° zone (or CPD north of the zone), etc. Blank if no suffix present.
14-15	hours	I2	Right ascension (α) for e- 'nox 1900.
16-18	min	F3.1	α

Table 1. (continued)

Byte(s)	Units	Suggested Format	Description
19-21	°	I3 (A1,I2)	Declination (δ) for equinox 1900. Sign always in byte 18.
22-23	'	I2	δ
24-27	mag	F4.1 (A4)	Visual or photographic magnitude (see byte 27). All actual magnitude data contain either a positive or negative sign in byte 23. If a magnitude is given as "var" or "nova" in the published catalogue, then byte 23 is blank and the value is set to 99.9 (nines in bytes 24-26). Note that lower precision data are indicated by the presence of a blank in byte 26.
28	---	A1	Magnitude code (V for visual, P for photographic, blank for 999 magnitudes).
29-31	---	A3	Spectral type from the *Henry Draper Catalogue* (HD). For many stars fainter than magnitude 6.5, Mount Wilson spectral types are reported; additional types were supplied by G. P. Kuiper and A. N. Vyssotsky. Blank if no data present.
32-37	---	I6 (A6)	HD number, otherwise blank.
38	---	A1	HD code. The digit 9 denotes that HD and HD+1 are taken together (when the entry represents two HD numbers, the HD number given is always the lower of the two). Otherwise zero.
39-47	---	9A1 (A9)	Source catalogues for proper motions following. The catalogue abbreviation (GC - Boss 1937, CI18 - Porter *et al.* 1915, CI20 - Porter *et al.* 1930, LT, LTT - Luyten 1957, 1961, 1962) and catalogue number are given. Blank if no data.
48-52	"	F5.3	Proper motion in right ascension (μ_α). Sign always in byte 46. Blank if no data.

Table 1. (continued)

Byte(s)	Units	Suggested Format	Description
53-58	"	F6.3	Proper motion in declination (μ_δ). Sign always in byte 51. Blank if no data. Note: The accuracy of the proper-motion data is indicated by the precision to which the data are reported, viz., for lower accuracy values, bytes 50 and 56 are blank. For GC stars, the motions are reported to a precision of three decimal places. For the Cincinnati and other catalogues, the motions are given to varying accuracy. When only μ_α is present, it has been determined from the parallax solution. When only the total μ is given in the published catalogue, the proper-motion fields are blank.
59-62	"	F4.3	The adjusted absolute trigonometric parallax (π). The field is blank in cases where the same star has multiple records and the record is not the first (see byte 63).
63-64	"	F2.3	The adjusted probable error of the parallax. Blank when the π field is blank.
65	---	I1	When there are multiple records in the catalogue for additional components of multiple stars, each component (including the first) is numbered sequentially (1, 2, ...) in this byte.
66	---	I1	Stars from the supplement are numbered with the 1952 catalogue number after which the star has been inserted (in α order) plus an additional decimal place, e.g. star 16.1 has been inserted after star 16. Byte 64 contains the additional digit. If the catalogue is to be sorted back to the original order after being ordered in some other way, this byte should be the secondary sort field. Blank for stars in the original 1952 edition.

SECTION 3 - TAPE CHARACTERISTICS

The information contained in Table 2 is sufficient for a user to describe the indigenous characteristics of the machine-readable *General Catalogue of Trigonometric Stellar Parallaxes* 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, number of tracks, and internal coding (EBCDIC, ASCII, etc.) is not included. This information should always be supplied if secondary copies are transmitted to other users or installations.

Table 2. Tape Characteristics. *General Catalogue of Trigonometric Stellar Parallaxes*.

NUMBER OF FILES	1
LOGICAL RECORD LENGTH (BYTES)	66
RECORD FORMAT	FB*
TOTAL NUMBER OF LOGICAL RECORDS	6675

* Fixed block length (last block may be short)

SECTION 4 - REMARKS, MODIFICATIONS, ACKNOWLEDGMENTS AND REFERENCES

The *General Catalogue of Trigonometric Stellar Parallaxes* was received on magnetic tape from Dr. P. K. Seidelmann of the U.S. Naval Observatory (USNO) on 5 May 1982. The Supplement stars had been merged into the data file after being punched at USNO. The following modifications were made to the data file in order to make it easier to process and more uniform with respect to other machine-readable catalogues:

1. Preceding zeroes were removed from all sequential catalogue numbers.

2. Blank bytes in the proper-motion and magnitude code fields were filled with minus signs. These were changed to blanks where appropriate.

3. The catalogue had been recorded in O26 character code. It was converted to O29 by changing all & characters to + signs.

4. The 999 digits were added to the magnitude fields previously containing the words "var" and "nova." (The fields were previously blank.)

5. The μ_δ data field for star 4098 (originally bytes 51-55) was coded A027 to represent +1027 (= +10.27) because the field was too small. The data field was therefore increased from five to six bytes (now 53-58) and the correct value inserted.

6. The logical record length was changed from 80 bytes to 66 bytes. Bytes were added to accommodate the DM suffix (byte 13) and the HD code (byte 38).

Individual corrections were made for stars 60 (data misalignment), 4494 record 2 (photographic magnitude omitted--added from published catalogue), 5470 (α changed from 22+20 to 22320) and 96.1 (spurious "O" removed from spectral type).

In addition, corrections to fourteen stars, kindly supplied by Dr. W. F. van Altena of Yale University, to whom the catalogue had also been sent, were made. The corrections involved data misalignment, incorrect Supplement digits, and record reversal (stars 298.2, 386.2, 1152.1, 1213.1, 1216.2, 1393.2, 1470.1, 1476.1, 1477.1, 1794.2, 3198.2, 3249.0, 3251.0 and 3256.2, where the zero indicates a non-Supplement star). Corrections by Hoffleit (1982) were also made; the latter corrections included the deletion of two duplicate entries (4728 and 4426.1).

ACKNOWLEDGMENTS

Appreciation is expressed to P. K. Seidelmann for supplying the updated version of the machine-readable catalogue, to W. F. van Altena for transmitting the corrections found at Yale, and to D. Hoffleit for checking some of the corrections in her published list and supplying additional corrections discovered more recently.

REFERENCES

Boss, B. 1937, *General Catalogue of 33342 Stars for the Epoch 1950* (Washington: Carnegie Institution of Washington).

Hoffleit, D. 1982, *CDS Inform. Bull.* No. 22, p. 112.

Jenkins, L. F., 1952, 1963, *General Catalogue of Trigonometric Stellar Parallaxes* (New Haven: Yale University Observatory).

Luyten, W. J. 1957, *A Catalogue of 9867 Stars in the Southern Hemisphere with Proper Motions Exceeding 0".2 Annually* (Minneapolis: Lund Press).

Luyten, W. J. 1961, *A Catalogue of 7127 Stars in the Northern Hemisphere with Proper Motions Exceeding 0".2 Annually* (LTT 10001-17027) (Minneapolis: Lund Press).

Luyten, W. J. 1962, *First Supplement to the LTT Catalogues* (LTT 17028-18635) (Minneapolis: Lund Press).

Porter, J. G., Yowell, E. I. and Smith, E. 1915, *Publ. Cincinnati Obs.* 18; 1930, 30.

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 the catalogue 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).

LISTING OF RECORDS FROM TAPE FILE

TAPE FILE NAME: YALE PARALLAX W/SUPPL.
RECORDS 1 TO 30
TAPE FILE 29
RECORD LENGTH 66 BYTES
INPUT VOLSER ADC001

COLUMN HEADING INDEX

```
         1         2         3         4         5         6         7         8         9         0         1         2         3         4         5
1234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345
```

```
RECORD    1    1+0705128 00002+0814+082VK0 0000260GC61      +0251- 0058+00005
RECORD    2    2-0606357 00002-0616+047VK0 0000280GC59      -0016+ 0096+00910
RECORD    3    3-6803597 00002-6822+087VK0 0000550CI20,5    -016 - 058 +07208
RECORD    4    4+4504408 00004+4516+088VK6 0000380GC71      +0874- 0131+091041
RECORD    5    4+4504408 00004+4516+090VK6 0000380GC72      +0874- 0193      2
RECORD    6    4+4504408 00004+4516+099VK1                                   3
RECORD    7    5-5212254 00007-5251+109P                    +027 + 015 +02112
RECORD    8    6+1705036 00008+1731+095VK0 0001130GC81      -0170- 0139+005061
RECORD    9    6+1705036 00008+1731+097VK0 0001130                        2
RECORD   10    7+5702865 00010+5751+061VG5 0001230GC88      +0261+ 0034+04304
RECORD   11    8-4914337 00011-4938+058VG0 0001420GC92      +0560- 0037+04307
RECORD   12    9+2804704 00014+2828+062VK0 0001660GC95      +0376- 0180+06905
RECORD   13    9-2106537 00017-2139+110PG5 0002020LT42      -027 - 042 -00109 1
RECORD   14   10+8500412 00022+8614+092VG0 0002450          +034 - 002 +01109
RECORD   15   11-2400008 00024-2423+088VG0 0002830GC109     +0334+ 0074+03612
RECORD   16   12+2800004 00032+2832+022VA0P0003580GC127     +0134- 0161+02405
RECORD   17   13+3500008 00035+3604+061VP5 0004000GC131     -0105- 0185+04606
RECORD   18   14+6300003 00036+6558+082VG5 0004040GC139     +0173+ 0032+01711
RECORD   19   15+7800011 00038+7910+062VA3 0004310GC149     +0104- 0023-00109
RECORD   20   16+5900003 00038+5836+024VP5 0004320GC147     +052 - 0178+07207
RECORD   21   16-2700016 00039-2741+120PB          LT58     +078 + 015 +05108 1
RECORD   22   17+6400003 00040+6431+070VK0 0004430GC152     +0276+ 0049+03108
RECORD   23   18-2800016 00043-2833+055VP2 0004930GC155     +0065- 0001+01710
RECORD   24   19-4600018 00043-4618+039VK0 0004960GC158     +0124- 0179+05911
RECORD   25   20+4500017 00051+4531+051VP0 0005710GC169     +0000- 0001-00608
RECORD   26   21+5700016 00052+5756+081VA  0005830          -015       -00711
RECORD   27   22+7300004 00059+7356+071VK0 0006780GC189     +0071- 0013+00810
RECORD   28   23+2900014 00062+2954+087VG5 0006910GC191     +0193+ 0047+03106
RECORD   29   24-1500017 00062-1601+050VP5 0006930GC190     -0082- 0263+06010
RECORD   30   25-3900031 00065-3947+110P                    +071 - 008 +02208
```


ORIGINAL PAGE IS
OF POOR QUALITY

LISTING OF RECORDS FROM TAPE FILE

TAPE FILE NAME: TALE PARALLAX W/SUPPL.
RECORDS 6646 TO 6675
TAPE FILE 29
RECORD LENGTH 66 BYTES
INPUT VOLSER ADC001

```
COLUMN
HEADING :         1111111111222222222233333333334444444444555555555566666666677777777778888888889999999990000000001111111
INDEX   : 12345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345
RECORD   6646  5796-1706856 23582-1730+090VG6 2246180CI20,1467+119 - 006 +02408
RECORD   6647  5797-2006684 23583-2035+078VG8 2246190GC33265  +0508- 0297+03207
RECORD   6648  5798-5014095 23585-5023+095VG0 2246520CI20,1469-003 - 042 +00408
RECORD   6649  5799+7600944 23587+7645+092VA0 2246680GC33277  +0015- 0016+00411
RECORD   6650  5800+1905185 23550+1929+092VK0         GC33283  -0206- 0201-00414
RECORD   6651  5801-1206598 23558-1223+085V    2248170CI20,1471+041 - 007 +00304
RECORD   6652  5801+1305195 23561+1324+102VH0                   +001 + 016 +0323111
RECORD   6653  5801+1305195 23561+1324+109VH0                   +002              21
RECORD   6654  5802-5113743 23562-5054+054VHA 2248650GC33312  -0003+ 0014+00312
RECORD   6655  5803-7701596 23564-7737+047VK0 2248890GC33321  -0055- 0166+01110
RECORD   6656  5804-2616876 23567-2621+092VA6 2249270CI18,3156-015 - 038 +00811
RECORD   6657  5805          23568+2528+110VK3         CI20,1472-030 - 061 +03912
RECORD   6658  5806-0606345 23568-0634+047VH8 2249350GC33330  +0048- 0033+00706
RECORD   6659  5807+2604734 23569+2633+058VG0 2249300GC33334  +0837- 0988+08604
RECORD   6660  5808          23570-0342+128PA5         CI20,1474+062 - 068 +12007
RECORD   6661  5809          23571+3852+105V                   +020 + 000 -01113
RECORD   6662  5810+3805114 23571+3851+059VF8                  -014 + 000 +09112
RECORD   6663  5811+0104820 23576+0135+077VG0 2250280         +004 - 007 +01907
RECORD   6664  5812-2918946 23585-2857+080VG5 2251180         +026 - 015 +00713
RECORD   6665  5813-1806417 23586-1754+046VA0 2251320GC   23  +0021- 0004+00410
RECORD   6666  5813          23592+5731+103VK2         CI20,1   +044 - 004 +00310 1
RECORD   6667  5814-4714785 23593-4738+089VK0 2252080         +030 + 004 +00012
RECORD   6668  5815-1106194 23594-1104+052VK2 2252120GC   36  -0010- 0005+01209
RECORD   6669  5816+6601679 23595+6637+058VK0 2252160GC   39  +0093+ 0035+01405
RECORD   6670  5817-3715492 23595-3751+086VH4 2252130GC   49  +5645- 2332+21908
RECORD   6671  5818          23596+3412 999 G                                -02812
RECORD   6672  5819+3304828 23596+3406+062VG0 2252390GC   44  +0755+ 0100+03406
RECORD   6673  5820          23597-5033+121P                   +018 - 002 +00412
RECORD   6674  5821+6401894 23598+6452+075VK0 2252720CI18,3164+012 + 006 -00211
RECORD   6675  5822+4404549 23599+4507+076VF6 2252910                    +00612
```

S-3

ORIGINAL PAGE IS
OF POOR QUALITY