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 Head-

quarters 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.

SPECIAL 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 $\pi^1\,\text{Gruis}\,$ 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 $\underline{\text{all}}$ 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.

<u>PERSONNEL</u>. 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. $\label{eq:AAVSO} % \begin{center} \end{cooperation} % \begin{center} \end{center} % \begin$

Respectfully submitted,

Margaret W. Mayall

TABLE I - COUNTRIES

	No. servers	Total Obs.		No. Observers	Total Obs.
Antarctica	1	20	Japan	3	1738
Argentina	5	4219	Mexico	2	425
Australia	1	236	Rhodesia	1	150
Brazil	1	4	South Africa	3	531
Canada	2 3	3109	Sweden	1	294
Dominican Republic	1	89	Switzerland	2	3773
France	1	395	Taiwan	1	39
German Dem. Rep.	3	1097	United Kingdom	6	7533
Greece	1	1352	U. S. A.	223	81418
Holland	1.	220	Uruquay	1	50
Hungary	18	4646	West Germany	17	9170
, ,			-	316	120,508

TABLE II - UNITED STATES

Alabama Arizona Arkansas California Colorado Connecticut Delaware D. C. Florida	No. <u>Observers</u> 1 3 1 21 4 10 2 1 15	Total Obs. 101 1259 7 12016 636 5649 56 181 3427	Nebraska New Hampshire New Jersey New Mexico New York North Carolina Ohio Oklahoma Oregon	No. Observers 1 1 9 1 24 5 22 2 3	Total Obs. 40 25 1637 36 15807 1841 10737 131 139
Georgia Hawaii	3 1	241 5	Pennsylvania Rhode Island	8 2	1480 93
Illinois	8	2872	South Carolina	3	69
Indiana	3	292	Tennessee	3	821
Iowa	2	70	Texas	7	1177
Kansas	2	356	Utah	1	69
Maryland	2	484	Vermont	1	35
Massachusetts	12	462	Virginia	6	5057
Michigan	9	3574	West Virginia	1	1106
Minnesota	3	929	Washington	2	1401
Missouri	8	3122	Wisconsin		2611
Montana	3	1367	Tota	ls 223	81,418

TABLE III - AAVSO OBSERVERS 1971-72

		2231-		BAU J.Bauer, W. Ger. BBA B.Beaman, Japan	1257 139	
	P.Ahnert, German D.R.	4024-			139	
		2		BLL I.Bell, Del.	1	
	W.Albrecht, Wis.	_			1087-	114
	K.Ambrose, Ohio	11				114
	J.Anderer, Ill.	37		BKN A.Birkner, Ill.	22	
ANB	B.Anderson, N.J.	189		BSV S.Bishop, Ohio	15	
AK	C.A.Anderson, N.H.	25		BLI M.Blair, Nebr.	40	
AC	C.E.Anderson, Minn.	825-	20	BLE R.Blake, R.I.	9	
AR	S.Anderson, Va.	19		BLU B.Blundell, N.Y.	7	
AJR	J.Andress, Ohio	377-	5	BOH D.Böhme, Ger. D.R.	299	
ARI	R.Ariail, S.C.	57		BRJ J.Bortle, N.Y.	2688-	41
AWC	C.Aronowitz, N.J.	2		BRV W.Breville, Mo.	121	
AS	J.Ashbrook, Mass.	1		BRR R.Brigham, Pa.	3	
ASZ	J.Asztalos, Wis.	1		BLP P.Brlas, Hungary	111	
BLY	G.Bailey, Canada	23		BRK J.E.Brooks, Va.	12	
BM	M.Baldwin, W.Germany	916		BRB B.Brown, Pa.	9	
BRM	R.Bales, Ore.	86	3	BRH D.Brown, Ohio	94	
	T.Balonek, N.Y.	16		BRT T.Brown, Ariz.	93	
	J.Banks, N.C.	1223		CDE J.B.Calder, Canada	224	
	T.Barnhill, Ohio	6		CE C.Carpenter, Cal.	19-	18
		46		CKE K.E.Chilton, Canada	14	_0
מם	R. Bates, Mass.	40		CRE R.E.CHIIICOH, Canada	*4	

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CHP D.P.Christensen, Cal.	2		HNG (Henry,	Ohio	64	
CST G.Christensen, Cal.	210		HE I	Hiett,	Va.	3554	
CHS J.Christensen, Cal.	2		HIL E	R.L.Hill,	, N.C.	191	_
CIN C Clangy N V	68		HIR Y	.Hirasav	va, Japan	228-	1
CLY S.Clancy, N.Y.	23		HDE 3	J.A.Hodge	. S.C.	5	
CLI E.Clinton, Canada		16	HDC I	R. Hodgsor	Towa	67	
CCR H.F.Cochran, Tex.	327-	16	UDG I	T. II. E E	N V	60	
CNS M.G.Connors, Canada	243		HOL	J.Hoffmar	1, N.1.		
COK R.D.Cook, N.M.	36		HSF (C.H.Hossi	field, N.J.	626	
CK S.P.Cook, Cal.	290-	3	HOW :	I.Howarth	h, U.K.	592-	19
CK S.P.COOK, Car.	15				ard, Wash.	1392-	1
COV V.R.Coulehan, N.Y.				B.Huels,		. 3	
CR T.A.Cragg, Cal.	4915-10)/9				3999-	975
CRR R.Crumrine, N.Y.	13				ess, Ohio		013
CUN D.Cunningham, Canada	3		ISH '	T.Ishiha:	ra, Japan	1371	
CRY J.D.Currie, Ohio	63		JM	R.A.Jame:	s, Wis.	2	
	69			C.Janus,		31	
CUT B.Cuthbertson, Tex.					s, S.Africa	174	
DLT J.Dalton, Conn.	122					234	
DS J.daSilva, Brazil	4				on, Canada		~ 4
DV G.Davidson, Kans.	355		JOR	R.Jones,	Cal.	78-	24
	11		JRD	D.Jordah	1, Md.	159	
DAV H.H.Davis, Canada					, Hungary	98	
DAW M.Daw, Fla.	33					10-	1
DWM D.W.Dawson, Ind.	51			R.Jury,			-
DAZ D.Dazlich, N.J.	55				W.Germany	101	
	278		KLY	G.W.Kell	ey, Va.	1276-	1.5
	13		KND	L. Kendal	l, Canada	37	
DOK K.J.Delano, Mass.			KNIV	M T Kenn	ey, N.Y.	69	
DIK W.Dickinson, Va.	26	-	TOP	7 Vessth	olvi Eungai		
DCK R.M.Dickson, Colo.	89-	1	KSZ	A. Kesztii	elyi, Hungan	2	
DRG R.Diethelm, Switz.	1023				aird,Tenn.		
DUD D.A.Dundee, N.Y.	4		KBS	H.Kirby-	Smith, N.C.	324-	2
nun u nünkafülden. W Cor	164		KI.K	K.Kleber	t, W.Ger.	157	
DKF M.Dürkefälden, W.Ger.	204			D.Knapp,		8	
EKS S.Ericsson, Sweden	294					29	
ESS C.Essex, Canada	27			P.Kneipp		4910-	E C C
FRW W.B.Farrar, Va.	170		KOJ	O.J.Knox	t, U.K.		200
FE C.Fernald, Fla.	816		KPP	P.Knupp,	Mont.	1170	
TED V A Hornandez Ur	50		KHJ	H.J.Koll	er, Canada	249	
FER Y.A. Fernandez, Ur.	2		KDC	P S Koln	nan, Ill.	8-	5
FLA W.Flannagan, Ct.						30	
FS D.Florkowski, Mich.	88				acs, Hungary		
FD C.B.Ford, Conn.	2706-	726	KOG	G.Kovacs	s, Hungary	26	
FRB B.M.Frank. Mass.	7		KIS	G.Krisch	n, W. German	y 594	
	134		KRK	K.L.Kris	sciunas, Ill	. 268	
FR E.Friton, Mo.					itz, Hungary		
FLR D.B.Fuller, Md.	325					113*	
GAL P.Gal, Hungary	292			H.J.Land		422	
GLA G.Galassi, Argentina	180				ge, Canada		
GAJ J.Garcia, Argentina	96-	8	LAW	P.Lawre	nce, Ohio	12	_
GBE B.E.Gardner, Pa.	38		LER	R.A.Lei	tner, N.Y.	10-	· 2
	1097				ere, Minn.	13	
GSR R.Geschwind, Ohio				I.Lenss		1186	
GER R.Geszler, Hungary	17					52	
GLB R.Gilbert, Conn.	14			D.Leste			
GLF F.Glenn, N.Y.	507-	3			eque, Cal.	76	
GLW W.H.Glenn, N.Y.	648-	5	LVY	D.H.Lev	y, Canada	2	
gra a cliba Obio	54			D.Lewis		118	
GLG G.Gliba, Ohio				G.Liker		69	
GNC C.Gondell, Argentina	228		TIL	G.Direi	dhloom Da	1151	
GTG C.Göttig, W. Germany	87		LINE	G.G. TIU	dbloom, Pa.		- 8
GGH T.Gough, U.K.	5-	1	LK	K.Loche	r, Switz.	2750-	- 0
GRF G.Griffin, Mo.	1		LCK	A.Lockh	art, Colo.	12	
	24		LX	W.M.Low	der, N.Y.	6775-	- 43
GNT P.Gruntmeyer, Mass.	53			D. Lucas	Ohio	973-	- 209
GUL L.Gugliotto, N.Y.		_	TVC	D Tukac	, Ohio , W. Germany	1705	
HAG M.E.Haglund, Cal.	122-	2	TV	, r.uurds	, n. German	237	
HK E.Halbach, Wis.	710-	80			lden, Ind.		
HLE M.D.Hale, N.Y.	9		MGF	₹ D.M.Mag	or, Fla.	138	
HAL R.Hall, S.C.	7		MAN	. C.Mahnk	ey, Mexico	304	
	529		MCC	M. Marca	rio, Cal.	228-	- 6
HMR R.Ham, Colo.	99		MU	D A Mar	chena, Dom.	Rep. 89	
HPT G.C. Hampton, Fla.			LILLE	7 W. 1.10T			
TILL T Hannon Conn			347 4	7 () 15 1-	TII	7116	
HAN J.Hannon, Conn.	168	_ :-		G G.Mark,	, Ill.	206	
		510	MR	G G.Mark, K H.Marx,	, Ill. ,W.Germany	753	
HZL L.Hazel, N.Y.	168		MRX MS	G G.Mark, K H.Marx, Y P.Masse	, Ill. ,W.Germany ey, Cal.	753 8	
	168 1650-		MRX MS	G G.Mark, K H.Marx, Y P.Masse	, Ill. ,W.Germany	753	

^{*}Photoelectric †Photometric

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MAT M.Matson, Tex.
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                                          SWI M.T.Schwitters, Colo.
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MTM M.Mattei, Mass.
                                                                      2477+-763
                                       3 SCE C.E.Scovil, Conn.
                               1
MA M.W.Mayall, Mass.
                                                                           22
                                          SSL M.Seslar, Conn.
                              1696- 368 SDA D.Sharpe, Fla.
MYR E.H.Mayer, Ohio
                                                                          249
                                     SSA A.P. Sharpless, Fla. 140
SRC R.C. Shinkfield, Austr. 236
SBF B.F. Shinn, Canada 24
SHI J.C. Shiko, N.J. 45
SKL K. Simmons, Fla. 269
SPN A.P. Simpson, Cal. 65
MCA R.McLaury, Okla.
                              9
                                                                          140-
MP C.A.Mornerson,
MEJ J.R.Means, Ore. 1
MP C.A.McPherson, Mont.
                               145
MEZ C.Mezosi, Hungary 1470
MHL E.Michaels, Tex. 358
MDN D.Michaels, 1
                              1
                                         SIN R.Sinnott, Mass.
                                                                           1
MIT F.Mitschke, W.Ger.
                                18
                                          SKT P.N.Skottegard, Fla.
                                                                          92
                                      1 SLB B.F.Small, Fla.
9 SMH C.J.Smith, Canada
MOR R.Monske, Pa.
                               168-
                                                                          381
    A.C.Montague, Mich.
                              688-
                                                                          111*- 24
MF
    F.Montague, Mass.
                               1
                                          SHA H.A.Smith, Conn.
SOM C.Somogyi, Hungary
                                                                          120
MM F.P.Morgan, Canada
                               522
                                                                          690
                                           SH H.E.M. Specht, Conn.
MOJ J.E.Morgan, Ark.
MOP P.Moore, U.K.
                               7
                                                                           8†-
                              1936-
                                      70 SC C.Spratt, Canada
                                                                          254
MAJ A.J.Morehouse, Mich.
                              16
                                           SGG C.Stagg, Canada
MOG G.Morin, Mich.
                                44
                                           STF G.Stephanopoulos, Gr. 1352
MRR C.S.Morris, Mich.
MRE E.H.Morris, Ala.
MB A.Morrichy
                               234-
                                       5 SGL M.Stiegler, W.Germany 309
                               101-
                                      10 STO P.M.Stone, Mo.
                                                                                   5
                                                                          279-
MB A.Morrisby, Rhodesia 150
                                           SU M.C.P.Su, Taiwan
                                                                           39
MUR P.Murn, Wis. 1467- 148
                                         SVN P.Sventek, Ill.
                                                                         1417-
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                                                                        52-
NGY A.Nagy, Hungary
                             569
                                          SB R.F.Swanberg, Mont.
                                                                                   R
NGG G.Nagy, Hungary
                               28
                                           SZS S.Szalmo, Hungary
                                                                           16
NAY R. Nagy, Hungary
                               164
                                           TB D.Taboada R., Mexico
                           91-
NBY J.M.Nordby, Minn.
                                      1 TAL I.Talabos, Hungary
                                                                           93
OF A.Oberstatter, France 395- 10 TLT D.L.Talent, Mo.
                                                                           23
                                          TNV V.Tangney, Wis.
TU D.C.Taulman, Tex.
OCN S.D.O'Connor, Canada 14
OUN S.D.O COMMON,
OJ J.Olivarez, Kans.
OLS K.V.Olsson, N.Y.
OV E.G.Oravec, N.Y.
2
                                 1
                                                                           12
                                         TYL L.R.Taylor, N.C.
                                44
                                                                           92
                              2320
                                         TLA M.D.Taylor, U.K.
ORW R.W.Ortel. Vt.
                                          TYR M.J. Taylor, Fla.
                              35
                                                                          219
ODA D.A.Ortwein, N.Y.
                              208
                                          TAY P.O.Taylor, Fla.
                                     4 THF F.O.Thomas, Ind.
1 TJ J.Thomas, Ohio
OB M.D.Overbeek, S.Af.
                               79-
                                     THM J.V.Thomas, Ohio 543
THM J.V.Thomas, Tenn. 51
TPR R.R.Thompson, Canada 341
THS R.S.Thompson, Fla. 5
TOT T.Torma, Hungary 88
TWN A.W.Townsend, Tenn
TRK K D.
                                51-
                                                                          543-
PAS S.Padilla, Cal.
                                                                                287

      PSA S.Palombo, D.C.
      181

      PPP J.Papp, Hungary
      554

      PKJ J.A.Parker, Tex.
      33

      PRK T.Parker, N.Y.
      1

                              20
PTT R.Paterson, Antarct.
PAT C.Patton, Mich.
                             1244
                                         TRK K.D.Trotter, Iowa
                              45
                                          TYS R.L.Tyson, N.Y.
                                                                          128
PAL R.Paul, Canada
PAL R.Paul, Canada
PAV A.C.Pavesio, Argent. 16
PN A.E.Pearlmutter, Mass.294
                                          UL A.Ullmann, N.Y.
                                                                            6
                                          UND E.Underhay, Cal.
                                                                          221
PTI N.Peattie, Cal. 191
P L.Peltier, Ohio 1379-
                                           VBN D.Van Buren, Holland 220
                             1379- 433 VAM M. Vattuone, Argent. 3699
                                          VTK G.Viet-Kohler, W.Ger. 7
PFF G.Pfeiffer, W.Ger.
                             1143
                            84
POA A.Porter, R.I.
                                          VLM M.J.Villanueva, Cal.
                                                                           1.0
                               10
PO E.A.Powell, Ga.
                                          VIS G.Visocki, Ill.
                                                                          881
                               85
PRI L.H.Price, Cal.
                                          WLL H.J.Walls, Tex.
                                                                          367
QD P.H.Quadt, N.J.
                              377
                                          WRN R.Warden, Pa.
                                                                           81
REZ E.Z.Randall, Fla.
                              12
                                          WBD D.F.Weber, Ohio WEB J.W.Weber, Wash.
                                                                            a
RW G.O.Rawstron, U.K.
                                82
                                           WLT A.M.Wellington, N.Y.
                                                                           39+-
RNR L.O.Raynor, Fla.
                                                                                   3
                               158
RNT C.C.Reinhart, Ohio
                                3
                                           WI D.B.Williams, Ill.
                                                                           33
RNN T.Renner, Wis.
                               414- 16 WLM.T.R.Williams, N.J.
                                                                          307
                                          WJA J.A.Wilson, Mo.
                                                                          318
RTE V.Ritter, W.Ger.
                               186
                               15
                                                                            5
ROE J.M.Roe, Mo.
                                           WLN K.Wilson, Mich.
RB D.W.Rosebrugh, Fla.
RR. R.Royer, Cal.
                               356
                                          WSN T.W.Wilson, W.Va.
                                                                         1106-
                                                                                 32
                                       4 WNB B.Wingate, N.J.
WTN B.C.Witten, Ariz.
WIX R.L.Wixted, Hawaii
                               157-
                                                                          5
                              46
                                                                         1086-
RML F.Rümmler, Ger. D.R.
RRT R.Rutan, Ohio
SKM M.Sakarias, Cal.
                                                                         5
                                6
                                                                           47
                               479
                                         WOF M.Woffenden, Mass.
SND Z.Sandor, Hungary
SCC J.D.Scarl, Ariz.
SLG R.Schlesinger, N.Y.
                                4
                                          WOS D.Wolters, W.Germany
                                                                           30
                               80
                                                                           11
                                          WOD D.L.Wood, N.C.
                              530
                                          WDS N.Woods, Cal.
YON R.R.Young, Pa.
                                                                           10
SIJ J.Schmidt, W.Germany 489
                                                                           11
SDM E.J.Schwendeman, Pa.
                                19
                                           ZMM D.Zimmerman, Ohio
                                                                          314-
                                                                                  87
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