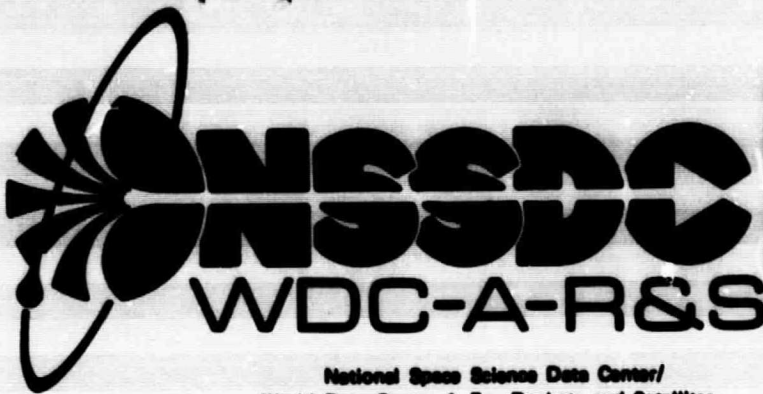


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National Space Science Data Center/  
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(NASA-TN-87378) DOCUMENTATION FOR THE  
MACHINE-READABLE VERSION OF THE AGK3 STAR  
CATALOGUE OF POSITIONS AND PROPER MOTIONS  
NORTH OF -2 DEG .5 DECLINATION (DIECKVOSS  
AND COLLABORATORS 1975) (NASA) 20 p

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DOCUMENTATION FOR THE MACHINE-READABLE VERSION

OF THE

*AGK3 STAR CATALOGUE OF POSITIONS AND PROPER MOTIONS*

*NORTH OF -285 DECLINATION*

(DIECKVOSS AND COLLABORATORS 1975)

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May 1984

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

DOCUMENTATION FOR THE MACHINE-READABLE VERSION

OF THE

*AGK3 STAR CATALOGUE OF POSITIONS AND PROPER MOTIONS*

*NORTH OF -285 DECLINATION*

(DIECKVOSS AND COLLABORATORS 1975)

ABSTRACT

A detailed description of the machine-readable catalog as it is currently being distributed from the Astronomical Data Center is given. The version described is that originally received from the Astronomisches Rechen-Institut, Heidelberg, with a few minor corrections found when the file was examined at the Astronomical Data Center, NASA Goddard Space Flight Center.

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## SECTION 1 - INTRODUCTION AND SOURCE REFERENCE

The *AGK3 Star Catalogue of Positions and Proper Motions North of -285 Declination* (hereinafter AGK3) was conceived and planned during discussions between O. Heckmann and D. Brouwer at Hamburg Observatory following the 1952 International Astronomical Union (IAU) General Assembly in Rome. It was concluded that an adequate number of reference stars (AGK3R) should be observed by as many meridian circles of as many observatories as possible, the revision of FK3, then in progress (FK4), should define the reference frame, and the same instruments as used for AGK2 should be used for the observations for AGK3. A formal recommendation was adopted through Commission 8 at the 1955 IAU General Assembly in Dublin, with the observatories at Babelsberg, Bergedorf, Bordeaux, Greenwich, Heidelberg, Nikolajew, Ottawa, Paris, Pulkovo, Strasbourg and Washington (USNO) to collaborate in the work, and with F. P. Scott (USNO) to coordinate the meridian circle observations of AGK3R stars. The completion of the photographic observations was to be the responsibility of the observatories at Bergedorf and Bonn, with all plate measurements to be done at the former. (However, it was finally decided that all plates, even for the AGK2 Bonn zones, would be taken at Bergedorf.) The plates for AGK3 were secured at Bergedorf between August 1956 and June 1964, with special precautions (exposures on both sides of the pier) made to compensate for possible changes in the camera objective. The two sets of plates were measured at Bergedorf in opposite directions and averaged to obtain final x,y coordinates. The detailed procedures for the correction of magnitude-color errors, reduction of the measures using the AGK3R stars, re-reduction of AGK2 using its reference catalog AGK2A transformed to the FK4 system, and final reduction of the AGK3 positions and proper motions, are discussed by W. Dieckvoss in his technical introduction to the source reference. Although a more detailed discussion of errors is given by Dieckvoss, the standard error for one coordinate on one plate as determined from a limited sample of 110 pairs of plates is  $\pm 0.025$  for AGK3.

This document describes the machine-readable version of the AGK3 as it is currently being distributed by the Astronomical Data Center. It is intended to enable users to process the magnetic tape file and its data without problems and guesswork. A copy of this document should be supplied with any secondary copies of the machine version originally obtained from the Astronomical Data Center.

### SOURCE REFERENCE

Dieckvoss, W. (in collaboration with H. Kox, A. Günther and E. Brosterhus) 1975, *AGK3 Star Catalogue of Positions and Proper Motions North of -285 Declination*, Hamburg-Bergedorf (printed with financial support from Deutsche Forschungsgemeinschaft Bonn-Bad Godesberg).

## SECTION 2 - TAPE CONTENTS

A byte-by-byte description of the contents of the machine-readable AGK3 file is given in Table 1. The suggested format specifications apply to FORTRAN formatted read statements, but can be modified depending upon individual programming and processing requirements. Default values are given only for those fields where the primary suggested format specifications are numerical, but where data are not always present; null values are always blanks in fields for which primary suggested formats are given as character (A), except that a null value of "0" is present in multiple-system component identifications. Alternate format specifications are given in parentheses.

Table 1. Tape Contents. *AGK3 Catalogue*.

| Byte(s) | Units | Suggested Format | Default Value | Description   |
|---------|-------|------------------|---------------|---|
| 1       | ---   | A1               | ---           | Sign of AGK3 number.  |
| 2- 3    | ---   | I2               | ---           | AGK3 zone.  |
| 4- 7    | ---   | I4               | ---           | AGK3 number in increasing order within each declination zone. The field is filled with preceding zeros.   |
| 8       | ---   | A1               | "0"           | Component identification when duplicate AGK3 numbers occur. The lower case letters "a" and "b" may be present.  |
| 9-11    | mag   | F3.1             | blank         | Photographic magnitude, <i>m<sub>pg</sub></i> , taken from AGK2 and recorded as an integer.   |
| 12-13   | ---   | A2               | ---           | Spectral type adopted from the <i>Henry Draper Catalogue</i> (Cannon and Pickering 1918-1924), its <i>Extension</i> (Cannon 1925-1936), <i>Schildt (Yale Transactions)</i> or determined by A. N. Vyssotsky and collaborators at the Leander-McCormick Obs. |
| 14-15   | hours | I2               | ---           | Right ascension, $\alpha$ , for equator and equinox 1950.0.   |
| 16-17   | min   | I2               | ---           | $\alpha$  |
| 18-22   | sec   | F5.3             | ---           | $\alpha$ , recorded as an integer number.   |
| 23      | ---   | A1               | ---           | Sign of declination, $\delta$ , for equator and equinox 1950.0.   |
| 24-25   | °     | I2               | ---           | $\delta$  |
| 26-27   | '     | I2               | ---           | $\delta$  |
| 28-31   | "     | F4.2             | ---           | $\delta$ , written as an integer number.  |

Table 1 (continued)

| Byte(s) | Units | Suggested Format | Default Value | Description  |
|---------|-------|------------------|---------------|--|
| 32-33   | ---   | I2               | ---           | Number of photographic observations used to determine the position. Single-digit numbers are preceded by a zero.   |
| 34-37   | years | F4.2             | ---           | Epoch of AGK3 position - 1900 (e.g. 1958.81 is recorded as 5881).  |
| 38      | ---   | A1               | ---           | Sign of annual proper motion in $\alpha$ , $\mu_{\alpha} \cos \delta$ .  |
| 39-42   | 0:001 | F4.3             | blank         | Annual proper motion, $\mu_{\alpha} \cos \delta$ , determined by differencing the AGK3 and AGK2 positions and dividing by the epoch difference. Proper motions are missing for stars new in AGK3 (see Table 6). If a calculated value of $\mu_{\alpha} \cos \delta$ exceeded the field capacity a value of "9999" is given with a "+" in byte 38. The suggested format reads the datum in the correct units. |
| 43      | ---   | A1               | ---           | Sign of annual proper motion in $\delta$ , $\mu_{\delta}$ .  |
| 44-47   | 0:001 | F4.3             | blank         | Annual proper motion, $\mu_{\delta}$ . See information for bytes 39-42.  |
| 48-51   | years | F4.2             | blank         | Epoch difference AGK3-AGK2.  |
| 52      | ---   | A1               | ---           | Sign of zone number in <i>Bonner Durchmusterung</i> (BD).  |
| 53-54   | ---   | A2 (I2)          | ---           | BD zone.   |
| 55-58   | ---   | A4 (I4)          | ---           | BD number within zone.   |
| 59      | ---   | A1 (I1)          | zero          | Numerical code for identification of a component of a multiple system: (1 = primary [P]; 2 = secondary [S]; 3 = A; 4 = B; 5 = S1; 6 = S2; 7 = P1; 8 = P2; 9 = C). BD supplemental stars (lower case letters) are assigned codes but are indistinguishable from A and B designations because the codes are the same. Since the tape format only allows one byte for the duplicity code, and nine              |



Table 1 (continued)

| Byte(s)     | Units      | Suggested Format | Default Value | Description  |
|-------------|------------|------------------|---------------|--|
|             |            |                  |               | codes are already used, the distinction cannot be drawn. If it is necessary to distinguish or identify supplemental stars, the <i>Catalog of BD Supplemental Stars</i> (Warren and Kress 1980) should be used. |
| 60-61       | ---        | A2 (12)          | ---           | Sum of discrepancy codes, $\sum e_v = \sum 2^v$ , where $v = 0$ (BD number), 1 ( $m_{pg}$ and/or spectral type), 2 ( $\alpha AGK2$ ), 3 ( $\delta AGK2$ ), 4 ( $\alpha AGK3$ ), 5 ( $\delta AGK3$ ).           |
| 62<br>63-67 | ---<br>sec | A1<br>F5.4       | ---<br>blank  | Sign of $\mu_\alpha$ following.<br>Annual proper motion, $\mu_\alpha$ , computed by dividing $\mu_\alpha$ by $15 \cos \delta$ .  |
| 68<br>69-73 | ---<br>"   | A1<br>F5.4       | ---<br>blank  | Sign of $\Delta \alpha \cos \delta$ .<br>The residual quantity $\Delta \alpha (\cos \delta) AGK3$ in the sense $AGK3 - (AGK2_{modified})$ , where the last quantity denotes data from the re-reduced $AGK2$ .  |
| 74<br>75-79 | ---<br>"   | A1<br>F5.4       | ---<br>blank  | Sign of $\Delta \delta$ .<br>The residual quantity $\Delta \delta$ in the sense $AGK3 - (AGK2_{modified})$ .   |
| 80          | ---        | 1X               | ---           | Blank  |

### SECTION 3 - TAPE CHARACTERISTICS

The information in Table 2 is sufficient for a user to describe the indigenous characteristics of the *AGK3 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, number of tracks, and internal coding (EBCDIC, ASCII, etc.) is not included. These parameters should always be transmitted if secondary copies of the catalog are supplied to other users or installations.

Table 2. Tape Characteristics. *AGK3 Catalogue*.

---

|                                       |        |
|---------------------------------------|--------|
| NUMBER OF FILES .....                 | 1      |
| LOGICAL RECORD LENGTH (BYTES) .....   | 80     |
| RECORD FORMAT .....                   | FB*    |
| TOTAL NUMBER OF LOGICAL RECORDS ..... | 183145 |

---

\* Fixed block length (last block may be short)

## SECTION 4 - REMARKS, MODIFICATIONS AND REFERENCES

The machine version of the AGK3 was received on magnetic tape from the Centre de Données Stellaires, Strasbourg in 1978. The version received had been obtained originally from the Astronomisches Rechen-Institut in Heidelberg. A preliminary document for a modified and corrected version of the catalog was produced by Nagy (1979). The following changes were made to the Heidelberg file in order to correct some minor errors and to produce a tape conforming more closely to the published version:

1. AGK3 component identifications for stars where more than one AGK3 star has the same number were changed from upper case characters (A, B) to lower case (a, b) as in the printed edition.
2. Nine stars in AGK3 zone  $-00^\circ$ , but in BD zone  $+00^\circ$  were found to have a BD zone of  $+90^\circ$ . The BD zone for these stars was changed to  $+00^\circ$ . These stars are: AGK3  $-00^\circ$ 1467, 1510, 1530, 1531, 1532, 1602, 1693, 1774, and 2120.

The tables following give information on the zone statistics of the AGK3, on stars for which proper-motion data are not included, and on stars which are omitted or new in AGK3. These tables are taken from documentation prepared by T. Lederle (1976) for distribution with the Heidelberg version of the AGK3 tape. Table 8 lists positional data for two AGK3 stars for which the declination data are suspect. These stars were pointed out by D. W. Dunham. A list of errata to AGK3 magnitudes recently published by Willstrop (1983) has not been incorporated into this version of the machine-readable catalog.

Table 3. Numbers of AGK2 and AGK3 Stars in Each Zone.

| Zone | Number<br>in AGK2 | Omitted<br>in AGK3 | New in<br>AGK3 | Number<br>in AGK3 |
|------|-------------------|--------------------|----------------|-------------------|
| +89° | 56                | 2                  | -              | 54                |
| +88  | 136               | -                  | -              | 136               |
| +87  | 180               | -                  | -              | 180               |
| +86  | 329               | -                  | -              | 329               |
| +85  | 402               | -                  | -              | 402               |
| +84  | 518               | -                  | -              | 518               |
| +83  | 618               | 1                  | -              | 617               |
| +82  | 731               | -                  | -              | 731               |
| +81  | 739               | -                  | -              | 739               |
| +80  | 508               | 1                  | -              | 507               |

Table 3 (continued)

| Zone | Number<br>in AGK2 | Omitted<br>in AGK3 | New in<br>AGK3 | Number<br>in AGK3 |
|------|-------------------|--------------------|----------------|-------------------|
| +79° | 698               | 1                  | -              | 697               |
| +78  | 586               | 1                  | -              | 585               |
| +77  | 700               | -                  | -              | 700               |
| +76  | 981               | -                  | -              | 981               |
| +75  | 1027              | -                  | -              | 1027              |
| +74  | 704               | -                  | -              | 704               |
| +73  | 643               | 1                  | -              | 642               |
| +72  | 659               | -                  | -              | 659               |
| +71  | 733               | -                  | -              | 733               |
| +70  | 853               | 3                  | -              | 850               |
| +69  | 1056              | -                  | -              | 1056              |
| +68  | 1054              | -                  | -              | 1054              |
| +67  | 1099              | -                  | -              | 1099              |
| +66  | 1247              | -                  | -              | 1247              |
| +65  | 1332              | -                  | -              | 1332              |
| +64  | 1266              | -                  | -              | 1266              |
| +63  | 1372              | 4                  | -              | 1368              |
| +62  | 1501              | 5                  | -              | 1496              |
| +61  | 1511              | 5                  | -              | 1506              |
| +60  | 1626              | 6                  | -              | 1620              |
| +59  | 1672              | 7                  | -              | 1665              |
| +58  | 1611              | 3                  | -              | 1608              |
| +57  | 1719              | 8                  | -              | 1711              |
| +56  | 1793              | 2                  | -              | 1791              |
| +55  | 1740              | 5                  | -              | 1734              |
| +54  | 1726              | 4                  | -              | 1722              |
| +53  | 1711              | 8                  | -              | 1703              |
| +52  | 1847              | 8                  | -              | 1839              |
| +51  | 1866              | 4                  | -              | 1862              |
| +50  | 2018              | 8                  | -              | 2010              |
| +49  | 2182              | 4                  | -              | 2178              |
| +48  | 2149              | 8                  | 1              | 2142              |
| +47  | 2141              | 4                  | -              | 2137              |
| +46  | 2233              | 2                  | 1              | 2232              |
| +45  | 2210              | 5                  | -              | 2205              |
| +44  | 2267              | 2                  | -              | 2265              |
| +43  | 2315              | 4                  | -              | 2311              |
| +42  | 2341              | 2                  | -              | 2339              |
| +41  | 2368              | 1                  | -              | 2367              |
| +40  | 2515              | -                  | -              | 2515              |

Table 3 (continued)

| Zone             | Number<br>in AGK2 | Omitted<br>in AGK3 | New in<br>AGK3 | Number<br>in AGK3 |
|------------------|-------------------|--------------------|----------------|-------------------|
| +39              | 2544              | 5                  | -              | 2539              |
| +38              | 2466              | 6                  | -              | 2460              |
| +37              | 2371              | 8                  | -              | 2363              |
| +36              | 2460              | 10                 | -              | 2450              |
| +35              | 2496              | -                  | -              | 2496              |
| +34              | 2457              | 2                  | -              | 2455              |
| +33              | 2396              | -                  | -              | 2396              |
| +32              | 2384              | 1                  | -              | 2383              |
| +31              | 2466              | 4                  | -              | 2462              |
| +30              | 2692              | 5                  | -              | 2687              |
|                  |                   |                    |                |                   |
| +29              | 2978              | 3                  | -              | 2975              |
| +28              | 2859              | 2                  | -              | 2857              |
| +27              | 2820              | 1                  | -              | 2819              |
| +26              | 2849              | 1                  | -              | 2848              |
| +25              | 2861              | 2                  | -              | 2859              |
| +24              | 2594              | 1                  | -              | 2593              |
| +23              | 2491              | 1                  | -              | 2490              |
| +22              | 2591              | 3                  | -              | 2588              |
| +21              | 2640              | 6                  | -              | 2634              |
| +20              | 2676              | 8                  | -              | 2668              |
|                  |                   |                    |                |                   |
| +19              | 2478              | 12                 | -              | 2466              |
| +18              | 2415              | 8                  | -              | 2407              |
| +17              | 2652              | 7                  | -              | 2645              |
| +16              | 2646              | 9                  | 1              | 2638              |
| +15              | 2666              | 13                 | -              | 2653              |
| +14 <sup>1</sup> | 2661              | 15                 | -              | 2646              |
| +13              | 2568              | 9                  | -              | 2559              |
| +12              | 2816              | 21                 | -              | 2795              |
| +11              | 2996              | 14                 | -              | 2982              |
| +10 <sup>2</sup> | 3289              | 21                 | -              | 3268              |
|                  |                   |                    |                |                   |
| + 9              | 3330              | 21                 | -              | 3309              |
| + 8              | 3296              | 13                 | -              | 3283              |
| + 7              | 3456              | 9                  | -              | 3447              |
| + 6              | 3254              | 8                  | -              | 3246              |
| + 5              | 3434              | 10                 | -              | 3424              |
| + 4              | 3199              | 7                  | -              | 3192              |
| + 3              | 3063              | 9                  | -              | 3054              |
| + 2              | 2998              | 11                 | -              | 2987              |
| + 1              | 2877              | 5                  | -              | 2872              |
| + 0              | 2957              | 4                  | -              | 2953              |

Table 3 (concluded)

| Zone  | Number<br>in AGK2 | Omitted<br>in AGK3 | New in<br>AGK3 | Number<br>in AGK3 |
|-------|-------------------|--------------------|----------------|-------------------|
| - 0   | 3018              | 9                  | -              | 3009              |
| - 1   | 2893              | 10                 | -              | 2883              |
| - 2   | 1246              | 12                 | -              | 1234              |
| Total | 183588            | 446                | 3              | 183145            |

<sup>1</sup>Note that star +14°1650 was missing in AGK2 already

<sup>2</sup>Note that star +10° 986 was missing in AGK2 already

Table 4. List of the 446 AGK2 Stars Omitted from AGK3.

|      |     |      |      |      |       |      |      |      |       |      |      |
|------|-----|------|------|------|-------|------|------|------|-------|------|------|
| +89° | 4   | +59° | 31   | +53° | 120   | +49° | 1611 | +39° | 263   | +34° | 1005 |
|      | 52  |      | 388  |      | 155   |      | 1785 |      | 2084  | +32  | 446  |
| +83  | 41  |      | 389  |      | 377   | +48  | 83   |      | 2085  | +31  | 239  |
| +80  | 5   |      | 391  |      | 378   |      | 108  |      | 2087  |      | 1305 |
| +79  | 157 |      | 704  |      | 380   |      | 457  |      | 2088  |      | 1341 |
| +78  | 245 |      | 1076 |      | 381   |      | 459  | +38  | 211   |      | 1435 |
| +73  | 621 |      | 1165 |      | 383   |      | 460  |      | 875   | +30  | 838  |
| +70  | 738 | +58  | 380  |      | 384   |      | 462  |      | 1000  |      | 944  |
|      | 776 |      | 381  | +52  | 36    |      | 463  |      | 1225  |      | 1424 |
|      | 838 |      | 1609 |      | 417   |      | 1751 |      | 1711  |      | 1646 |
| +63  | 28* | +57  | 282  | +52  | 418   | +47  | 422  | +38  | 2350* | +30  | 2496 |
|      | 162 |      | 468  |      | 419   |      | 424  | +37  | 434   | +29  | 492  |
|      | 544 |      | 469  |      | 420   |      | 425  |      | 991   |      | 1162 |
|      | 796 |      | 470  |      | 1009  |      | 426  |      | 1265  |      | 2255 |
| +62  | 353 |      | 471  |      | 1490a | +46  | 185  |      | 1495  | +28  | 209  |
|      | 354 |      | 778  |      | 1490b |      | 1980 |      | 2049  |      | 1124 |
|      | 355 |      | 1017 | +51  | 168   | +45  | 412  |      | 2138  | +27  | 1118 |
|      | 548 |      | 1640 |      | 513   |      | 1730 |      | 2188  | +26  | 2794 |
|      | 790 | +56  | 170  |      | 514   |      | 1985 |      | 2273  | +25  | 464  |
| +61  | 361 |      | 869  |      | 1411  |      | 2144 | +36  | 414   |      | 465  |
| +61  | 377 | +55  | 365  | +50  | 47    | +45  | 2196 | +36  | 665   | +24  | 456  |
|      | 378 |      | 392  |      | 173   | +44  | 337  |      | 764   | +23  | 481  |
|      | 379 |      | 563  |      | 391   |      | 618  |      | 883   | +22  | 817  |
|      | 382 |      | 595  |      | 432   | +43  | 58   |      | 1016  |      | 818  |
| +60  | 396 |      | 884  |      | 433   |      | 1960 |      | 1334  |      | 2096 |
|      | 398 |      | 1530 |      | 524   |      | 2289 |      | 1340  | +21  | 251  |
|      | 399 | +54  | 90   |      | 766   |      | 2305 |      | 1386  |      | 503  |
|      | 434 |      | 182  |      | 1258  | +42  | 213  |      | 2214  |      | 1083 |
|      | 435 |      | 408  | +49  | 476   |      | 2291 |      | 2313  |      | 1866 |
|      | 438 |      | 1471 |      | 477   | +41  | 1837 | +34  | 553   |      | 1977 |

Table 4 (concluded)

|      |      |      |       |      |      |      |      |      |      |      |      |
|------|------|------|-------|------|------|------|------|------|------|------|------|
| +21° | 2164 | +15° | 131   | +12° | 799  | +10° | 2264 | + 7° | 3100 | + 2° | 2304 |
| +20  | 491  |      | 247   |      | 1094 |      | 2518 | + 6  | 574  | + 1  | 122  |
|      | 839  |      | 356   |      | 1199 |      | 3107 |      | 637  |      | 662  |
|      | 1363 |      | 529   |      | 1416 | + 9  | 255  |      | 1136 |      | 1599 |
|      | 1633 |      | 1219  |      | 1421 |      | 317  |      | 1155 |      | 1784 |
|      | 1666 |      | 1471  |      | 1568 |      | 381  |      | 1421 |      | 2016 |
|      | 1711 |      | 1542  |      | 1569 |      | 544  |      | 1833 | + 0  | 229  |
|      | 1886 |      | 1579  |      | 1768 |      | 549  |      | 2617 |      | 2241 |
|      | 1962 |      | 1580  |      | 1827 |      | 754  |      | 3249 |      | 2415 |
| +19  | 176  |      | 1595  |      | 2243 |      | 1050 | + 5  | 120  |      | 2901 |
| +19  | 243  | +15  | 1690  | +12  | 2597 | + 9  | 1239 | + 5  | 186  | - 0  | 616  |
|      | 352  |      | 1692  |      | 2760 |      | 1241 |      | 425  |      | 648  |
|      | 1335 |      | 2267  |      | 2782 |      | 1308 |      | 525  |      | 1104 |
|      | 1372 | +14  | 11    | +11  | 23   |      | 1321 |      | 1072 |      | 1637 |
|      | 1509 |      | 116   |      | 44   |      | 1388 |      | 1999 |      | 1719 |
|      | 1525 |      | 413   |      | 147  |      | 1482 |      | 2439 |      | 1843 |
|      | 1531 |      | 597   |      | 163  |      | 1621 |      | 3105 |      | 2584 |
|      | 1666 |      | 1239  |      | 393  |      | 1923 |      | 3241 |      | 2832 |
|      | 1867 |      | 1444* |      | 399  |      | 1973 |      | 3403 |      | 2882 |
|      | 1953 |      | 1510  |      | 438  |      | 2155 | + 4  | 617  | - 1  | 300  |
| +19  | 2173 | +14  | 1600  | +11  | 1107 | + 9  | 2190 | + 4  | 698  | - 1  | 345  |
| +18  | 894  |      | 1643  |      | 1231 |      | 2822 |      | 748  |      | 596  |
|      | 1196 |      | 1736  |      | 1241 |      | 3049 |      | 1079 |      | 622  |
|      | 1238 |      | 1954  |      | 1470 |      | 3065 |      | 1919 |      | 1517 |
|      | 1285 |      | 2256  |      | 2242 | + 8  | 199  |      | 2178 |      | 1685 |
|      | 1427 |      | 2276  |      | 2513 |      | 265  |      | 2420 |      | 1734 |
|      | 1919 |      | 2576  |      | 2790 |      | 355  | + 3  | 308  |      | 1906 |
|      | 2002 |      | 2584  | +10  | 48   |      | 434  |      | 346  |      | 2162 |
|      | 2405 | +13  | 356   |      | 172  |      | 981  |      | 696  |      | 2732 |
| +17  | 384  |      | 359   |      | 403  |      | 1313 |      | 1347 | - 2  | 13   |
| +17  | 429  | +13  | 428   | +10  | 410  | + 8  | 1335 | + 3  | 1526 | - 2  | 204  |
|      | 523  |      | 1186  |      | 425  |      | 2127 |      | 1660 |      | 205  |
|      | 1015 |      | 1193  |      | 479  |      | 2193 |      | 2068 |      | 208  |
|      | 1099 |      | 1410  |      | 1245 |      | 2203 |      | 2453 |      | 325  |
|      | 1387 |      | 1449  |      | 1293 |      | 2636 |      | 2992 |      | 428  |
|      | 1769 |      | 1887  |      | 1300 |      | 2842 | + 2  | 192  |      | 870  |
| +16  | 248  |      | 2300  |      | 1359 |      | 3225 |      | 505  |      | 962  |
|      | 256  | +12  | 60    | + 7  | 86   |      | 86   |      | 801  |      | 963  |
|      | 257  |      | 62    |      | 1426 |      | 116  |      | 1244 |      | 1177 |
|      | 400  |      | 285   |      | 1427 |      | 516  |      | 1527 |      | 1180 |
| +16  | 651  | +12  | 365   | +10  | 1428 | + 7  | 681  | + 2  | 1777 |      | 1215 |
|      | 755  |      | 389   |      | 1465 |      | 894  |      | 1946 |      |      |
|      | 1243 |      | 402   |      | 1538 |      | 1413 |      | 2134 |      |      |
|      | 2248 |      | 414   |      | 1884 |      | 1508 |      | 2151 |      |      |
|      | 2434 |      | 453   |      | 2092 |      | 2902 |      | 2186 |      |      |

\* star listed in published catalog, but without proper motion

Table 5. List of Three Stars New in AGK3.

| +48° 1052a | +46° 2072a | +16° 1409a |
|------------|------------|------------|
|------------|------------|------------|

Table 6. AGK3 Stars for which Proper-Motion Data in  $\alpha$  and/or  $\delta$  are Missing.

| Star     | Machine Version | Published Version |
|----------|-----------------|-------------------|
| +66° 961 | 4               | 2                 |
| +63 164  | 4               | 2                 |
| 282      | 4               | 2                 |
| 452      | 4               | 2                 |
| +62 106  | 4               | 2                 |
| +60 31   | 4               | 2                 |
| 1126     | 4               | 2                 |
| +59 1334 | 4               | 2                 |
| +58 545a | 5               | 3                 |
| +57 644  | 4               | 4                 |
| +54 126  | 4               | 2                 |
| +43 1056 | 4               | 2                 |
| +42 1131 | 4               | 4                 |
| 1192     | 4               | 2                 |
| +38 523  | 4               | 4                 |
| 2214     | 4               | 4                 |
| +37 1649 | 4               | 4                 |
| +32 1596 | 6               | 2                 |
| +30 188  | 4               | 2                 |
| 1493     | 4               | 2                 |
| +29 484  | 4               | 2                 |
| 486      | 4               | 2                 |
| 510      | 4               | 4                 |
| 546      | 4               | 2                 |
| 856      | 4               | 2                 |
| 1716     | 4               | 2                 |
| +28 454  | 6               | 2                 |
| 792      | 4               | 2                 |
| 1077     | 4               | 2                 |
| 1083     | 4               | 4                 |
| +27 126  | 4               | 2                 |
| 1113     | 4               | 4                 |
| 1539     | 4               | 4                 |
| +19 218  | 4               | 4                 |
| 849      | 4               | 4                 |
| +18 1450 | 4               | 2                 |

(1) No proper motion in  $\alpha$  and  $\delta$ ; (2) Omitted from catalog; (3) Included with proper motions; (4) Included without proper motions; (5) Proper motion in  $\alpha$  only; (6) Proper motion in  $\delta$  only.



Table 7. List of 19 AGK3 Stars with Component Identifications.

| AGK3               | Remarks                        |
|--------------------|--------------------------------|
| +83° 508a<br>508b  |                                |
| +78 551a<br>551b   |                                |
| +73 274a           |                                |
| +69 438a           |                                |
| +64 1087a<br>1087b |                                |
| +63 33a            |                                |
| +58 545a           |                                |
| +55 58a<br>58b     |                                |
| +51 1442a          |                                |
| +48 1052a          | New in AGK3                    |
| +46 132a<br>2072a  | New in AGK3                    |
| +17 1610a          | Omitted in the printed catalog |
| +16 1409a          |                                |
| +11 889a           |                                |

Table 8. AGK3 Stars with Probable Erroneous  $\delta$  Data.

|                      | AGK2        | Yale         | SAO          | AGK3         |
|----------------------|-------------|--------------|--------------|--------------|
| <u>AGK3 +20° 549</u> |             |              |              |              |
| $\alpha$ :           | 5 40 39.31  | 5 40 39.304  | 5 40 39.317  | 5 40 39.203  |
| $\delta$ :           | +20 24 31.8 | +20 24 31.86 | +20 24 31.79 | +20 24 31.15 |
| <u>AGK3 +24° 523</u> |             |              |              |              |
| $\alpha$ :           | 5 35 23.76  | 5 35 27.749  | 5 35 23.73   | 5 35 23.725  |
| $\delta$ :           | +24 57 53.3 | +24 57 53.54 | +24 57 52.28 | +24 58 8.49  |

REFERENCES

- Cannon, A. J. (1925-1936), *The Henry Draper Extension*, *Ann. Astron. Obs. Harvard College* 100.
- Cannon, A. J. and Pickering, E. C. (1918-1924), *The Henry Draper Catalogue*, *Ann. Astron. Obs. Harvard College* 91-99.
- Dieckvoss, W. (in collaboration with H. Kox, A. Günther and E. Brosterhus) 1975, *AGK3 Star Catalogue of Positions and Proper Motions North of -2.5 Declination*, Hamburg-Bergedorf (printed with financial support from Deutsche Forschungsgemeinschaft Bonn-Bad Godesberg).
- Nagy, T. A. 1979, Documentation for the Machine-Readable Version of the AGK3 Catalogue of Positions and Proper Motions North of -2.5 Degrees Declination, Systems and Applied Sciences Corporation R-SAW-7/79-35.
- Warren, W. H. Jr. and Kress, K. 1980, *Astron. Data Center Bull.* 1, 19.
- Willstrop, R. V. 1983, *Bull. Inf. Cent. Données Stellaires* No. 24, 65.

## SECTION 5 - SAMPLE LISTING

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



