ANNUAL REPORT OF THE DIRECTOR 30 SEPTEMBER 1972

I would like to present this, my 23rd Annual Report as Director of the Association for the year 1971-72. I am delighted to report, as usual, increased activity both at Headquarters and among the members.

Our key-punch training program for student help continues to pay off, and we have some very efficient operators. We are getting more nearly up-to-date with our punching. During the summer we worked on observations made in the Spring of 1971, which means we have punched over one million observations. With the help of several centers where local observations are being punched, we can now see in the not too distant future the time when we can punch observations as they come in, and at the same time start work on the old reports from 1911 and earlier.

 $\overline{\text{Mation}}$ REQUESTS. We receive frequent requests for information concerning the brightness of variables on specific dates, and also on times of observed maxima and minima.

Theodore P. Snow, Jr., of the University of Washington wrote that he and Dr. Wallerstein were working on a project involving the Mira variable U Herculis, and they would like to have visual magnitudes and information on the light curve and phase of the variable near some dates in 1969 and 1971.

Lee W. Simon did his Ph.D. dissertation on the spectroscopic investigation of long-period, semi-regular and irregular variables at Northwestern University under the direction of Dr. William Buscombe. He needed phases and magnitudes at times of his observations of some 60 variables. Recently, Dr. Simon has written "The members of AAVSO provide a very valuable service in collecting a huge body of data. If it were not for them, many of the advances in our knowledge of these unusual stars, such as the red variables, would not have been made."

H. M. Dyck of Kitt Peak asked for some material on VX Sgr. Fortunately we had published a complete plot showing the past history of the star and current plots brought it up-to-date. Later he asked for material on the complex variable XX Oph.

Brian Warner of the University of Texas at Austin asked for dates of outbursts of U Geminorum since March 1970. He had a number of eclipse light curves to be analyzed. He was also interested in π^1 Gruis which had some unusual features in its spectrum.

Donald W. Strecker of the University of Minnesota was doing his Ph.D. thesis on infrared variations of Mira stars and needed phases from our visual light curves.

Dr. Francis Stienon of the Warner & Swasey Observatory asked for data on CI Cygni. He wrote "You will be happy to know that the AAVSO visual magnitudes are in good agreement with my monochromatic measurements at the effective wavelength of the V magnitude system, except that the broad band magnitudes show a smaller amplitude on the rising part of the curve. This is probably due to the influence of the emission lines, which tended to disappear as the star brightened." Dr. Stienon sent us some photoelectric comparison star magnitudes for the brighter end of the sequence.

Paul Harvey of the California Institute of Technology visited the office during the Christmas holidays and made tracings of many of our light curves. In the summer he wrote

that he needed more detailed information on some of the stars and asked for Xerox copies of some of them. He needs the visual data to correlate with his infrared observations.

Hazel Ross who is writing her thesis on the intensity distribution in the blue-violet region for S, C and C-S stars, at the Warner & Swasey Observatory, needed visual magnitudes and phases for her dates of observations.

Bill Forrest of the University of California at San Diego requested our large blueprint of R CrB for 117 years plus current plots.

Dr. Fletcher Watson of Harvard University got a supply of AAVSO charts on bright variables to use in his summer school course for science teachers.

Many long distance phone calls come in asking for quick information on interesting variables. Our current plots are always near the telephone. This makes it very essential to keep all of our plots up-to-date with all observations plotted.

MEMBERSHIP. At our 60th Anniversary Annual Meeting in Cambridge we elected 65 new annual members plus one new sustaining member, William A. Sloan. In addition, 5 annual members changed to sustaining: Charles A. Brownlee, James N. Jackson, Jonathan Moore, Bruce F. Small and Nancy B. Thomas. At the 1972 Spring Meeting in Tucson, 5 annual members changed to sustaining: Priscilla A. Bibber, Thomas J. Crowley, James D. Currie, R. Wade Ortel and A. Phillips Simpson. We Elected one new sustaining member, Middlebury College, and 54 new annual members.

I am very sorry to report the deaths of three of our members: Wendell Kilmer, John Patterson and Gunther Veit-Kohler.

SUBSCRIPTIONS TO PUBLICATIONS. A number of libraries subscribe to certain of our publications, such as the Solar Bulletin, Abstracts, Reports or Bulletins. In addition, 38 libraries and observatories have subscriptions to receive all of our publications.

REQUESTS FOR INFORMATION. About 360 requests were received for information about the AAVSO and for specific information about our work on variables, the sun, nova search, and occultations. We send sheets of mimeographed material plus the Manual and special information as required in answer to all requests. While this may seem inadequate in many cases, at least they receive answers and we get a number of our new members from these inquiries.

LIBRARY. The McAteer Library continues to receive about 300 serial publications each year, plus a few gifts of books. This year Cyrus and Emily Fernald, as a result of the closing of their Maine home, presented us with 33 books and a set of the long out-of-print publication The Telescope, one of the predecessors of Sky & Telescope. These are a fine addition to our reference library.

Anton Kovar gave us an 1890 edition of Young's Elements of Astronomy with a Uranography, and a 1904 edition of his Lessons in Astronomy. These books are nice additions to our collection of early American astronomy books.

<u>PUBLICATIONS</u>. Our regular publications were distributed during the year. Following the Fall and Spring meetings, we sent out

reports from the Director, Treasurer and various Committee Chairmen, in addition to AAVSO Abstracts of papers given at the Annual Meeting. Also we sent a new membership list; a list of officers and committee members, Julian Day Calendar; News Notes, edited by Carolyn Hurless; and Bulletins 35, containing predictions of dates of Max and Min for 1972; 35A, graphical predictions by Clinton Ford, showing when the selected variables are expected to be fainter than 13; and 35B, graphical predictions by John Bortle, showing when they are expected to be brighter than 11th magnitude.

The <u>Solar Bulletin</u>, edited by Keith Strait and published monthly by the Solar Division, contains notes on solar activity and reproductions of recordings of solar flares. The American Sunspot Numbers as determined by the Solar Division

are published by NOAA and in Sky & Telescope.

Sky & Telescope publishes a monthly list of long period variables having at least 8th magnitude maxima. The Royal Astronomical Society of Canada allots us 4 pages in each issue of their journal and in it we have notes on interesting variables and a list of observers with their monthly totals. We supply approximate times of minima of Algol and dates of maxima and minima for a selected list of variables for the RASC Handbook. Other predictions are made for Johnson's Celestial Calendar and Handbook.

The Eclipsing Binary & RR Lyrae Committee publishes a bulletin by the Chairman, Marvin E. Baldwin and monthly predictions of times of minima prepared by Donald C. Livingston.

The AAVSO Circular, edited and published by John E. Bortle, Wayne M. Lowder, and Charles E. Scovil is proving to be very successful. Mr. Bortle now includes observations of the active and irregular variables made by observing groups in France, Holland, Japan and New Zealand, as well as those by our own observers, which make the notes more complete.

The Journal of the AAVSO, Volume I, Number 1, made its appearance in the summer of 1972, under the very able editorship of Dr. William H. Glenn. The Journal will combine under one cover many of our miscellaneous publications and provide a place to publish papers on variable stars, solar astronomy, and related topics. It has been very well received and we have had many complimentary remarks and letters about it.

ANNUAL SUMMARY OF OBSERVATIONS. We received 1688 reports from 316 observers who made a total of 120,508 observations. Sixty observers sent regular monthly reports and 17 missed just one month each -- an increase over previous years which we appreciate.

Table I lists the 22 countries in which we had observers and Table II lists the 41 states in the USA. All observers who contributed observations during the fiscal year 1971-72 are listed in Table III. The list is in alphabetic order and gives the observer's code initials, his name and geographic location, and his total number of observations, followed by the number of "Inner Sanctum" observations (fainter than 14) and PEP or Ptm if some or all observations were photoelectric or photometric. Sixty members made 7,269 "Inner Sanctum" observations; 2 members, Howard Landis and Allen Heasley submitted PEP observations; and Charles Scovil, H. E. M. Specht and A. M. Wellington made photometric observations.

The observer this year with the greatest number of observations is Wayne Lowder with 6,775 observations including

43 "Inner Sanctums". He was followed by Thomas Cragg with 4,915 observations, 1079 "Inner Sanctums", and O. J. Knox with 4,910 observations and 566 "Sanctums". Other observers who made more than 2,000 each are: Taro C. Akiyoshi, Carolyn J. Hurless, Mario Vattuone, Lancaster Hiett, Kurt Locher, Clinton B. Ford, John E. Bortle, Charles E. Scovil, Edward G. Oravec, and Robert M. Adams, 13 in all. A total of 38 observers made more than 1000 each.

GIFTS. Clinton Ford has been very generous in supplying us with much needed office equipment. Our IBM typewriter which we purchased in 1954 with the help of the National Science Foundation was beginning to get temperamental and the typing did not reproduce evenly. Clinton came to our rescue and now we have a new Selectric II which takes a variety of typing heads of either 10 or 12 pitch. He also gave us a Gafax copier which is a convenience.

Cyrus and Emily Fernald gave us the books I mentioned earlier and also gave us his 8" Springfield telescope with which he has made over 100,000 observations.

PERSONNEL. I am delighted that Florence C. Bibber has come back to work on a full-time basis as our AAVSO Assistant and very efficiently takes care of the office and Association affairs.

Marsha Vetter of Antioch College returned to the AAVSO in January for another cooperative work period - this time for 3 months. Harvard work-study students were a great help during the winter term, and more-so during the summer when they worked full-time. Erich Petersen worked for us again part-time during the winter and full-time for the summer.

I am very pleased to announce that we have added a professional astronomer to our staff. Janet Akyüz received a master's degree in her native Turkey and another from the University of Virginia and is now our Assistant to the Director.

The Smithsonian Astrophysical Observatory continues to give us time on their machines and I particularly want to thank Owen Gingerich for his help and Barbara Welther for giving so much of her time in setting up our programs and helping to run them through.

My very best thanks to the Officers and Members of the AAVSO for their help and cooperation.

Respectfully submitted,

Margaret W. Mayall

TABLE I - COUNTRIES

Country Obs Antarctica Argentina Australia Brazil Canada Dominican Republic France German Dem. Rep. Greece Holland Hungary	No. servers 1 5 1 23 1 1 3 1 1 18	Total Obs. 20 4219 236 4 3109 89 395 1097 1352 220 4646	Japan Mexico Rhodesia South Africa Sweden Switzerland Taiwan United Kingdom U. S. A. Uruguay West Germany	No. Observers 3 2 1 3 1 2 1 6 223 1 17	Total Obs. 1738 425 150 531 294 3773 39 7533 81418 50 9170
Hungary	18	4646	West Germany	$\frac{17}{316}$	$\frac{9170}{120508}$

TABLE II - UNITED STATES

Alabama Arizona Arkansas California Colorado Connecticut Delaware D. C. Florida Georgia Hawaii Illinois Indiana Iowa Kansas Maryland	No. Observers 1 3 1 21 4 10 2 1 15 3 1 8 3 2	Total Obs. 101 1259 7 12016 636 5649 56 181 3427 241 5 2872 292 70 356 484	Nebraska New Hampshire New Jersey New Mexico New York North Carolina Ohio Oklahoma Oregon Pennsylvania Rhode Island South Carolina Tennessee Texas Utah Vermont	No. Observers 1 1 9 1 24 5 22 2 3 8 2 3 7 1 1	Total Obs. 40 25 1637 36 15807 1841 10737 131 139 1480 93 69 821 1177 69 35
Kansas		356	Utah	1	69
Massachusetts Michigan	12 9	462 3574	Vermont Virginia West Virginia	6 1	5057 1106
Minnesota Missouri Montana	3 8 3	929 3122 1367	Washington Wisconsin Tota	$ \begin{array}{r} 2\\7\\1s\end{array} $	$\frac{1401}{2611}$ 81,418
			1004		,

TABLE III - AAVSO OBSERVERS 1971-72

AD R.Adams, Mo.	· 2231- 5	554	BAU J.Bauer, W	. Ger. 1257	,
AH P.Ahnert, German D.	R. 752		BBA B.Beaman,	Japan 139)
AYT T.Akiyoshi, Cal.	4024-	3	BEK I.Beck. Oh	io 1	_
AB W.Albrecht, Wis.	2		BLL I.Bell, De		
AMB K.Ambrose, Ohio				, Cal. 1087	- 114
AJ J.Anderer, Ill.	37		BKN A.Birkner,		
ANB B. Anderson, N.J.			BSV S.Bishop,		
AK C.A.Anderson, N.H.	25		BLI M.Blair, N		
AC C.E.Anderson, Minn.			BLE R.Blake, R		
AR S.Anderson, Va.			BLU B.Blundell		,
AJR J.Andress, Ohio		5		er. D.R. 299)
ARI R.Ariail, S.C.				N.Y. 2688	
AWC C.Aronowitz, N.J.	2		•	, Mo. 121	
AS J.Ashbrook, Mass.	2 1		BRR R.Brigham,	•	
ASZ J.Asztalos, Wis.			BLP P.Brlas, H		
BLY G.Bailey, Canada	23		BRK J.E.Brooks		
BM M.Baldwin, W.German			BRB B.Brown, P	•	
BRM R.Bales, Ore.					
BLN T.Balonek, N.Y.	Τρ		BRT T.Brown, A		
BJ J.Banks, N.C.				, Canada 224	
BNL T.Barnhill, Ohio	6		CE C.Carpente	r, Cal. 19	
BB R. Bates, Mass.	46		CKE K.E.Chilto	n, Canada 14	;

CHP	D.P.Christensen, Cal.	. 2		HNG	G.Henry, Ohio	64	
	G.Christensen, Cal.	210		HE	L.Hiett, Va.	3554	
	J.Christensen, Cal.	2			R.L.Hill, N.C.	191	,
	S.Clancy, N.Y.	68			Y.Hirasawa, Japan	228- 5	1
	E.Clinton, Canada H.F.Cochran, Tex.	23 327-	16		J.A.Hodge, S.C. R.Hodgson, Iowa	67	
	M.G.Connors, Canada	243	10		J.Hoffman, N.Y.	60	
	R.D.Cook, N.M.	36			C.H.Hossfield, N.J.	626	
CK		290-	3		I.Howarth, U.K.	592-	19
COV	V.R.Coulehan, N.Y.	15			R.S.Hubbard, Wash.	1392-	1
CR	T.A.Cragg, Cal.	4915-1	.079	HUE	B.Huels, Ohio	3	
	R.Crumrine, N.Y.	13		HR	C.J.Hurless, Ohio	3999~	875
	D.Cunningham, Canada	3			T.Ishihara, Japan	1371	
	J.D.Currie, Ohio	63		JM	R.A.James, Wis.	2	
	B.Cuthbertson, Tex.	69			C.Janus, N.J.	31	
	J.Dalton, Conn.	122			C.Jenkins, S.Africa	174 234	
DS	J.daSilva, Brazil G.Davidson, Kans.	4 355		JT	R.Johnston, Canada R.Jones, Cal.	78-	24
	H.H.Davis, Canada	11			D.Jordahl, Md.	159	24
	M.Daw, Fla.	33			F.Jósvai, Hungary	98	
	D.W.Dawson, Ind.	51			R.Jury, Conn.	10-	1
	D.Dazlich, N.J.	55		KEL	A.Keil, W.Germany	101	_
DK	R.deKock, S.Africa	278			G.W.Kelley, Va.	1276-	15
DOK	K.J.Delano, Mass.	13			L.Kendall, Canada	37	
DIK	W.Dickinson, Va.	26		KNY	M.J.Kenney, N.Y.	69	
	R.M.Dickson, Colo.	89-	1		A.Keszthelyi, Hungar		
	R.Diethelm, Switz.	1023			M.W.Kinnaird, Tenn.	2	_
	D.A.Dundee, N.Y.	4			H.Kirby-Smith, N.C.	324-	2
	M.Dürkefälden, W.Ger				K.Klebert, W.Ger.	157	
	S.Ericsson, Sweden	294			D.Knapp, N.Y.	8	
	C.Essex, Canada	27			P.Kneipp, La.	29 4910-	E C C
FE FE	W.B.Farrar, Va.	170 816			O.J.Knox, U.K. P.Knupp, Mont.	4910- 1170	300
	C.Fernald, Fla. Y.A.Fernandez, Ur.	50			H.J.Koller, Canada	249	
	W.Flannagan, Ct.	2			R.S.Kolman, Ill.	8-	5
FS	D.Florkowski, Mich.	88			E.Z.Kovacs, Hungary	30	•
FD		2706-	726		G.Kovacs, Hungary	26	
FRB	B.M.Frank. Mass.	7			G.Krisch, W. Germany	594	
	E.Friton, Mo.	134			K.L.Krisciunas, Ill.	268	
	D.B.Fuller, Md.	325			J.Kunovitz, Hungary	3	
	P.Gal, Hungary	292			H.J.Landis, Ga.	113*	
	G.Galassi, Argentina	180	_		H.A.Lange, Canada	422	
	J.Garcia, Argentina	96-	8		P.Lawrence, Ohio	12	2
	B.E.Gardner, Pa.	38			R.A.Leitner, N.Y.	10-	2
	R.Geschwind, Ohio R.Geszler, Hungary	1097 17			M.T.LeMere, Minn. I.Lenss, Mich.	13 1186	
	R.Gilbert, Conn.	14		LES	D.Lester, Ore.	52	
	F.Glenn, N.Y.	507-	3		A.J.LeVeque, Cal.	76	
	W.H.Glenn, N.Y.	648-	5		D.H.Levy, Canada	2	
	G.Gliba, Ohio	54			D.Lewis, Ga.	118	
	C.Gondell, Argentina	228		LIK	G.Likert, Mich.	69	
	C.Göttig, W. Germany	87		LNB	G.G.Lindbloom, Pa.	1151	
	T.Gough, U.K.	5-	1	LK	K.Locher, Switz.	2750-	8
	G.Griffin, Mo.	1			A.Lockhart, Colo.	12	
	P.Gruntmeyer, Mass.	24		LX	W.M.Lowder, N.Y.	6775-	43
	L.Gugliotto, N.Y.	53	2	LS	D.Lucas, Ohio	973-	209
HK	M.E.Haglund, Cal.	122- 710-	2 80		R.Lukas, W. Germany	1705 237	
	E.Halbach, Wis. M.D.Hale, N.Y.	710-	80		P.J.Madden, Ind. D.M.Magor, Fla.	138	
	R.Hall, S.C.	7			C.Mahnkey, Mexico	304	
	R. Ham, Colo.	529			M. Marcario, Cal.	228-	6
	G.C.Hampton, Fla.	99			P.A.Marchena, Dom.Re		-
	J.Hannon, Conn.	168			G.Mark, Ill.	206	
HZL	L.Hazel, N.Y.	1650-	510	MRX	H.Marx, W. Germany	753	
HY	A.Heasley, Ohio	22*			P.Massey, Cal.	- 8	
HEE	.E.Heiser, W.Germany	1254		MIE	R.Mathieu, Del.	52	

^{*}Photoelectric †Photometric

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MAT M.Matson, Tex.
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                                      SWI M.T.Schwitters, Colo.
MTM M.Mattei, Mass.
                                                                 24777-763
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                                     SCE C.E.Scovil, Conn.
                                   3
MA M.W.Mayall, Mass.
                                      SSL M.Seslar, Conn.
                                                                   22
                              1
MYR E.H.Mayer, Ohio
                           1696-368
                                     SDA D.Sharpe, Fla.
                                                                  249
MCA R.McLaury, Okla.
                              9
                                                                  140-
                                                                          1
                                      SSA A.P.Sharpless, Fla.
MP C.A.McPherson, Mont.
                            145
                                      SRC R.C.Shinkfield, Austr.236
MEJ J.R.Means, Ore.
                             1
                                      SBF B.F.Shinn, Canada
                                                                   24
MEY D.E.Meyer, Canada
                             61
                                      SHI J.C.Shiko, N.J.
MEZ C.Mezosi, Hungary
                                                                  269
                           1470
                                      SKL K.Simmons, Fla.
MHL E.Michaels, Tex.
                                                                   65
                            358
                                      SPN A.P.Simpson, Cal.
MDN D.Milon, Mass.
                                      SIN R.Sinnott, Mass.
                                                                    1
                             1
MIT F.Mitschke, W.Ger.
                                                                   92
                             18
                                      SKT P.N.Skottegard, Fla.
                                                                  381
MOR R.Monske, Pa.
                            168-
                                   1 SLB B.F.Small, Fla.
MJ
   A.C.Montague, Mich.
                            688-
                                     SMH C.J.Smith, Canada
                                                                  111*- 24
    F.Montague, Mass.
                                      SHA H.A.Smith, Conn.
SOM C.Somogyi, Hungary
                                                                  120
                              1
MM F.P.Morgan, Canada
                                                                  690
                            522
                                      SH H.E.M. Specht, Conn.
MOJ J.E.Morgan, Ark.
                                                                    8+-
                              7
MOP P.Moore, U.K.
                           1936-
                                     SC C.Spratt, Canada
                                      SGG C.Stagg, Canada
MAJ A.J.Morehouse, Mich.
                             16
                                      STF G.Stephanopoulos, Gr. 1352
MOG G.Morin, Mich.
                             44
MRR C.S.Morris, Mich.
                            234-
                                   5
                                      SGL M.Stiegler, W.Germany 309
MRE E.H.Morris, Ala.
                            101-
                                      STO P.M.Stone, Mo.
                                                                  279-
                                                                          5
                                  10
                            150
                                      SU M.C.P.Su, Taiwan
                                                                   39
MB A.Morrisby, Rhodesia
                           1467- 148
                                                                 1417-
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                                      SVN P.Sventek, Ill.
MUR P.Murn, Wis.
NGY A.Nagy, Hungary
NGG G.Nagy, Hungary
                            569
                                      SB R.F.Swanberg, Mont.
                                                                   52~
                                                                          8
                             28
                                      SZS S.Szalmo, Hungary
                                                                   16
NAY R. Nagy, Hungary
                                      TB D.Taboada R., Mexico
                            164
                                                                  121
NBY J.M.Nordby, Minn.
                                      TAL I.Talabos, Hungary
                                                                   93
                             91-
                                      TLT D.L.Talent, Mo.
                                                                   23
OF A.Oberstatter, France 395-
OCN S.D.O'Connor, Canada
                             14
                                      TNV V. Tangney, Wis.
                                                                   15
                                      TU D.C. Taulman, Tex.
OJ J.Olivarez, Kans.
                              1
                                                                   12
                                      TYL L.R.Taylor, N.C.
OLS K.V.Olsson, N.Y.
                             44
                                                                   92
OV E.G.Oravec, N.Y.
                           2320
                                      TLA M.D. Taylor, U.K.
                                                                    8
                                                                  219
ORW R.W.Ortel, Vt.
                            35
                                      TYR M.J. Taylor, Fla.
                                      TAY P.O.Taylor, Fla. THF F.O.Thomas, Ind.
ODA D.A.Ortwein, N.Y.
                            208
                                                                  460
OB M.D.Overbeek, S.Af.
                             79-
PAS S.Padilla, Cal.
                             51-
                                      TJ J.Thomas, Ohio
                                                                  543-
                                                                   51
PSA S.Palombo, D.C.
                            181
                                      THM J.V. Thomas, Tenn.
                                      TPR R.R.Thompson, Canada
PPP J.Papp, Hungary
                            554
                                                                  341
PKJ J.A.Parker, Tex.
                            33
                                      THS R.S. Thompson, Fla.
                                                                  - 88
                                      TOT T.Torma, Hungary
PRK T.Parker, N.Y.
                             1
                                                                  768
PTT R.Paterson, Antarct.
                             20
                                      TWN A.W. Townsend, Tenn.
PAT C.Patton, Mich.
                           1244
                                      TRK K.D.Trotter, Iowa
                                                                    ર
                                      TYS R.L.Tyson, N.Y. UL A.Ullmann, N.Y.
PAL R.Paul, Canada
                                                                  128
                             45
PAV A.C.Pavesio, Argent.
                             16
PN A.E.Pearlmutter, Mass.294
                                      UND E.Underhay, Cal.
                                                                  221
PTI N.Peattie, Cal.
                           191
                                      VBN D. Van Buren, Holland
                                                                  220
                          1379- 433
                                                                 3699
    L.Peltier, Ohio
                                      VAM M. Vattuone, Argent.
PFF G.Pfeiffer, W.Ger.
                          1143
                                      VTK G.Viet-Kohler, W.Ger.
                           84
                                                                   10
POA A.Porter, R.I.
                                      VLM M.J. Villanueva, Cal.
                                      VIS G.Visocki, Ill.
PO E.A.Powell, Ga.
                            10
                                                                  881
PRI L.H.Price, Cal.
                            85
                                      WLL H.J. Walls, Tex.
                                                                  367
                            377
                                      WRN R.Warden, Pa.
                                                                   81
QD P.H.Quadt, N.J.
                                      WBD D.F.Weber, Ohio WEB J.W.Weber, Wash.
REZ E.Z.Randall, Fla.
                            12
                                                                    5
RW G.O.Rawstron, U.K.
                             82
                            158
                                      WLT A.M.Wellington, N.Y.
                                                                   39+-
RNR L.O.Raynor, Fla.
                              3
                                      WI D.B.Williams, Ill.
                                                                   33
RNT C.C.Reinhart, Ohio
RNN T.Renner, Wis.
RTE V.Ritter, W.Ger.
                            414-
                                      WLM.T.R.Williams, N.J.
                                                                  307
                            186
                                      WJA J.A.Wilson, Mo.
                                                                  318
                                      WLN K.Wilson, Mich.
ROE J.M.Roe, Mo.
                            15
                                                                         32
RB D.W.Rosebrugh, Fla.
                            356
                                      WSN T.W.Wilson, W.Va.
                                                                 1106-
                            157-
                                                                    5
RR. R.Royer, Cal.
                                   4 WNB B.Wingate, N.J.
                                                                 1086-
                                                                        15
                             46
RML F.Rümmler, Ger. D.R.
                                      WTN B.C.Witten, Ariz.
                                      WIX R.L.Wixted, Hawaii
RRT R.Rutan, Ohio
                                                                    5
                              6
                            479
                                                                   47
SKM M.Sakarias, Cal.
                                      WOF M.Woffenden, Mass.
                                                                   30
SND Z.Sandor, Hungary
                             4
                                      WOS D.Wolters, W.Germany
                                                                   11
                             80
                                      WOD D.L.Wood, N.C.
SCC J.D.Scarl, Ariz.
                                                                   10
SLG R.Schlesinger, N.Y.
                            530
                                      WDS N.Woods, Cal.
                                      YON R.R. Young, Pa.
                            489
SIJ J.Schmidt, W.Germany
                                                                        87
SDM E.J.Schwendeman, Pa.
                                       ZMM D.Zimmerman, Ohio
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