AIPS MEMO NO. 50

1986 AIPS Site Directory

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1 May 1987

Forms for the 1986 AIPS Site Survey were mailed to the AIPS Contact Persons (CPs) in January 1987. As of 30 April, the freeze-date for this survey, NRAO had received 84 responses from research (non-commercial) AIPS sites. 15 other CPs responded to the 1985 Survey, but not to this one, making a total of 99 CPs who have returned at least one survey form to us. The AIPS Group regards a kit order as a statement of intent to run AIPS; 42 sites have ordered kits within the last three years but did not answer either the 85 or 86 surveys, making a total of 141 CPs who have indicated that they are either running AIPS or intend soon to do so. Thus, the response rate of the 1986 survey was 60%, and was 70% for the 1985 and 1986 surveys combined. This Directory includes data from the 84 sites which have explicitly given us permission to publish the details of their sites by answering "yes" to the question on the 1986 Survey form. The purpose of this document is to provide a listing of "who has what and where" in a form that should help the AIPS user community to locate others with similar hardware and interests.

NRAO and the AIPS Group are grateful to the AIPS CPs who have taken the time to fill in the Survey forms. Last year's Survey results were examined closely by the Group and by NRAO management, and are regarded as having been a particularly valuable input to policy and planning deliberations. The authors are confident that this 1986 Survey will be even more valuable because of its greater completeness.

Completeness:

The full set of 141 CPs represent 175 machines, including 23 38-bit FPS array processors, one Sky Warrior AP, two pipelined-FP machines, and eight vector machines. The 84 CPs in this Directory represent only 115 machines (65% completeness) but, *much* more important, they represent *all* of the high performance vector hardware of the full set. Therefore, the authors believe that this Directory is very nearly complete with regard to APs and other pipelined FP hardware used with AIPS and, consequently, that it documents the existing AIPS computing power with reasonable accuracy. Another indication of completeness is network connectivity: 69 of the 141 sites have service on at least one net, and this Directory includes 62 of the 69 sites!

Statistics of the Full Set:

The demography of the active AIPS sites, and some consequences for the planning of the AIPS project, will be discussed in a separate AIPS Memo. A continuing series of AIPSLetter articles discusses particular subjects, such as a census of TVs installed at AIPS sites. In this Directory we will discuss the basic numerology. While the numbers refer to the full set of all sites known to the AIPS Group, most of the data in the set come from the 115 machines which the 84 CPs represent.

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[1] NRAO is operated by Associated Universities, Inc., under contract with the U. S. National Science Foundation.

Changes from 1985 to 1986: (1) The total number of machines represented in the survey is up from 87 to 175. (2) Installations of FPS 38-bit APs have increased from 16 to 23, and vector register, pipelined FP and non-FPS AP machines have gone from 5 to 10. (3) The number of DEC VAXes is up from 74 to 125, while non-DEC CPUs are up from 16 to 37 (including 2 Alliants and 2 Convexes new for 86). (4) With the addition of a site in South Africa, AIPS now has at least one installation on each populated continent. (5) DEC VMS installations have increased from 69 (79% of the total) to 124 (71%), while Unix installations (all dialects) are up from 13 (15% of the total) to 35 (20%), and the VMS/Unix ratio by number of sites has dropped from 5.3 to 3.5 in one year. (The AIPS power ratio is another matter: the detailed analysis in the upcoming "demographic" memo shows that there is now more AIPS production power under Unix than under VMS.) (6) Laser printers have increased from 26 to 58 (totals now 30 QMS, 9 Apple, 7 Imagen, 7 HP, 4 DEC); Printronix printers are up from 16 to 23 and Versatecs have increased from 21 to (only) 27. (7) Machines with 6250 tape support are up from 37 (43%) to 86 (49%). (8) TV displays attached to AIPS CPUs have increased from 61 (70%) to 97 (55%), with IIS from 19 to 32, Gould-deAnza from 9 to 13, Sigma ARGS from 7 to 10, Grinnell constant at 7, and a variety of other possibilities being explored; note that 6 IIS IVAS displays have been installed during only the first six months of IVAS operation.

Some important trends visible in these numbers are: (1) the continuing increase in the number of installations with 38-bit FPS APs, (2) the rapid rise of the number of Unix AIPS installations, (3) the rapid rise in the number of supermicro workstations, especially microVAXen and Suns, (4) the substantial increase of worldwide AIPS power due to the installation of five high-performance vector computers, (5) a doubling of the number of laser printers installed, (6) a 50% increase in the number of TVs installed, and (7) a great increase in network connectivity, to about 50% of all AIPS sites now.

About the Directory:

The directory which follows is in two sections. The first lists the postal and network addresses and telephone numbers for the CPs and, for each one, lists all of the machines the CP represents. Detailed configuration parameters are coded for each machine. The second section is a cross-reference table for a selection of these parameter values.

The AIPS Group defines the "Contact Person" to be the person associated with a particular AIPS machine who requested a kit most recently. Because of this rule, CPs are continually changing at the various sites. The CPs are listed in alphabetic order of country, and within each country, in order of postal code. This sort order means that AUSTRALIA comes first, WEST GERMANY last, and the U. S. somewhere in the middle. For the U. S., the list is sorted on the two-character state abbreviation, and within each state in order of the ZIP-code. The NRAO sites are sorted as a country called "NRAO", and appear after the NETHERLANDS and before SWEDEN.

Note that the machines associated with the Contact Persons are given sequence numbers which are typeset within boxes. These sequence numbers are used in the cross-reference table to refer back to the particular machines.

Notes on the Cross-Reference Table:

Keywords appear in alphabetic order, and for each keyword the values are sorted in some rational order. The definitions of each keyword given below were those used on the 1985 and 1986 survey forms.

AP is the "array processor model". For this purpose, ordinary scalar floating point hardware is not considered to be an "AP"—the intent is to list only various forms of pipelined FP hardware here.

BAND is the non-radio astronomical applications of AIPS. Users and CPs can use this cross-reference table to locate other AIPS sites with similar scientific interests.

CPU is the "CPU model". Non-VAX machines believed to be in production use now or in the recent past include Alliant FX/8, Apollo DN660, Convex C-1, Cray X-MP/24(COS), Data General MV/10000, Fujitsu M380 and VP50, Charles River M68K, Masscomp MC-500, Nord ND570CXD, Ridge 32C, and Sun-3/*xxx*.

DISK is the "disk capacity for AIPS", in units of *Gigabytes* (1000 Megabytes).

FRACT is the "AIPS CPU usage at the site (percent of total)".

MEM is the "memory size", in units of *Megabytes*.

NONRADIO is the "non-radio AIPS usage at the site", expressed as percent of the overall AIPS usage.

Net information is tabulated for two reasons: (1) AIPS sites with service on only one or two of the major networks can discover which other AIPS sites they can reach and (2) study of the various address formats represented is a good educational exercise for newcomers to E-mail.

OS is the "operating system". The list of operating systems represented in the cross-reference table reflect the diversity of CPUs currently executing AIPS. As is well known, the most popular OS is VMS and the second most popular OS is Unix (27 machines, or 24%). New orders are currently about evenly divided between VMS and Unix, and so the fraction of AIPS sites running under Unix is steadily increasing.

PLOT is the "plotting device[s]". A diverse range of plotters is attached to AIPS machines! NRAO cannot possibly develop and support interface code for all of these models; this is an area where cooperation among AIPS sites can be of great benefit. AIPS users and site managers with currently unsupported devices can inspect this table to discover other sites which may be able to help them.

PROGS is the "number of AIPS programmers at the site".

SITE is a terse descriptive string which the AIPS Group assigns to each machine as a "name" for use during statistical analysis; it is reproduced here in order to indicate the range of institutions where AIPS is installed.

TAPE is the [9-track] tape "densities supported". Sites supporting 6250 bpi have now reached about 50%; 6250 has become an effective interchange medium.

TASKS is the "number of 'locally-coded' AIPS tasks". The TASKS table shows that a considerable amount of AIPS-related code has been developed outside NRAO.

TV is the "TV display model". A diverse range of TVs is attached to AIPS machines! At least eight of the models represented are believed to have at least partial Y-routine implementations. Site managers with TVs which do not yet function should examine this directory and then consult with their counterparts elsewhere!

USERS is the "number of AIPS users at the site".

VLA is the "VLA processing usage at [each] site", expressed as a percent of the AIPS usage.

Richard Branham, Director, Computing Center, CRICYT, Casilla de Correo 131, 5500 - Mendoza, ARGENTINA;
Telephone: *(061) 241794, x247*; Telex: *55438 CYTME AR.*

Site-wide values: *USERS=5 PROGS=2 TASKS=0*

[1] *NAME=CRICYTVAX CPU=DEC VAX780 OS=VMS 3.5 MEM=3 DISK=0.67 PLOT=Printronix P600 TAPE=800,1600 AIPS=15JUL86 FRACT=5 VLA=0 NONRADIO=0 SITE=CRICYT Mendoza*

M. Kesteven, Radiophysics, CSIRO, P.O. Box 76, Epping, NSW 2121, AUSTRALIA;
Telephone: *(02) 868-0321*; Telex: *ASTRO 26230*;
Net address: *mjk@rpepping.oz*;
Net address: *mjk%rpepping.oz@seismo.css.gov*.

Site-wide values: *USERS=15 PROGS=3 TASKS=56 BAND=IR,Optical*

[2] *NAME=EPP75 CPU=DEC VAX750 OS=VMS x.y MEM=8 DISK=1.0 TV=Gould-DeAnza 85 PLOT=Zeta xxxx,HP 7221C,Apple Laserwriter TAPE=800,1600,6250 AIPS=15JAN87 FRACT=10 VLA=20 NONRADIO=10 SITE=CSIRO Epping*

[3] *NAME=PKS 75 CPU=DEC VAX750 OS=VMS x.y PLOT=Zeta xxxx TAPE=800,1600 SITE=CSIRO Parkes*

Dr. David F. Crawford, School of Physics, Univ. of Sydney, Sydney, NSW 2006, AUSTRALIA;
Net address: *crawford%suphys.su.oz@seismo.css.gov*.

Site-wide values: *USERS=10 PROGS=1 TASKS=0*

[4] *NAME=ASTROVAX CPU=DEC MicroVAX II OS=VMS 4.3 MEM=9 DISK=0.9 TV=AED 512 TAPE=800,1600,6250 AIPS=15JAN87 SITE=U. Sydney FRACT=80 VLA=0 NONRADIO=10*

Bruce C. Cogan, Mount Stromlo Obs., Private Bag, Woden P.O., ACT 2606, AUSTRALIA;
Telephone: *062-88-1111*; Telex: *AA 62270*;
Net address: *cogan%mso.anu.oz@seismo.css.gov*;
Net address: *cogan%mso.anu.oz%csnet-relay at WISCVM*;
Net address: *...![seismo, nttlabs,hplabs]!munnari!mso.anu.oz!cogan*.

Site-wide values: *USERS=5 PROGS=1 TASKS=4*

[5] *NAME=Stromlo VAX CPU=DEC VAX780 OS=VMS 4.5 MEM=4 DISK=1.3 TV=Ramtek xxxx,Sigma ARGS PLOT=Apple Laserwriter TAPE=800,1600,6250 AIPS=15JAN87 FRACT=1 VLA=95 NONRADIO=5 SITE=Mt. Stromlo Obs.*

A. G. Willis, Dept. of Liberal Studies, Athabasca Univ., Box 10000, Athabasca, AB T0G 2R0, CANADA;
Telephone: *403-675-6221*;
Net address: *...!alberta!auvax!willis*;
Net address: *usercdir@ualtamts.bitnet*.

Site-wide values: *USERS=1 PROGS=1 TASKS=0*

[6] *NAME=Athabasca VAX8600 CPU=DEC VAX8600 OS=VMS 4.3 MEM=12 DISK=0.4 TAPE=1600,6250 AIPS=15OCT86 SITE=Athabasca U. FRACT=20 VLA=100 NONRADIO=0*

[7] *OS=Unix xxx SITE=Athabasca U.*

Sun Kwok, Dept. of Physics, Univ. of Calgary, 2500 Univ. Dr., Calgary, AB T2N 1N4, CANADA;
Telephone: *1-403-220-5385*; Telex: *03821545*;
Net address: *skwok@uncamult.bitnet*.

Site-wide values: *USERS=6 PROGS=0 TASKS=0 BAND=IR BAND=IR*

[8] *NAME=UC PHYS MVAX CPU=DEC MicroVAX II OS=VMS 4.5 MEM=3 DISK=0.35 TV=IIS IVAS PLOT=QMS 800 TAPE=800,1600,6250 SITE=U. Calgary AIPS=15APR87 FRACT=50 VLA=90 NONRADIO=10*

R. S. Roger, Dominion Radio Astrophys. Obs., Box 248, Penticton, BC V2A 6K3, CANADA;
Telephone: *604-497-5321*; Telex: *048-88127*;
Net address: *(bitnet:) ?@drao.nrc.cdn*.

Site-wide values: *USERS=5 PROGS=0 TASKS=0 BAND=IR,X-ray*

[9] *NAME=DRAO VAX CPU=DEC VAX780 OS=VMS 4.2 MEM=10 DISK=0.4 TV=IIS 75 AP=FPS 100 PLOT=Versatec xxxx,QMS 800 TAPE=1600,6250 SITE=DRAO Penticton AIPS=15APR87 FRACT=15 VLA=85 NONRADIO=5 APFRACT=5*

Phil Gregory, Physics Dept., Univ. of British Columbia, Vancouver, BC V6T 1W5, CANADA;
Telephone: *604-228-6417*.

Site-wide values: *USERS=4.5 PROGS=1 TASKS=0*

[10] *CPU=DEC MicroVAX II OS=Ultrix (soon to be Unix 4.3) MEM=2 DISK=0.071 TV=Graphics terminals PLOT=HP TSS0A SITE=UBC Physics TAPE=1600 AIPS=15OCT86*

Laura Carriere, Dept. of Astronomy, Univ. of Toronto, 60 St. George St., Toronto, ON M5S 1A7, CANADA;
Telephone: *416-978-3146*;
Net address: *lcarriere@utorphys.bitnet*.

Site-wide values: *USERS=10 PROGS=1.5 TASKS=5 BAND=Optical*

[11] *NAME=U. of Toronto VAX CPU=DEC VAX8600 OS=VMS 4.4 MEM=32 DISK=0.25 TV=IIS 70 AP=FPS 120B PLOT=Versatec xxxx,Imagen x/yyy TAPE=800,1600,6250 AIPS=15JAN87 SITE=U. Toronto FRACT=25 VLA=98 NONRADIO=2 APFRACT=50*

[12] *NAME=U. Toronto SUN CPU=Sun-3/160 OS=Unix 4.2 MEM=8 DISK=0.8 TV=Sun Colour Graphics (eventually) AP=pipelined FPA PLOT=Imagen x/yyy TAPE=1600 AIPS=15OCT86 SITE=U. Toronto FRACT=80*

Marko Dumancic, Dept. of Geography, Univ. of Waterloo, Waterloo, ON N2L 3G1, CANADA;
Telephone: *519-888-4558*;
Net address: *manager@watmad.netnorth*.

Site-wide values: *PROGS=2 TASKS=0 BAND=IR,Optical*

[13] *CPU=DEC VAX780 OS=VMS x.y MEM=12 PLOT=Zeta 3653SX TAPE=6250 AIPS=15JAN87 PROGS=2 TASKS=0 SITE=U. Waterloo*

Louis Noreau, Departement de Physique, Faculte des Sciences et de Genie, Universite Laval, Ste-Foy, PQ G1K 7P4, CANADA;
Telephone: *418-656-2857*; Telex: *05131621*;
Net address: *1150020@lavalvx1.bitnet*.

Site-wide values: *USERS=4 PROGS=1 TASKS=5 BAND=Optical*

[14] *NAME=U-LAVAL AIPS/VMS CPU=DEC VAX785 OS=VMS 4.5 MEM=10 DISK=0.14 PLOT=Printronix xxx TAPE=1600 AIPS=15JUL86 FRACT=5 VLA=75 NONRADIO=25 SITE=U. Laval*

Wang Shouguan, Beijing Astronomical Observatory, Beijing, CHINA;
Telephone: *281698 (Peking)*; Telex: *22040*.

Site-wide values: *USERS=4 PROGS=0.5 TASKS=3*

15 *FRACT=15 VLA=35 NONRADIO=1 SITE=Beijing Obs. AIPS=15APR85 NAME=PAO MVAX CPU=DEC VAX780 MEM=4 DISK=1.4 OS=VMS 4.2 PLOT=Zeta 887 TAPE=800,1600 TV=Sigma ARGS*

Zhang Fu-Jun, Radio Astronomy Div., Shanghai Obs., Academia Sinica, Shanghai, CHINA;
Telephone: *(Shanghai) 386191*; Telex: *(085) 33164 shao cn.*

Site-wide values: *USERS=5 PROGS=0*

16 *NAME=ZFJ CPU=DEC VAX780 OS=VMS 4.3 MEM=4 DISK=0.125 TV=DEC VT125 PLOT=Printronix xxx TAPE=800,1600 AIPS=15OCT85 SITE=Shanghai Obs.*

Dr. Robert A. Laing, Royal Greenwich Obs., Herstmonceux Castle, Hailsham, East Sussex BN27 1RP, ENGLAND;
Telephone: *0323-833177,ext.3341*.

Site-wide values: *USERS=2.5 PROGS=0 TASKS=0 BAND=Optical*

17 *FRACT=2 VLA=90 NONRADIO=5 SITE=R. Greenwich O. AIPS=15JAN87 NAME=STARLINK RGO VAX CPU=DEC VAX780 MEM=4 DISK=0.25 OS=VMS 4.4 TV=Sigma ARGS TAPE=800,1600 PLOT=Versatec xxxx,Canon Laser-printer*

18 *NAME=LP DEV MICROVAX CPU=DEC MicroVAX II OS=VMS 4.5 MEM=7 DISK=0.25 PLOT=Canon Laser-printer,Printronix TAPE=1600,6250 AIPS=15APR87 FRACT=5 VLA=90 NONRADIO=5 SITE=R. Greenwich O.*

Dave Shone, Nuffield Radio Astron. Labs., Jodrell Bank, Macclesfield, Cheshire SK11 9DL, ENGLAND;
Telephone: *U.K. 0477 71321*; Telex: *36149 JODREL G*;
Net address: *dls%uk.ac.man.jb.star@ac.uk*;
Net address: *aipman%uk.ac.man.jb.star@ac.uk*.

Site-wide values: *USERS=25 PROGS=1.0 TASKS=6*

19 *FRACT=37 VLA=43 NONRADIO=0 SITE=Jodrell Bank AIPS=15JAN87 NAME=Jodrell Bank VAX1 CPU=DEC VAX780 MEM=8 DISK=1.0 OS=VMS 4.5 TV=Sigma ARGS AP=FPS 5205 PLOT=Zeta xxxx,Versatec xxxx TAPE=800,1600,6250 APFRACT=50*

20 *FRACT=5 VLA=100 NONRADIO=0 AIPS=15JUL86 SITE=R. O. Edinburgh NAME=STARLINK Edinburgh VAX CPU=DEC VAX780 MEM=8 DISK=0.256 OS=VMS 4.5 TV=Sigma ARGS PLOT=Versatec xxxx TAPE=800,1600*

21 *NAME=JODRELL BANK FX-8 CPU=Alliant FX/8 AP=4-CE MEM=24 DISK=1.1 OS=Unix 4.2 AIPS=15OCT86 SITE=Jodrell Bank TV=Apollo DN560 TAPE=800,1600,6250 FRACT=50 VLA=40 NONRADIO=0*

Kalevi Mattila, Obs. & Astrophysics Lab., Univ. of Helsinki, Tahtitorninmaki, SF-00130 Helsinki, FINLAND;
Telephone: *+358-0-1912909*;
Net address: *aips@finuhcb.bitnet*.

Site-wide values: *USERS=1 PROGS=0 TASKS=0*

22 *NAME=HYFLT CPU=DEC VAX750 OS=VMS 4.5 MEM=8 DISK=0.04 AIPS=15APR87 TAPE=1600 PLOT=HP 72206 SITE=U. Helsinki*

Juan Jose, Observatoire de Bordeaux, Universite de Bordeaux 1, Avenue Pierre Semirot, B.P.21, 33270 Floirac, FRANCE;
Net address: *Earn connection 1986? ?@?.bitnet.*

Site-wide values: *USERS=2 PROGS=1 TASKS=4 BAND=IR*

23 *NAME=OBX VAX CPU=DEC VAX750 OS=VMS 4.4 MEM=6 DISK=0.4 TV=Sigma ARGS 7000 PLOT=Benson 1113 TAPE=1600 SITE=U. Bordeaux AIPS=15JUL86 FRACT=1 VLA=50 NONRADIO=0*

Bruno Garagnon, I.R.A.M., Voie 10, Univ. of Grenoble, 38406 St. Martin D'Heres, FRANCE;
Telephone: *(+33)76.42.33.85*; Telex: *980753 F*;
Net address: *garagnon@frgag51.bitnet.*

Site-wide values: *USERS=6 PROGS=0.2 TASKS=3 BAND=Optical*

24 *NAME=IRAM CPU=DEC VAX780 OS=VMS 4.3 MEM=4 DISK=0.1 TV=Sigma ARGS PLOT=HP 7550A,Printronix xxx,Apple Laserwriter+ TAPE=1600 AIPS=15OCT86 FRACT=10 VLA=95 NONRADIO=5 SITE=U. Grenoble*

Diego Cesarsky, Institut D'Astrophysique, 98 Bis Blvd. Arago, 75014 Paris, FRANCE;
Telephone: *33-1-4320 1425*;
Net address: *diego@friap51.bitnet.*

Site-wide values: *USERS=6 PROGS=1 TASKS=0 BAND=IR*

25 *CPU=DEC VAX780 OS=VMS 4.4 MEM=8 DISK=0.4 TV=Sigma ARGS PLOT=Versatec xxxx TAPE=6250 AIPS=15APR86 FRACT=5.5 VLA=60 NONRADIO=40 SITE=Inst. Ap. Paris*

Dr. J. N. Rencarajan, Infrared Group, TIFR, Homibhabha Road, Bombay 40005, INDIA;
Telephone: *219111*; Telex: *011-3009 TIFR IN.*

Site-wide values: *USERS=4 PROGS=0 TASKS=0*

26 *FRACT=5 VLA=100 NONRADIO=0 AIPS=15JUL86 NAME=Bombay VAX CPU=DEC VAX780 MEM=2 DISK=0.05 OS=VMS 3.4 PLOT=Calcomp 4-pen SITE=Bombay TAPE=800,1600*

Dr. T. Velusamy, Radio Astronomy Center, TIFR, Post Box 8, Udhagamandalam, Ootacamund 643001, INDIA;
Telephone: *(0423)-2651,-2032,-2065*; Telex: *0853-241 RAC-IN.*

Site-wide values: *USERS=20 PROGS=0 TASKS=0*

27 *FRACT=80 VLA=25 NONRADIO=0 AIPS=15JUL86 NAME=Ooty VAX CPU=DEC VAX750 MEM=2 DISK=0.912 OS=VMS 4.2 TV=IIS 75 PLOT=Printronix 4160 TAPE=1600 SITE=Ooty Obs.*

Ing. Marco Catarzi, Osservatorio Astrofisico di Arcetri, Largo E. Fermi 5, 50125 Firenze, ITALY;
Telephone: *39-55-27521*; Telex: *572268 ARCETR I*;
Net address: *bitmail@iboinfn.bitnet (first line "LPS > ASTRFI::CATARZI").*

Site-wide values: *USERS=4 PROGS=0 TASKS=0*

28 *FRACT=5 VLA=100 NONRADIO=0 SITE=Arcetri Obs. AIPS=15APR87 NAME=? CPU=DEC VAX750 MEM=3.5 DISK=0.06 OS=VMS 4.2 PLOT=Versatec xxxx TAPE=800,1600*

Prof. Santo Catalano, Institute of Astronomy, Univ. of Catania, Viale A. Doria, 95125 Catania, ITALY;
Telephone: *39-95 330533*; Telex: *970359 ASTRCT*;
Net address: *gz9cta61@icineca.bitnet*.

Site-wide values: *USERS=5 PROGS=0 TASKS=0*

29 *FRACT=5 VLA=70 NONRADIO=30 SITE=U. Catania AIPS=15JAN87 NAME=ASTRCT VAX CPU=DEC VAX750 MEM=3 DISK=0.8 OS=VMS 4.4 TV=Ramtek 9460* TAPE=800,1600,6250 PLOT=Printronix 300,Apple Laserwriter+*

Dr. Carla Fanti, Instituto di Radioastronomia, Via Irnerio 46, Bologna 40126, ITALY;
Telephone: *051-243144*; Telex: *211664 INFN BO I (will change to 520634)*;
Net address: *40062::carla*;
Net address: *bitmail@iboinfn.bitnet (first line "LPS > ASTBO1::CARLA")*.

Site-wide values: *USERS=15 PROGS=3 TASKS=1 BAND=Optical*

30 *NAME=VAXIRA CPU=DEC VAX780 OS=VMS 4.5 MEM=7.5 DISK=0.5 TV=Aydin AP=FPS 5310 PLOT=Versatec xxxx TAPE=800,1600 SITE=Bologna AIPS=15OCT86 FRACT=30 VLA=70 NONRADIO=10 APFRACT=90*

Prof. Masato Ishiguro, Nobeyama Radio Obs., Tokyo Astronomical Obs., Univ. of Tokyo, Nobeyama, Minamisaku, Nagano 384-13, JAPAN;
Telephone: *0267-98-2831*; Telex: *TWX 3329005TAONROJ*.

Site-wide values: *USERS=10 PROGS=2 TASKS=0 BAND=IR*

31 *NAME=NRO_AIPS CPU=Fujitsu M380S OS=IV/F4 MSP MEM=24 DISK=1.89 TV=Graphica I5048 PLOT=Facom 6715E TAPE=1600,6250 AIPS=15JAN87 FRACT=5 VLA=1 NONRADIO=1 SITE=Nobeyama Obs.*

32 *NAME=NRO_AIPS CPU=DEC VAX730 OS=VMS 4.2 MEM=2 DISK=0.3 TV=Graphica I5048 PLOT=Tektronix 4107,Tektronix 4695 TAPE=1600 AIPS=15JUL85 FRACT=10 VLA=0 NONRADIO=0 SITE=Nobeyama Obs.*

33 *NAME=NRO_AIPS CPU=Fujitsu VP50 OS=IV/F4 VSP MEM=32 DISK=1.89 AP=Vector Registers PLOT=Facom 6715E AIPS=15JUL85 FRACT=95 VLA=1 NONRADIO=1 SITE=Nobeyama Obs.*

Jose Antonio Garcia-Barreto, Instituto de Astronomia, Univ. Nacional Autonoma de Mexico, Apartado Postal No. 877, Ensenada, B.C., MEXICO;
Telephone: *706-678-3093*.

Site-wide values: *USERS=10 PROGS=3 TASKS=0*

34 *NAME=IAUNAM CPU=Prime 550-2 OS=Primos MEM=8 DISK=1.2 TV=Grinnell xxxx PLOT=Printronix xxx TAPE=800,1600 AIPS=15OCT86 SITE=Univ. Nac. Mexico*

J. P. Terlouw, Kapteyn Lab., Postbus 800, Univ. of Groningen, 9700 AV, Groningen, NETHERLANDS;
Telephone: *634068*; Telex: *53572 stars nl*;
Net address: *terlouw@hgrrug5.bitnet*.

35 *CPU=DEC VAX8600 OS=VMS x.y MEM=16 TV=IIS 70E PLOT=Versatec V80 TAPE=6250 AIPS=15APR87 SITE=U. Groningen*

Goran Pilbratt, Space Science Dept./Astrophys. Div., ESA/ESTEC-SA, Postbus 299, NL-2200 AG Noordwijk, NETHERLANDS;
Telephone: *+31 1719 83616*; Telex: *39098*;
Net address: *gpilbrat@estec.bitnet*;
Net address: *estcs1::sa1139.*

Site-wide values: *USERS=1 PROGS=0 TASKS=0*

36 *NAME=VAX8600_ESTCS1 CPU=DEC VAX8600 OS=VMS 4.5 DISK=0.1 TV=Gould-DeAnza xxxx NONRADIO=0 SITE=ESA/ESTEC-SA TAPE=1600,6250 AIPS=15OCT86 FRACT=5 VLA=0*

Eric Greisen, Nat. Radio Astronomy Obs., Edgemont Road, NRAO;
Telephone: *804-296-0211*; Telex: *910-997-0174*;
Net address: *egreisen@nrao.bitnet*;
Net address: *egreisen@nrao.arpa*;
Net address: *...!seismo!nrao1!egreisen*;
Net address: *5127::5374::egreisen.*

Site-wide values: *USERS=5 PROGS=4 TASKS=190 BAND=Optical*

37 *FRACT=15 VLA=10 NONRADIO=10 SITE=NRAO CVAX AIPS=15JUL87 NAME=NRAO CVAX CPU=DEC VAX780 MEM=8 DISK=1.3 OS=VMS 4.4 TV=IIS 70 AP=FPS 120B TAPE=800,1600,6250 APFRACT=100 PLOT=QMS 800,Versatec xxxx*

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Net address: *...!seismo!nrao1!khilldru*;
Net address: *5127::5374::khilldru.*

Site-wide values: *PROGS=4 TASKS=0 BAND=Optical*

38 *NAME=NRAO Convex CPU=Convex C-1 OS=Unix 4.2 MEM=32 DISK=3.2 TV=IIS IVAS AP=Vector Registers PLOT=QMS 800 SITE=NRAO CEX TAPE=800,1600,6250 AIPS=15JUL87 FRACT=55 VLA=85 NONRADIO=12 USERS=59*

39 *NAME=NRAO GB Masscomp CPU=Masscomp MC500 OS=Unix III MEM=2 DISK=0.4 PLOT=HP Laserjet TAPE=800,1600 AIPS=15JUL85 FRACT=0 VLA=0 NONRADIO=0 USERS=0 SITE=NRAO GB MassComp*

40 *NAME=PSC Cray CPU=Cray X-MP/48 OS=COS (1.14 w/PDM-II) MEM=64 DISK=3 TV=IIS 70 AP=Vector Registers SITE=Pitt Supercomp Ctr. TAPE=800,1600,6250 AIPS=15APR87 FRACT=0 VLA=100 NONRADIO=0 USERS=0*

Dr. D. T. Emerson, Nat. Radio Astronomy Obs., Tucson, NRAO;
Telephone: *(602) 882-8250*;
Net address: *demerson@nrao.bitnet.*

Site-wide values: *USERS=4 PROGS=0 TASKS=0*

41 *NAME=NRAO node TUCVAX CPU=DEC VAX750 OS=VMS 4.5 MEM=3 DISK=0.456 PLOT=QMS 800 TAPE=1600 AIPS=15OCT85 FRACT=5 VLA=100 SITE=NRAO TUCVAX NONRADIO=0*

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Net address: *dking@nrao.arpa*;
Net address: *...!seismo!nrao1!dking*.

Site-wide values: *USERS=339 PROGS=6 TASKS=5*

42 *NAME=NRAO-VLA CONVEX 4.0 CPU=Convex C-1 MEM=64 DISK=2.5 OS=Unix 4.2 TV=IIS 70 AP=Vector Registers PLOT=QMS 800 TAPE=800,1600,6250 AIPS=15JUL87 SITE=NRAO CHOLLA FRACT=90 VLA=99 NONRADIO=0.5*

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Net address: *pmurphy@nrao.arpa*;
Net address: *...!seismo!nrao1!pmurphy*.

Site-wide values: *PROGS=6 TASKS=5 BAND=IR,Optical,X-ray*

43 *FRACT=91 VLA=95 NONRADIO=2 USERS=98 SITE=NRAO VAX1 AIPS=15JUL87 NAME=NRAO VLA VAX1 APFRACT=100 CPU=DEC VAX780 MEM=4 DISK=2.2 OS=VMS 4.4 TV=IIS 70 AP=FPS 120B PLOT=QMS 800 TAPE=1600,6250*

44 *FRACT=85 VLA=95 NONRADIO=2 USERS=91 AIPS=15JUL87 NAME=NRAO VLA VAX3 APFRACT=100 SITE=NRAO VAX3 CPU=DEC VAX780 MEM=4 DISK=2.2 OS=VMS 4.2 AP=FPS 120B PLOT=QMS 800 TAPE=800,1600,6250*

45 *FRACT=28 VLA=95 NONRADIO=5 USERS=27 SITE=NRAO OUTBAX AIPS=15JAN87 NAME=NRAO VLA Display VAX CPU=DEC VAX750 MEM=3 DISK=1.13 OS=VMS 4.4 TV=IIS 70 AP=FPS 120B PLOT=QMS 800 TAPE=1600,6250 APFRACT=100*

Peter Linde, Lund Obs., Box 43, S-22101 Lund, SWEDEN;
Net address: *...!seismo!astol!peter*.

46 *AIPS=15JUL84 CPU=HP 9000/500 OS=HP-UX (Sys V) DISK=0.7 TAPE=1600,3200 TV=Lexidata 3400 PLOT=HP 7580A MEM=4.75 SITE=Lund Obs.*

Lars B. Baath, Onsala Space Obs., S-43900 Onsala, SWEDEN;
Telephone: *Sweden 300 60650*; Telex: *Sweden 2400*;
Net address: *phobos::lbb (checks once a week for mail)*.

Site-wide values: *USERS=7 PROGS=1 TASKS=10*

47 *FRACT=50*
VLA=50 NONRADIO=0 SITE=Onsala Space Obs. AIPS=15APR86 NAME=ONSALA ND500 CPU=NORD ND570CXD MEM=8 DISK=0.9 OS=SINTRAN III-K TV=IIS 75 PLOT=QMS 800 TAPE=1600,6250 AP=pipelined FPA

Michael Keane, Steward Observatory, Univ. of Arizona, Tucson, AZ 85721, USA;
Telephone: *602-621-3897*; Telex: *967175*;
Net address: *....!noao!ctimv!mk*;
Net address: *mk@cti.arizona.edu*.

Site-wide values: *USERS=6 PROGS=1 TASKS=2 BAND=IR,Optical*

48 *FRACT=1 VLA=100 NONRADIO=0 AIPS=15JUL85 NAME=CTI MV/10000 CPU=DG MV/10000 MEM=10 DISK=2.6 OS=AOS/VS 6.06 TV=IIS 75 PLOT=DS180 TAPE=1600,6250 SITE=Steward Obs.*

49 *FRACT=2 VLA=50 NONRADIO=50 AIPS=15JUL85 CPU=DG MV/10000 NAME=SOLPL MV/10000 MEM=16 DISK=2.4 OS=AOS/VS 6.06 TV=Vicom PLOT=Printronix xxx,Talaris 800,Calcomp xxx TAPE=800,1600,6250 SITE=Steward Obs.*

Erick Young, Steward Obs., Univ. of Arizona, Tucson, AZ 85721, USA;
Telephone: *602-621-4119*; Telex: *407175*;
Net address: *eyoung/iras/jetpro/j.p.l.*.

Site-wide values: *BAND=IR*

50 *NAME=IRAS CPU=DEC MicroVAX II OS=Unix 4.2 MEM=8 DISK=0.6 TV=Jupiter J12 TAPE=800,1600,6250 AIPS=15JAN87 VLA=0 NONRADIO=100 SITE=Steward Obs.*

Steven Grandi, Central Computer Services, Nat. Optical Astron. Observatories, 950 North Cherry Ave., P.O. Box 26732, Tucson, AZ 85726-6732, USA;
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Net address: *grandi@noao.arpa*;
Net address: *...!ihnp4!noao!grandi*.

Site-wide values: *USERS=1 PROGS=0 TASKS=0 BAND=Optical*

51 *FRACT=1 VLA=0 NONRADIO=100 AIPS=15OCT85 NAME=VELA/DRACO (Clustered) MEM=28 CPU=DEC VAX750/8600 DISK=4.1 OS=VMS 4.5 TV=IIS 70 PLOT=Versatec xxxx TAPE=800,1600,6250 SITE=NOAO Tucson*

Mark Morris, Dept. of Astronomy, Math Sciences Building, UCLA, 405 Hilgard Avenue, Los Angeles, CA 90024, USA;
Net address: *bonnie::aips (5.708)*;
Net address: *aips@uclastro.bitnet*.

Site-wide values: *USERS=4 PROGS=0.25 TASKS=0 BAND=Optical*

52 *FRACT=2 VLA=85 NONRADIO=15 AIPS=15JAN87 NAME=UCLA ASTROVAX CPU=DEC VAX750 MEM=6 DISK=0.125 OS=VMS 4.5 TV=AED 767 PLOT=Printronix xxx,DEC LN03 TAPE=1600,6250 SITE=UCLA*

53 *OS=Unix 4.2 CPU=Sun-3/xxx TAPE=6250 AIPS=15JAN87 SITE=UCLA*

Dayton Jones, Jet Propulsion Lab., Mail Code 238-700, 4800 Oak Grove Dr., Pasadena, CA 91109, USA;
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Net address: *logos::dj*.

Site-wide values: *USERS=3.5 PROGS=1 TASKS=1*

54 *FRACT=10 VLA=20 NONRADIO=10 AIPS=15APR87 NAME=JPL XENOS CPU=DEC VAX785 MEM=4 DISK=0.15 OS=VMS 4.4 SITE=NASA-JPL XENOS PLOT=Printronix MVP,Imagen x/yyy TAPE=800,1600,6250*

Thomas B. H. Kuiper, 169/506, Jet Propulsion Lab., 4800 Oak Grove Dr., Pasadena, CA 91109, USA;
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Net address: *jplrag::kuiper*.

Site-wide values: *USERS=5 PROGS=0 TASKS=0 BAND=IR*

55 *FRACT=5 VLA=0 NONRADIO=100 MEM=4 AIPS=15JUL86 NAME=RAGVAX CPU=DEC VAX750 DISK=0.456 OS=VMS 3.5 PLOT=Tektronix xxxx TAPE=800,1600,6250 SITE=NASA-JPL RAGVAX*

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Telephone: *818-356-6448*;
Net address: *venus1::arie*.

Site-wide values: *USERS=3 PROGS=3 TASKS=10*

56 *FRACT=50 VLA=70 NONRADIO=0 AIPS=15APR87 NAME=CIT VENUS1 CPU=DEC MicroVAX II MEM=9 DISK=0.7 OS=VMS 4.5 TV=VCH-Q PLOT=Citoh+600 TAPE=800,1600,6250 SITE=CIT Plan. Sci.*

Lee Mundy, Mail Code 105-24, California Inst. of Tech., Pasadena, CA 91125, USA;
Telephone: *818-356-4993*;
Net address: *phobos::lgm*.

Site-wide values: *USERS=10 PROGS=5 TASKS=20 BAND=IR*

57 *FRACT=10 VLA=15 NONRADIO=1 AIPS=15APR87 NAME=Caltech PHOBOS CPU=DEC VAX780 MEM=4 DISK=0.5 OS=VMS x.y TV=Grinnell GMR AP=FPS 120B TAPE=1600,6250 PLOT=Printronix xxx,Versatec xxxx,Apple Laserwriter APFRACT=60 SITE=CIT Astronomy*

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Net address: *ralint@lbl.bitnet*.

Site-wide values: *USERS=10 PROGS=2 TASKS=1*

58 *FRACT=20 VLA=100 NONRADIO=0 DISK=0.3 AIPS=15APR87 NAME=BERKELEY CPU=DEC VAX780 MEM=8 OS=VMS x.y TV=AED 512 AP=FPS 100 PLOT=Versatec xxxx TAPE=1600 APFRACT=90 SITE=UC Berkeley*

Robert H. Becker, Physics Dept., Univ. of Calif., Davis, CA 95616, USA;
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Site-wide values: *USERS=1 PROGS=0 TASKS=0 BAND=IR*

59 *FRACT=5 NONRADIO=1 AIPS=15APR87 CPU=DEC VAX750 OS=VMS x.y TAPE=6250 NAME=LLNL VAX750 DISK=.5 TV=IIS 70 AP=FPS 120B VLA=4 APFRACT=5 SITE=UC Davis*

60 *OS=CTSS (Unix) CPU=Cray X-MP/xy AP=Vector Registers AIPS=15OCT86 TAPE=1600 NAME=MFE Cray X-MP FRACT=0 SITE=UC Davis*

61 *OS=Unix 4.2 CPU=Sun-3/xxx AIPS=15OCT86 TAPE=1600,6250 NAME=IGPP Sun MEM=8 DISK=.5 TV=IIS IVAS FRACT=75 VLA=75 SITE=UC Davis*

Timothy Bastian, Dept. of Astrophysics, Univ. of Colorado, Duane F919, Campus Box 391, Boulder, CO 80309, USA;
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Site-wide values: *USERS=3 PROGS=1 TASKS=7 BAND=Optical,UV*

62 *FRACT=20 VLA=95 NONRADIO=5 AIPS=15OCT86 NAME=GFFC/STTP CPU=DEC VAX750 MEM=8 DISK=1.2 OS=VMS 4.2 TV=Grinnell xxxx PLOT=QMS 800 TAPE=800,1600 AP=FPS 5310 APFRACT=33.3 SITE=U. Colorado*

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Net address: *simon@nrl.arpa*;
Net address: *SPAN soon: ?::simon.*

Site-wide values: *USERS=15 PROGS=5 TASKS=5 BAND=IR,UV,X-ray*

63 *FRACT=25 VLA=40 NONRADIO=20 AIPS=15JAN87 NAME=NRL SSDVAX CPU=DEC VAX785 SITE=Naval Res. Lab. MEM=16 DISK=2.0 OS=VMS 4.4 TV=IIS 70 AP=FPS 5205 APFRACT=100 PLOT=Printronix xxx,Talaris 800 TAPE=800,1600,6250*

Tim Carroll/NAO, U.S. Naval Obs., 34th St. & Massachusetts Ave., N.W., Washington, DC 20392, USA;
Telephone: *202-653-1563.*

Site-wide values: *USERS=0 PROGS=0 TASKS=0*

64 *FRACT=0 VLA=0 NONRADIO=0 AIPS=15JUL84 NAME=USNO CPU=IBM 4341 MEM=4 OS=Unix UTS TAPE=800,1600,6250 SITE=U.S. Naval Obs.*

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Net address: *vlj@pgd.hawaii.edu.*

Site-wide values: *USERS=2 PROGS=1 TASKS=0 BAND=IR,Optical*

65 *FRACT=0 OS=VMS 4.0 CPU=DEC VAX750 TV=IIS IVAS AIPS=15OCT86 PLOT=Versatec xxxx,DEC line printer TAPE=1600,6250 SITE=U. Hawaii*

66 *FRACT=0 OS=Unix 4.2 CPU=DEC VAX750 TV=IIS IVAS TAPE=1600 PLOT=Versatec xxxx,DEC line printer AIPS=15OCT86 SITE=U. Hawaii*

John P. Basart, Coover Hall, Iowa St. Univ., Ames, IA 50011, USA.

Site-wide values: *USERS=12 PROGS=2 TASKS=6 BAND=Optical,X-ray*

67 *NAME=EVAX3 CPU=DEC VAX785 OS=VMS 4.5 MEM=6 DISK=.125 TAPE=6250 AIPS=15APR87 FRACT=5 VLA=20 NONRADIO=80 SITE=Iowa St. U.*

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Net address: *sca%iowa.iowa@hamlet.bitnet*;
Net address: *iowa::sca = 7232::sca (7.64).*

Site-wide values: *PROGS=2 USERS=10*

68 *NAME=IOWA_AIPS FRACT=30 VLA=90 NONRADIO=0 SITE=U. Iowa TASKS=4 AIPS=15OCT85 NAME=IOWA:: CPU=DEC VAX780 MEM=2 OS=VMS 4.5 TV=IIS 75 PLOT=HP 7475,HP Laserjet Plus TAPE=800,1600,6250 DISK=0.6*

Melville Ulmer, Dept. of Physics & Astronomy, Northwestern Univ., Evanston, IL 60201, USA;
Telephone: *312-491-5633*;
Net address: *GSFCMAIL/MULMER.*

Site-wide values: *USERS=2.5 PROGS=1 TASKS=1*

69 *CPU=DEC VAX750 OS=VMS x.y MEM=4 DISK=1.4 PLOT=HP 7550A,EPSON TAPE=1600,6250 SITE=Northwestern U.*

Bob Sault, 341 Astronomy Bldg., Univ. of Illinois, 1011 W. Springfield Ave., Urbana, IL 61801, USA.

Site-wide values: *USERS=12 PROGS=0 TASKS=5 BAND=IR,Optical,X-ray*

70 *FRACT=80 VLA=80 NONRADIO=20 AIPS=15OCT86 NAME=U. Illinois VAX CPU=DEC MicroVAX II DISK=1.0 OS=VMS 4.3 TV=IIS IVAS PLOT=DEC LN03 MEM=9 TAPE=800,1600,6250 SITE=U. Illinois*

71 *OS=Unix 4.2 AIPS=15OCT86 TAPE=1600,6250 CPU=Sun-3/180 MEM=8 DISK=1.0 PLOT=Apple Laserwriter VLA=80 NONRADIO=20 SITE=U. Illinois*

72 *CPU=Cray X-MP/48 OS=CTSS MEM=8 PLOT=IBM TAPE=1600,6250 FRACT=0 VLA=80 NONRADIO=20 AP=Vector Registers SITE=U. Illinois*

Susan Kleinmann, Five Coll. Radio Astron. Obs., Graduate Research Ctr., Univ. of Massachusetts, Amherst, MA 01003, USA;
Telephone: *413-545-0916;2194.*

Site-wide values: *USERS=3 PROGS=2 TASKS=0*

73 *FRACT=10 VLA=100 NONRADIO=0 AIPS=15APR87 CPU=DEC VAX750 MEM=4 DISK=0.3 OS=VMS 4.3 TV=Gould-DeAnza FD5000 SITE=U. Mass. PLOT=Tektronix 4014 emulator,Apple Laserwriter TAPE=6250*

Dr. Colin J. Lonsdale, Haystack Obs., Westford, MA 01886, USA;
Telephone: *617-692-4765.*

Site-wide values: *USERS=5 PROGS=1 TASKS=3 BAND=Lunar Radar images,Optical,Other*

74 *NAME=Haystack Ridge R3.3 CPU=Ridge 32C OS=Unix V=ROS3.3 MEM=6 DISK=0.85 TV=Lexidata PLOT=HP Laserjet Plus SITE=Haystack Obs. TAPE=1600 AIPS=15JUL85 FRACT=70 VLA=80 NONRADIO=10*

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Telephone: *617-495-7267*;
Net address: *shoshana@cfa2.bitnet.*

Site-wide values: *USERS=12 PROGS=2 TASKS=0*

75 *FRACT=25 VLA=80 NONRADIO=25 AIPS=15APR87 NAME=CFA CPU=DEC VAX780 MEM=8 DISK=1.2 OS=VMS 4.2 TV=IIS 70,Gould-DeAnza 85 AP=FPS 120B PLOT=Imagen 8/300,QMS 800 TAPE=1600,6250 SITE=SAO Cambridge*

76 *NAME=CFARG1 CPU=DEC MicroVAX II OS=VMS 4.4 MEM=13 DISK=1.0 PLOT=QMS 800 TAPE=1600,6250 AIPS=15OCT85 FRACT=25 SITE=SAO Cambridge VLA=80 NONRADIO=25*

77 *NAME=CFARG2 CPU=DEC MicroVAX II OS=VMS 4.4 MEM=16 DISK=1.0 PLOT=QMS 800 TAPE=1600,6250 AIPS=15OCT85 FRACT=25 SITE=SAO Cambridge VLA=80 NONRADIO=25*

Dr. John W. Dreher, Room 26-315, Dept. of Physics, Massachusetts Inst. of Tech., Cambridge, MA 02139, USA;
Telephone: *617-253-8519*;
Net address: *dreher@mit-athena.arpa.*

Site-wide values: *USERS=8 PROGS=3 TASKS=10 BAND=Optical*

78 *FRACT=10 VLA=0 NONRADIO=0 SITE=MIT Physics AIPS=15JUL85 NAME=MIT AIPS CPU=Apollo DN660 MEM=6 DISK=1.0 OS=Unix xxx TV=Apollo DN660 TAPE=1600*

79 *NAME=MIT AIPS CPU=Apollo DN320 OS=Unix 4.2 MEM=6 DISK=1.0 TV=Apollo DN660 PLOT=HP Laserjet TAPE=1600 AIPS=15JUL85 + some 15JUL86 FRACT=30 VLA=99 NONRADIO=1 SITE=MIT Physics*

80 *NAME=MIT AIPS CPU=Apollo DN320 OS=Unix 4.2 MEM=6 SITE=MIT Physics DISK=1.0 TV=Apollo DN660 PLOT=HP Laserjet TAPE=1600 AIPS=15JUL85 + some 15JUL86 FRACT=30 VLA=99 NONRADIO=1*

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Net address: *bradford@buasta.bitnet.*

Site-wide values: *USERS=6 PROGS=0 TASKS=0 BAND=Optical*

81 *NAME=BUASTA CPU=DEC VAX750 OS=VMS 4.4 MEM=8 DISK=2.0 TV=Gould-DeAnza IP8400 PLOT=AMS 1200 TAPE=1600 AIPS=15OCT85 FRACT=10 VLA=50 NONRADIO=25 SITE=Boston U.*

Dr. David H. Roberts, Physics Dept., Brandeis Univ., 415 South St., Waltham, MA 02254-9110, USA;
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Site-wide values: *USERS=3 PROGS=1 TASKS=1*

82 *VLA=100 NONRADIO=0 SITE=Brandeis U. AIPS=15JAN87 NAME=BRANDEIS ASTROVAX CPU=DEC VAX8600 MEM=32 DISK=1.0 OS=VMS 4.3 TV=Seiko D-SCAN GR-1104 AP=FPS 5105 PLOT=Printronix xxx,Versatec xxxx,DEC LN01,DEC LN03,pen plotter TAPE=1600,6250*

83 *OS=Unix V TAPE=1600 AIPS=15JUL85 SITE=Brandeis U.*

Jeff Bowser, c/o SAR, 4400 Forbes Blvd., Lanham, MD 20706, USA;
Telephone: *301-794-5200;301-286-5420.*

Site-wide values: *USERS=3 PROGS=1 TASKS=5 BAND=IR*

84 *OS=Unix III CPU=Masscomp MC500 TAPE=Cartridge (1/4") AIPS=15OCT86 DISK=0.2 TV=Aurora Independent Graphi MEM=2 SITE=Jeff Bowser NONRADIO=100*

Ramesh Sinha, ST Systems Corp., 4400 Forbes Blvd., Lanham, MD 20706, USA;
Telephone: *301-794-5203*;
Net address: *csdr::xrrps.*

Site-wide values: *USERS=10 PROGS=3 TASKS=10 BAND=IR*

85 *FRACT=5 VLA=0 NONRADIO=100 AIPS=15JAN87 NAME=SCINT VAX CPU=DEC VAX8200 MEM=20 DISK=0.05 OS=VMS 4.5 TV=IIS IVAS PLOT=Citoh,Talaris 800 TAPE=1600 SITE=ST Systems Corp.*

Dr. Richard A. White, 8006 Lakecrest Dr., Greenbelt, MD 20770, USA;
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Net address: *lepvax::zbraw*.

Site-wide values: *USERS=2 PROGS=0 TASKS=0 BAND=IR,Optical,UV,X-ray*

86 *NAME=ARCFOSVAX OS=VMS 4.5 TAPE=1600,6250 CPU=DEC MicroVAX AIPS=15APR87 MEM=9 DISK=.5 TV=IIS IVAS PLOT=QMS KISS,LXY22 FRACT=10 VLA=10 NONRADIO=90 SITE=ARCFOS*

Ryszard Pisarski, Code 636, NASA-Goddard Space Flight Ctr., Greenbelt, MD 20771, USA;
Telephone: *301 286-7000*.

Site-wide values: *USERS=4 PROGS=0 TASKS=0 BAND=IR,X-ray*

87 *NAME=IAF MEM=16 DISK=0.176 TV=IIS 75 PLOT=Versatec TAPE=1600,6250 AIPS=15APR87 CPU=DEC VAX785 OS=VMS 4.5 AP=FPS 180 FRACT=1 VLA=0 NONRADIO=100 SITE=NASA-GSFC IAF*

Dr. Robert Silverberg, Code 685, NASA-Goddard Space Flight Ctr., Greenbelt, MD 20771, USA;
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Net address: *lepvax::?*.

Site-wide values: *USERS=10 PROGS=1 TASKS=2 BAND=IR,Optical*

88 *FRACT=10 VLA=0 NONRADIO=100 NAME=LEPVAX CPU=DEC VAX785 MEM=16 DISK=2.5 OS=VMS 4.3 PLOT=Versatec V80 TAPE=800,1600,6250 AIPS=15APR87 SITE=NASA-GSFC LEPVAX*

Edward Sullivan, Code 684.1, Lab for Astronomy and Solar Physics, NASA-Goddard Space Flight Ctr., Greenbelt, MD 20771, USA;
Telephone: *FTS 344-8808*;
Net address: *champ::neff or uit::neff, maybe hrs::test*.

Site-wide values: *USERS=20 PROGS=3 TASKS=4 BAND=IR,Optical,UV*

89 *FRACT=5 VLA=10 NONRADIO=90 AIPS=15OCT86 NAME=CHAMP CPU=DEC VAX750 MEM=8 DISK=1.0 OS=VMS 4.4 TV=Gould-DeAnza 85 PLOT=Versatec xxxx TAPE=800,1600,6250 SITE=NASA-GSFC Ast/Solar*

90 *FRACT=15 VLA=40 NONRADIO=60 AIPS=15OCT86 NAME=UIT CPU=DEC VAX750 MEM=8 DISK=.4 OS=VMS 4.4 TV=Gould-DeAnza 85 PLOT=QMS 800 TAPE=800,1600,6250 SITE=NASA-GSFC Ast/Solar*

91 *NAME=HRS CPU=DEC VAX8200 OS=VMS 4.4 MEM=8 DISK=0.4 TV=Gould-DeAnza 95 AP=FPS 5205 PLOT=QMS 2400 AIPS=15OCT86 FRACT=5 VLA=50 NONRADIO=50 APFRACT=30 SITE=NASA-GSFC Ast/Solar*

Dr. Robert J. Hanisch, Space Telescope Sci. Inst., 3700 San Martin Drive, Homewood Campus, Baltimore, MD 21218, USA;
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Net address: *hanisch@stsci.arpa*;
Net address: *scivax::hanisch*.

Site-wide values: *USERS=12 PROGS=1 TASKS=0 BAND=Optical,X-ray*

92 *FRACT=5 VLA=70 NONRADIO=30 AIPS=15OCT86 NAME=STScI VAX Cluster CPU=DEC VAX8600 MEM=32 DISK=0.4 OS=VMS x.y TV=Gould-DeAnza IP8500 AP=FPS 5205 PLOT=QMS 800,QMS 1200,QMS 2400 TAPE=800,1600,6250 APFRACT=98 SITE=S. T. Sci. Inst.*

Neil Comins, Bennett Hall, Univ. of Maine, Orono, ME 04469, USA;
Telephone: *207-945-5152*;
Net address: *galaxy@maine.bitnet*.

Site-wide values: *USERS=1 PROGS=0 TASKS=0*

93 *NAME=AIPS CPU=DEC VAX780 OS=VMS x.y MEM=10 DISK=.5 TAPE=1600 AIPS=15JAN87 FRACT=10 VLA=100 NONRADIO=0 SITE=U. Maine*

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Telephone: *313-936-1741*;
Net address: *umast::gaume (41.211)*;
Net address: *umast@umiphys.bitnet*.

Site-wide values: *USERS=5 PROGS=1 TASKS=10 BAND=Optical*

94 *FRACT=25 VLA=90 NONRADIO=10 AIPS=15APR87 NAME=UMAST CPU=DEC VAX750 MEM=8 DISK=1.3 OS=VMS 4.4 TV=RCI TRAPIX 5500 AP=FPS 5205 PLOT=Imagen Innovator TAPE=1600,6250 APFRACT=100 SITE=U. Michigan*

Frank D. Ghigo, Dept. of Astronomy, Univ. of Minnesota, 116 Church Street S.E., Minneapolis, MN 55455, USA;
Telephone: *612-624-0335;624-0211 (Schl. Phys./Astron.)*;
Net address: *minn::testlr*;
Net address: *testlr%minn.hepnet@lbl.bitnet*.

Site-wide values: *USERS=15 PROGS=3 TASKS=20 BAND=IR,Optical*

95 *FRACT=20 VLA=80 NONRADIO=20 AIPS=15JAN87 NAME=Minn ASTRO VAX CPU=DEC VAX780 MEM=3.5 DISK=0.75 OS=VMS 4.1 TV=Grinnell GMR270 AP=FPS 5105 PLOT=Printronix xxx,Q-600,HP Laserjet,Apple Laserwriter TAPE=800,1600,6250 APFRACT=100 SITE=U. Minnesota*

Tim Hankins, Thayer School of Engineering, Dartmouth College, Hanover, NH 03755, USA;
Telephone: *603-646-2281*;
Net address: *...!dartvax!thayer!timh*.

Site-wide values: *USERS=2 PROGS=0 TASKS=0*

96 *AIPS=15OCT86 OS=VMS 4.5 TAPE=6250 FRACT=1 SITE=Dartmouth College VLA=50 NONRADIO=0 NAME=THAYER T1 CPU=DEC VAX785 MEM=8 DISK=0.1 TV=Lexidata 3400 PLOT=QMS 1200,Printronix xxx TAPE=800,1600,6250*

Jack Carmody, 291 High St., Nutley, NJ 07110, USA;
Telephone: *201-284-2235*;
Net address: *dcdwest!dcdvaxb!jcc@sdcs.arpa*.

Site-wide values: *USERS=1 PROGS=1 TASKS=2*

97 *VLA=0 NONRADIO=100 SITE=Jack Carmody AIPS=15OCT85 NAME=VAXA CPU=DEC VAX780 MEM=10 DISK=2.0 OS=VMS 4.4 TAPE=6250*

Michael Rupen, 15 Peyton Hall, Princeton Univ. Obs., Princeton, NJ 08544, USA;
Net address: *mpr@astrovax.princeton.edu*.

Site-wide values: *USERS=4 PROGS=1 TASKS=1*

98 *CPU=Sun-3/160 DISK=0.4 MEM=4 OS=Unix 4.2 TAPE=1600,6250 AIPS=15JUL86 PLOT=Printronix xxx,Versatec xxxx,Imagen x/yyy NAME=MIRA TV=Sun 3 Color Monitor FRACT=5 VLA=100 NONRADIO=0 SITE=Princeton U. Obs.*

Jack O. Burns, Jr., Dept. of Physics & Astronomy, Univ. of New Mexico, Albuquerque, NM 87131, USA;
Telephone: *505-277-2705/2617*;
Net address: *aips@unmb.bitnet*.

Site-wide values: *USERS=5 PROGS=2 TASKS=4.5 BAND=IR,Optical,X-ray*

99 *FRACT=10 VLA=80 NONRADIO=20 AIPS=15APR87 NAME=UNM BVAX CPU=DEC VAX8650 MEM=8 DISK=0.4 OS=VMS 4.5 TV=IIS 75 AP=FPS 120B TAPE=1600,6250 APFRACT=100 PLOT=QMS 800,Versatec xxxx SITE=U. New Mexico*

100 *AIPS=? CPU=DEC VAX8600 OS=VMS x.y SITE=LANL*

101 *NAME=SNL IPF CPU=DEC VAX750 OS=VMS 4.3 MEM=2 DISK=0.17 TV=Comtal 1/20 AP=FPS 5000 PLOT=Versatec xxxx,Imagen x/yyy TAPE=800,1600 AIPS=15OCT86 FRACT=1 VLA=50 NONRADIO=50 APFRACT=1 SITE=Sandia Labs*

AIPS Contact Person, Physics Dept., Univ. of Nevada, Las Vegas, NV 89154, USA.

Site-wide values: *USERS=2 PROGS=.5 TASKS=1 BAND=Optical*

102 *NAME=UNSCC VAX CPU=DEC VAX750 OS=Unix 4.3 MEM=3.5 DISK=0.720 TV=AED 512,TER 4010 TAPE=1600 AIPS=15OCT84 FRACT=50 VLA=0 NONRADIO=50 SITE=U. Nev. Las Vegas*

Claire Russell, Columbia Astrophysics Lab., 538 West 120th Street, New York, NY 10027, USA;
Telephone: *212-280-2819*;
Net address: *cars@cuthry.bitnet*.

Site-wide values: *USERS=10 PROGS=1 TASKS=0 BAND=Optical,X-ray*

103 *AIPS=15APR87 NAME=Columbia Physics VAX CPU=DEC MicroVAX II MEM=13 DISK=0.3 OS=VMS x.y TV=IIS 75 PLOT=Printronix xxx,Apple Laserwriter TAPE=800,1600 FRACT=15 VLA=30 NONRADIO=70 SITE=Columbia Astrophys. Lab.*

Michal Simon, Astronomy Prog., SUNY, Stony Brook, NY 11794, USA;
Telephone: *516-632-8226*;
Net address: *msimon@sbccmail.bitnet*.

Site-wide values: *USERS=3*

104 *VLA=50 NONRADIO=50 AIPS=15OCT85 CPU=DEC MicroVAX II OS=VMS x.y DISK=0.5 PLOT=QMS 800 SITE=SUNY*

Andy Feldt, Dept. of Physics and Astronomy, Univ. of Oklahoma, Norman, OK 73019, USA;
Telephone: *405-325-3961*;
Net address: *Hope NSFnet next year: ?.?.edu*.

Site-wide values: *USERS=2 PROGS=0 TASKS=0*

105 *FRACT=1 VLA=100 NONRADIO=0 AIPS=15APR87 NAME=UOK NIELSEN VAX CPU=DEC VAX780 MEM=8 DISK=0.1 OS=VMS 4.5 PLOT=Versatec 1200 TAPE=800,1600 SITE=U. Oklahoma*

Frank Briggs, Dept. of Physics, Univ. of Pittsburgh, Pittsburgh, PA 15260, USA;
Telephone: *412-624-9026*;
Net address: *115321@pittvms.bitnet*;
Net address: *...!allegra!pitt!upphys!upridge!frank*.

Site-wide values: *USERS=1 PROGS=0 TASKS=0 BAND=Optical*

106 *AIPS=15JUL85 CPU=Ridge OS=Unix V hybrid w/Unix 4.2 SITE=U. Pittsburgh TAPE=1600*

Eric D. Feigelson, Dept. of Astronomy, Pennsylvania St. Univ., Univ. Park, PA 16802, USA;
Telephone: *814-865-0162*.

Site-wide values: *USERS=4 PROGS=1 TASKS=3 BAND=Optical,X-ray*

107 *FRACT=40 VLA=95 NONRADIO=5 AIPS=15JUL85 SITE=Penn State U. NAME=PSAIPS CPU=M68020 CRDS MEM=4 DISK=0.6 OS=Unix V TV=Graphics Strategies VGM1024 AP=SKY Warrior PLOT=Printek 920 TAPE=800,1600*

David B. Garrett, Dept. of Astronomy, RLM 15.220, Univ. of Texas at Austin, Austin, TX 78712, USA;
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Net address: *...![ihnp4,seismo]!ut-sally!utastro!dbg*.

Site-wide values: *USERS=15 PROGS=2 TASKS=6 BAND=IR,Optical*

108 *FRACT=4 VLA=50 NONRADIO=50 AIPS=15JUL85 NAME=ut astro CPU=DEC VAX780 MEM=4 DISK=0.075 OS=Unix 4.3 TV=Jupiter 7 SITE=U. Texas PLOT=Printronix xxx,Zeta xxxx TAPE=800,1600*

109 *NAME=UTASTRO/IO CPU=DEC MicroVAX II OS=VMS 4.5 MEM=5 DISK=0.070 TV=Image Analytics Corp. QD512 TAPE=800,1600 AIPS=15APR86 FRACT=10 VLA=50 NONRADIO=50 SITE=U. Texas*

Bruce Balick, Astronomy Dept. FM-20, Univ. of Washington, Seattle, WA 98195, USA;
Telephone: *206-543-7683*;
Net address: *balick@uwaphast.bitnet*.

Site-wide values: *USERS=14 PROGS=0 TASKS=0 BAND=Optical*

110 *FRACT=1 VLA=30 NONRADIO=70 AIPS=15JUL86 NAME=PHASTVAX CPU=DEC VAX780 MEM=16 DISK=0.4 OS=VMS 4.5 TV=IIS 75 AP=FPS 120B APFRACT=25 PLOT=Talaris 1200,Versatec xxxx TAPE=800,1600,6250 SITE=U. Washington*

111 *NAME=IMOGEN CPU=DEC Vaxstation/RC OS=VMS 4.5a MEM=9 AIPS=15JUL86 FRACT=90 VLA=30 NONRADIO=70 SITE=U. Washington*

Dr. Julie Lutz, Prog. in Astronomy, Washington State Univ., Pullman, WA 99164-2930, USA.

Site-wide values: *USERS=1 PROGS=0 TASKS=0*

112 *NAME=WSUVMS1 CPU=DEC VAX785 MEM=12 DISK=0.1 TV=IIS 70E FRACT=1 OS=VMS 4.4 TAPE=1600 AIPS=15JUL86 SITE=Washington St. U.*

Edward B. Churchwell, Washburn Obs., Univ. of Wisconsin, 475 N. Charter Street, Madison, WI 53706, USA;
Net address: *madraf::?*;
Net address: *?%madraf.decnet@vms.macc.wisc.edu*;
Net address: *?@madraf.bitnet*.

Site-wide values: *USERS=3 PROGS=0 TASKS=0 BAND=Optical*

113 *FRACT=1 VLA=90 NONRADIO=10 AIPS=15JAN87 CPU=DEC VAX780 MEM=3.5 DISK=0.2 OS=VMS 4.2 TV=Grinnell GMR270 PLOT=Printronix 300,Complot TAPE=800,1600 SITE=U. Wisconsin*

Juergen Schmidt, Max-Planck-Inst. fur Radioastronomie, Auf dem Hugel 69, D-5300 Bonn 1, WEST GERMANY.

Site-wide values: *USERS=28 PROGS=1 TASKS=0*

114 *CPU=Convex C-1 AP=Vector Registers OS=Unix 4.2 MEM=32 DISK=1.4 TAPE=1600 AIPS=15JAN87 SITE=MPIfR Bonn*

Gustaaf van Moorsel, European Southern Obs., Karl Schwarzschildstrasse 2, D-8046 Garching bei Munchen, WEST GERMANY;
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Net address: *gustaaf@dgaeso51.bitnet*;
Net address: *28754::gustaaf*.

Site-wide values: *USERS=3 PROGS=1 TASKS=0 BAND=Optical*

115 *FRACT=1 VLA=100 NONRADIO=20 AIPS=15JAN87 NAME=ESOMC1 CPU=DEC VAX8600 MEM=40 DISK=0.1 OS=VMS 4.5 TV=Gould-DeAnza 85 SITE=E.S.O. PLOT=Versatec xxxx,QMS 800 TAPE=1600,6250*

Keyword-Value Cross-Reference Table

AP

4-CE: 21 . . . . . [1]
FPS 100: 9, 58 . . . . . [2]
FPS 120B: 11, 37, 43, 44, 45, 57, 59, 75, 99, 110 . . . . . [10]
FPS 180: 87 . . . . . [1]
FPS 5000: 101 . . . . . [1]
FPS 5105: 82, 95 . . . . . [2]
FPS 5205: 19, 63, 91, 92, 94 . . . . . [5]
FPS 5310: 30, 62 . . . . . [2]
SKY Warrior: 107 . . . . . [1]
Vector Registers: 33, 38, 40, 42, 60, 72, 114 [7]
pipelined FPA: 12, 47 . . . . . [2]

BAND

IR: 2, 8, 8, 9, 13, 23, 25, 31, 43, 48, 50, 55, 57, 59, 63, 65, 70, 84, 85, 86, 87, 88, 89, 95, 99, 108 . . . . . [26]
Lunar Radar images: 74 . . . . . [1]
Optical: 2, 11, 13, 14, 17, 24, 30, 37, 38, 43, 48, 51, 52, 62, 65, 67, 70, 74, 78, 81, 86, 88, 89, 92, 94, 95, 99, 102, 103, 106, 107, 108, 110, 113, 115 . . . . . [35]
Other: 74 . . . . . [1]
UV: 62, 63, 86, 89 . . . . . [4]
X-ray: 9, 43, 63, 67, 70, 86, 87, 92, 99, 103, 107 . . . . . [11]

CPU

Alliant FX/8: 21 . . . . . [1]
Apollo DN320: 79, 80 . . . . . [2]
Apollo DN660: 78 . . . . . [1]
Convex C-1: 38, 42, 114 . . . . . [3]
Cray X-MP/48: 40, 72 . . . . . [2]
Cray X-MP/xy: 60 . . . . . [1]
DEC MicroVAX: 86 . . . . . [1]
DEC MicroVAX II: 4, 8, 10, 18, 50, 56, 70, 76, 77, 103, 104, 109 . . . . . [12]
DEC VAX730: 32 . . . . . [1]
DEC VAX750: 2, 3, 22, 23, 27, 28, 29, 41, 45, 52, 55, 59, 62, 65, 66, 69, 73, 81, 89, 90, 94, 101, 102 . . . . . [23]
DEC VAX750/8600: 51 . . . . . [1]
DEC VAX780: 1, 5, 9, 13, 15, 16, 17, 19, 20, 24, 25, 26, 30, 37, 43, 44, 57, 58, 68, 75, 93, 95, 97, 105, 108, 110, 113 . . . . . [27]
DEC VAX785: 14, 54, 63, 67, 87, 88, 96, 112 [8]
DEC VAX8200: 85, 91 . . . . . [2]
DEC VAX8600: 6, 11, 35, 36, 82, 92, 100, 115 [8]
DEC VAX8650: 99 . . . . . [1]
DEC Vaxstation/RC: 111 . . . . . [1]
DG MV/10000: 48, 49 . . . . . [2]
Fujitsu M380S: 31 . . . . . [1]
Fujitsu VP50: 33 . . . . . [1]
HP 9000/500: 46 . . . . . [1]
IBM 4341: 64 . . . . . [1]
M68020 CRDS: 107 . . . . . [1]
Masscomp MC500: 39, 84 . . . . . [2]
NORD ND570CXD: 47 . . . . . [1]
Prime 550-2: 34 . . . . . [1]
Ridge: 106 . . . . . [1]
Ridge 32C: 74 . . . . . [1]
Sun-3/160: 12, 98 . . . . . [2]
Sun-3/180: 71 . . . . . [1]
Sun-3/xxx: 53, 61 . . . . . [2]

Country

ARGENTINA: 1 . . . . . [1]
AUSTRALIA: 2, 4, 5 . . . . . [3]
CANADA: 6, 8, 9, 10, 11, 13, 14 . . . . [7]
CHINA: 15, 16 . . . . . [2]
ENGLAND: 17, 19 . . . . . [2]
FINLAND: 22 . . . . . [1]
FRANCE: 23, 24, 25 . . . . . [3]
INDIA: 26, 27 . . . . . [2]
ITALY: 28, 29, 30 . . . . . [3]
JAPAN: 31 . . . . . [1]
MEXICO: 34 . . . . . [1]
NETHERLANDS: 35, 36 . . . . . [2]
NRAO: 37, 38, 41, 42, 43 . . . . . [5]
SWEDEN: 46, 47 . . . . . [2]
USA: 48, 50, 51, 52, 54, 55, 56, 57, 58, 59, 62, 63, 64, 65, 67, 68, 69, 70, 73, 74, 75, 78, 81, 82, 84, 85, 86, 87, 88, 89, 92, 93, 94, 95, 96, 97, 98, 99, 102, 103, 104, 105, 106, 107, 108, 110, 112, 113 . . . . . [48]
WEST GERMANY: 114, 115 . . . . . [2]

DISK

0.04: 22 . . . . . [1]
0.05: 26, 85 . . . . . [2]

0.06: 28 . . . . . [1]
0.070: 109 . . . . . [1]
0.071: 10 . . . . . [1]
0.075: 108 . . . . . [1]
0.1: 24, 36, 96, 105, 112, 115 . . . . . [6]
0.125: 16, 52, 67 . . . . . [3]
0.14: 14 . . . . . [1]
0.15: 54 . . . . . [1]
0.17: 101 . . . . . [1]
0.176: 87 . . . . . [1]
0.2: 84, 113 . . . . . [2]
0.25: 11, 17, 18 . . . . . [3]
0.256: 20 . . . . . [1]
0.3: 32, 58, 73, 103 . . . . . [4]
0.35: 8 . . . . . [1]
0.4: 6, 9, 23, 25, 39, 90, 91, 92, 98, 99, 110[11]
0.456: 41, 55 . . . . . [2]
0.5: 30, 57, 59, 61, 86, 93, 104 . . . . [7]
0.6: 50, 68, 107 . . . . . [3]
0.67: 1 . . . . . [1]
0.7: 46, 56 . . . . . [2]
0.720: 102 . . . . . [1]
0.75: 95 . . . . . [1]
0.8: 12, 29 . . . . . [2]
0.85: 74 . . . . . [1]
0.9: 4, 47 . . . . . [2]
0.912: 27 . . . . . [1]
1.0: 2, 19, 70, 71, 76, 77, 78, 79, 80, 82, 89[11]
1.1: 21 . . . . . [1]
1.13: 45 . . . . . [1]
1.2: 34, 62, 75 . . . . . [3]
1.3: 5, 37, 94 . . . . . [3]
1.4: 15, 69, 114 . . . . . [3]
1.89: 31, 33 . . . . . [2]
2.0: 63, 81, 97 . . . . . [3]
2.2: 43, 44 . . . . . [2]
2.4: 49 . . . . . [1]
2.5: 42, 88 . . . . . [2]
2.6: 48 . . . . . [1]
3: 40 . . . . . [1]
3.2: 38 . . . . . [1]
4.1: 51 . . . . . [1]

FRACT

0: 39, 40, 60, 64, 65, 66, 72 . . . . . [7]
1: 5, 23, 48, 51, 87, 96, 101, 105, 110, 112, 113, 115 . . . . . [12]
2: 17, 49, 52 . . . . . [3]
4: 108 . . . . . [1]
5: 1, 14, 18, 20, 26, 28, 29, 31, 36, 41, 55, 59, 67, 85, 89, 91, 92, 98 . . . . . [18]
5.5: 25 . . . . . [1]
10: 2, 24, 32, 54, 57, 73, 78, 81, 86, 88, 93, 99, 109 . . . . . [13]
15: 9, 15, 37, 90, 103 . . . . . [5]
20: 6, 58, 62, 95 . . . . . [4]
25: 11, 63, 75, 76, 77, 94 . . . . . [6]
28: 45 . . . . . [1]
30: 30, 68, 79, 80 . . . . . [4]
37: 19 . . . . . [1]
40: 107 . . . . . [1]
50: 8, 21, 47, 56, 102 . . . . . [5]
55: 38 . . . . . [1]
70: 74 . . . . . [1]
75: 61 . . . . . [1]
80: 4, 12, 27, 70 . . . . . [4]
85: 44 . . . . . [1]
90: 42, 111 . . . . . [2]
91: 43 . . . . . [1]
95: 33 . . . . . [1]

MEM

2: 10, 26, 27, 32, 39, 68, 84, 101 . . . . [8]
3: 1, 8, 29, 41, 45 . . . . . [5]
3.5: 28, 95, 102, 113 . . . . . [4]
4: 5, 15, 16, 17, 24, 43, 44, 54, 55, 57, 64, 69, 73, 98, 107, 108 . . . . . [16]
4.75: 46 . . . . . [1]
5: 109 . . . . . [1]
6: 23, 52, 67, 74, 78, 79, 80 . . . . . [7]
7: 18 . . . . . [1]
7.5: 30 . . . . . [1]
8: 2, 12, 19, 20, 22, 25, 34, 37, 47, 50, 58, 61, 62, 71, 72, 75, 81, 89, 90, 91, 94, 96, 99, 105 . . . . . [24]
9: 4, 56, 70, 86, 111 . . . . . [5]
10: 9, 14, 48, 93, 97 . . . . . [5]
12: 6, 13, 112 . . . . . [3]
13: 76, 103 . . . . . [2]
16: 35, 49, 63, 77, 87, 88, 110 . . . . . [7]
20: 85 . . . . . [1]
24: 21, 31 . . . . . [2]

28: 51 . . . . . [1]
32: 11, 33, 38, 82, 92, 114 . . . . . [6]
40: 115 . . . . . [1]
64: 40, 42 . . . . . [2]

NONRADIO
0: 1, 6, 19, 20, 21, 23, 26, 27, 28, 32, 36, 39, 40, 41, 47, 48, 56, 58, 64, 68, 73, 78, 82, 93, 96, 98, 105 . . . . . [27]
0.5: 42 . . . . . [1]
1: 15, 31, 33, 57, 59, 79, 80 . . . . . [7]
2: 11, 43, 44 . . . . . [3]
5: 5, 9, 17, 18, 24, 45, 62, 107 . . . . . [8]
10: 2, 4, 8, 30, 37, 54, 74, 94, 113 . . . [9]
12: 38 . . . . . [1]
15: 52 . . . . . [1]
20: 63, 70, 71, 72, 95, 99, 115 . . . . . [7]
25: 14, 75, 76, 77, 81 . . . . . [5]
30: 29, 92 . . . . . [2]
40: 25 . . . . . [1]
50: 49, 91, 101, 102, 104, 108, 109 . . . [7]
60: 90 . . . . . [1]
70: 103, 110, 111 . . . . . [3]
80: 67 . . . . . [1]
90: 86, 89 . . . . . [2]
100: 50, 51, 55, 84, 85, 87, 88, 97 . . . [8]

Net-Service
ARPA/Internet-service: 3, 5, 6, 38, 39, 43, 44, 49, 52, 56, 59, 64, 66, 69, 79, 93, 98, 99, 106, 109, 114 . . . . . [21]
BITNET/EARN-service: 7, 9, 10, 12, 14, 15, 20, 20, 23, 24, 25, 26, 29, 30, 31, 36, 37, 38, 39, 42, 43, 44, 53, 59, 69, 76, 82, 83, 94, 95, 96, 100, 104, 105, 107, 111, 114, 116[38]
SPAN/HEPNET-service: 31, 37, 38, 39, 48, 53, 55, 56, 57, 58, 64, 69, 86, 87, 89, 90, 93, 95, 96, 114, 116 . . . . . [21]
UUCP-service: 6, 7, 38, 39, 43, 44, 47, 49, 52, 66, 97, 107, 109 . . . . . [13]
service-on-at-least-one-net: 2, 4, 5, 6, 8, 9, 11, 13, 14, 19, 22, 23, 24, 25, 28, 29, 30, 35, 36, 37, 38, 41, 42, 43, 46, 47, 48, 50, 51, 52, 54, 55, 56, 57, 58, 63, 65, 68, 69, 75, 78, 81, 82, 85, 86, 88, 89, 92, 93, 94, 95, 96, 97, 98, 99, 103, 104, 105, 106, 108, 110, 113, 115 [63]

Net=ARPA/Internet
?%madraf.decnet@vms.macc.wisc.edu: 113 [1]
Hope NSFnet next year: ?.?.edu: 105 . . [1]
cogan%mso.anu.oz@seismo.css.gov: 5 . . [1]
crawford%suphys.su.oz@seismo.css.gov: 4 [1]
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egreisen@nrao.arpa: 37 . . . . . [1]
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sca%iowa.iowa@hamlet.caltech.edu: 68 . . [1]
simon@nrl.arpa: 63 . . . . . [1]
vlj@pgd.hawaii.edu: 65 . . . . . [1]

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1150020@lavalvx1.bitnet: 14 . . . . . [1]
115321@pittvms.bitnet: 106 . . . . . [1]
?@madraf.bitnet: 113 . . . . . [1]
Earn connection 1986? ?@?.bitnet: 23 . . [1]
aipman%uk.ac.man.jb.star@ac.uk: 19 . . [1]
aips@finuhcb.bitnet: 22 . . . . . [1]
aips@uclastro.bitnet: 52 . . . . . [1]
aips@unmb.bitnet: 99 . . . . . [1]
balick@uwaphast.bitnet: 110 . . . . . [1]
bitmail@iboinfn.bitnet (first line "LPS >: 28, 30 [2]
bradford@buasta.bitnet: 81 . . . . . [1]
cars@cuthry.bitnet: 103 . . . . . [1]
demerson@nrao.bitnet: 41 . . . . . [1]
diego@friap51.bitnet: 25 . . . . . [1]
dking@nrao.bitnet: 42 . . . . . [1]
dls%uk.ac.man.jb.star@ac.uk: 19 . . . . [1]
egreisen@nrao.bitnet: 37 . . . . . [1]
galaxy@maine.bitnet: 93 . . . . . [1]
garagnon@frgag51.bitnet: 24 . . . . . [1]
gpilbrat@estec.bitnet: 36 . . . . . [1]
gustaaf@dgaeso51.bitnet: 115 . . . . . [1]
gz9cta61@icineca.bitnet: 29 . . . . . [1]

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shoshana@cfa2.bitnet: 75 . . . . . [1]
skwok@uncamult.bitnet: 8 . . . . . [1]
terlouw@hgrrug5.bitnet: 35 . . . . . [1]
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umast@umiphys.bitnet: 94 . . . . . [1]
usercdir@ualtamts.bitnet: 6 . . . . . [1]

Net=Miscellaneous

GSFCMAIL/MULMER: 69 . . . . . [1]
cogan%mso.anu.oz%csnet-relay at WISCVM: 5 [1]
eyoung/iras/jetpro/j.p.l.: 50 . . . . . [1]
mjk@rpepping.oz: 2 . . . . . [1]

Net=SPAN/HEPNET

28754::gustaaf: 115 . . . . . [1]
40062::carla: 30 . . . . . [1]
5127::5374::egreisen: 37 . . . . . [1]
5127::5374::khilldru: 38 . . . . . [1]
SPAN soon: ?::simon: 63 . . . . . [1]
bonnie::aips (5.708): 52 . . . . . [1]
champ::neff or uit::neff, maybe hrs::test: 89 [1]
csdr::xrrps: 85 . . . . . [1]
estcs1::sa1139: 36 . . . . . [1]
iowa::sca = 7232::sca (7.64): 68 . . . . [1]
jplrag::kuiper: 55 . . . . . [1]
lepvax::?: 88 . . . . . [1]
lepvax::zbraw: 86 . . . . . [1]
logos::dj: 54 . . . . . [1]
madraf::?: 113 . . . . . [1]
minn::testlr: 95 . . . . . [1]
phobos::lbb (checks once a week for mail): 47[1]
phobos::lgm: 57 . . . . . [1]
scivax::hanisch: 92 . . . . . [1]
umast::gaume (41.211): 94 . . . . . [1]
venus1::arie: 56 . . . . . [1]

Net=UUCP

...![ihnp4,seismo]!ut-sally!utastro!dbg: 108 [1]
...![seismo, nttlabs,hplabs]!munnari!mso.an: 5[1]
...!alberta!auvax!willis: 6 . . . . . [1]
...!allegra!pitt!upphys!upridge!frank: 106 . [1]
...!dartvax!thayer!timh: 96 . . . . . [1]
...!hdscvax!humn!uhccux!uhpgvax!vlj: 65 . [1]
...!ihnp4!noao!grandi: 51 . . . . . [1]
...!seismo!astol!peter: 46 . . . . . [1]
...!seismo!nrao1!dking: 42 . . . . . [1]
...!seismo!nrao1!egreisen: 37 . . . . . [1]
...!seismo!nrao1!khilldru: 38 . . . . . [1]
...!seismo!nrao1!pmurphy: 43 . . . . . [1]
....!noao!ctimv!mk: 48 . . . . . [1]

OS

AOS/VS 6.06: 48, 49 . . . . . [2]
COS (1.14 w/PDM-II): 40 . . . . . [1]
CTSS: 72 . . . . . [1]
CTSS (Unix): 60 . . . . . [1]
HP-UX (Sys V): 46 . . . . . [1]
IV/F4 MSP: 31 . . . . . [1]
IV/F4 VSP: 33 . . . . . [1]
Primos: 34 . . . . . [1]
SINTRAN III-K: 47 . . . . . [1]
Ultrix (soon to be Unix 4.3): 10 . . . . [1]
Unix 4.2: 12, 21, 38, 42, 50, 53, 61, 66, 71, 79, 80, 98, 114 . . . . . [13]
Unix 4.3: 102, 108 . . . . . [2]
Unix III: 39, 84 . . . . . [2]
Unix UTS: 64 . . . . . [1]
Unix V: 83, 107 . . . . . [2]
Unix V=ROS3.3: 74 . . . . . [1]
Unix V hybrid w/Unix 4.2: 106 . . . . . [1]
Unix xxx: 7, 78 . . . . . [2]
VMS 3.4: 26 . . . . . [1]
VMS 3.5: 1, 55 . . . . . [2]
VMS 4.0: 65 . . . . . [1]
VMS 4.1: 95 . . . . . [1]
VMS 4.2: 9, 15, 27, 28, 32, 44, 62, 75, 113 [9]
VMS 4.3: 4, 6, 16, 24, 70, 73, 82, 88, 101 [9]
VMS 4.4: 11, 17, 23, 25, 29, 37, 43, 45, 54, 63, 76, 77, 81, 89, 90, 91, 94, 97, 112 . . [19]
VMS 4.5: 5, 8, 14, 18, 19, 20, 22, 30, 36, 41, 51, 52, 56, 67, 68, 85, 86, 87, 96, 99, 105, 109, 110, 115 . . . . . [24]
VMS 4.5a: 111 . . . . . [1]
VMS x.y: 2, 3, 13, 35, 57, 58, 59, 69, 92, 93, 100, 103, 104 . . . . . [13]

PLOT

AMS 1200: 81 . . . [1]
Apple Laserwriter: 2, 5, 57, 71, 73, 95, 103 [7]
Apple Laserwriter+: 24, 29 . . . [2]
Benson 1113: 23 . . . [1]
Calcomp 4-pen: 26 . . . [1]
Calcomp xxx: 49 . . . [1]
Canon Laser-printer: 17, 18 . . . [2]
Citoh: 85 . . . [1]
Citoh+600: 56 . . . [1]
Complot: 113 . . . [1]
DEC LN01: 82 . . . [1]
DEC LN03: 52, 70, 82 . . . [3]
DEC line printer: 65, 66 . . . [2]
DS180: 48 . . . [1]
EPSON: 69 . . . [1]
Facom 6715E: 31, 33 . . . [2]
HP 72206: 22 . . . [1]
HP 7221C: 2 . . . [1]
HP 7475: 68 . . . [1]
HP 7550A: 24, 69 . . . [2]
HP 7580A: 46 . . . [1]
HP Laserjet: 39, 79, 80, 95 . . . [4]
HP Laserjet Plus: 68, 74 . . . [2]
HP TSS0A: 10 . . . [1]
IBM: 72 . . . [1]
Imagen 8/300: 75 . . . [1]
Imagen Innovator: 94 . . . [1]
Imagen x/yyy: 11, 12, 54, 98, 101 . . . [5]
LXY22: 86 . . . [1]
Printek 920: 107 . . . [1]
Printronix: 18 . . . [1]
Printronix 300: 29, 113 . . . [2]
Printronix 4160: 27 . . . [1]
Printronix MVP: 54 . . . [1]
Printronix P600: 1 . . . [1]
Printronix xxx: 14, 16, 24, 34, 49, 52, 57, 63, 82, 95, 96, 98, 103, 108 . . . [14]
Q-600: 95 . . . [1]
QMS 1200: 92, 96 . . . [2]
QMS 2400: 91, 92 . . . [2]
QMS 800: 8, 9, 37, 38, 41, 42, 43, 44, 45, 47, 62, 75, 76, 77, 90, 92, 99, 104, 115 . [19]
QMS KISS: 86 . . . [1]
Talaris 1200: 110 . . . [1]
Talaris 800: 49, 63, 85 . . . [3]
Tektronix 4014 emulator: 73 . . . [1]
Tektronix 4107: 32 . . . [1]
Tektronix 4695: 32 . . . [1]
Tektronix xxxx: 55 . . . [1]
Versatec: 87 . . . [1]
Versatec 1200: 105 . . . [1]
Versatec V80: 35, 88 . . . [2]
Versatec xxxx: 9, 11, 17, 19, 20, 25, 28, 30, 37, 51, 57, 58, 65, 66, 82, 89, 98, 99, 101, 110, 115 . . . [21]
Zeta 3653SX: 13 . . . [1]
Zeta 887: 15 . . . [1]
Zeta xxxx: 2, 3, 19, 108 . . . [4]
pen plotter: 82 . . . [1]

PROGS

0: 8, 9, 16, 17, 22, 26, 27, 28, 29, 36, 41, 51, 55, 59, 64, 70, 81, 86, 87, 93, 96, 105, 106, 110, 112, 113 . . . [26]
0.2: 24 . . . [1]
0.25: 52 . . . [1]
0.5: 15, 102 . . . [2]
1: 4, 5, 6, 10, 14, 23, 25, 47, 48, 54, 62, 65, 69, 74, 82, 84, 88, 92, 94, 97, 98, 103, 107, 114, 115 . . . [25]
1.0: 19 . . . [1]
1.5: 11 . . . [1]
2: 1, 13, 13, 31, 58, 67, 68, 73, 75, 99, 108[11]
3: 2, 30, 34, 56, 78, 85, 89, 95 . . . [8]
4: 37, 38 . . . [2]
5: 57, 63 . . . [2]
6: 42, 43 . . . [2]

SITE

ARCFOS: 86 . . . [1]
Arcetri Obs.: 28 . . . [1]
Athabasca U.: 6, 7 . . . [2]
Beijing Obs.: 15 . . . [1]
Bologna: 30 . . . [1]
Bombay: 26 . . . [1]
Boston U.: 81 . . . [1]
Brandeis U.: 82, 83 . . . [2]
CIT Astronomy: 57 . . . [1]
CIT Plan. Sci.: 56 . . . [1]
CRICYT Mendoza: 1 . . . [1]
CSIRO Epping: 2 . . . [1]
CSIRO Parkes: 3 . . . [1]

Columbia Astrophys. Lab.: 103 . . . . . [1]
DRAO Penticton: 9 . . . . . [1]
Dartmouth College: 96 . . . . . [1]
E.S.O.: 115 . . . . . [1]
ESA/ESTEC-SA: 36 . . . . . [1]
Haystack Obs.: 74 . . . . . [1]
Inst. Ap. Paris: 25 . . . . . [1]
Iowa St. U.: 67 . . . . . [1]
Jack Carmody: 97 . . . . . [1]
Jeff Bowser: 84 . . . . . [1]
Jodrell Bank: 19, 21 . . . . . [2]
LANL: 100 . . . . . [1]
Lund Obs.: 46 . . . . . [1]
MIT Physics: 78, 79, 80 . . . . . [3]
MPIfR Bonn: 114 . . . . . [1]
Mt. Stromlo Obs.: 5 . . . . . [1]
NASA-GSFC Ast/Solar: 89, 90, 91 . . . [3]
NASA-GSFC IAF: 87 . . . . . [1]
NASA-GSFC LEPVAX: 88 . . . . . [1]
NASA-JPL RAGVAX: 55 . . . . . [1]
NASA-JPL XENOS: 54 . . . . . [1]
NOAO Tucson: 51 . . . . . [1]
NRAO CEX: 38 . . . . . [1]
NRAO CHOLLA: 42 . . . . . [1]
NRAO CVAX: 37 . . . . . [1]
NRAO GB MassComp: 39 . . . . . [1]
NRAO OUTBAX: 45 . . . . . [1]
NRAO TUCVAX: 41 . . . . . [1]
NRAO VAX1: 43 . . . . . [1]
NRAO VAX3: 44 . . . . . [1]
Naval Res. Lab.: 63 . . . . . [1]
Nobeyama Obs.: 31, 32, 33 . . . . . [3]
Northwestern U.: 69 . . . . . [1]
Onsala Space Obs.: 47 . . . . . [1]
Ooty Obs.: 27 . . . . . [1]
Penn State U.: 107 . . . . . [1]
Pitt Supercomp Ctr.: 40 . . . . . [1]
Princeton U. Obs.: 98 . . . . . [1]
R. Greenwich O.: 17, 18 . . . . . [2]
R. O. Edinburgh: 20 . . . . . [1]
S. T. Sci. Inst.: 92 . . . . . [1]
SAO Cambridge: 75, 76, 77 . . . . . [3]
ST Systems Corp.: 85 . . . . . [1]
SUNY: 104 . . . . . [1]
Sandia Labs: 101 . . . . . [1]
Shanghai Obs.: 16 . . . . . [1]
Steward Obs.: 48, 49, 50 . . . . . [3]
U.S. Naval Obs.: 64 . . . . . [1]
U. Bordeaux: 23 . . . . . [1]
U. Calgary: 8 . . . . . [1]
U. Catania: 29 . . . . . [1]
U. Colorado: 62 . . . . . [1]
U. Grenoble: 24 . . . . . [1]
U. Groningen: 35 . . . . . [1]
U. Hawaii: 65, 66 . . . . . [2]
U. Helsinki: 22 . . . . . [1]
U. Illinois: 70, 71, 72 . . . . . [3]
U. Iowa: 68 . . . . . [1]
U. Laval: 14 . . . . . [1]
U. Maine: 93 . . . . . [1]
U. Mass.: 73 . . . . . [1]
U. Michigan: 94 . . . . . [1]
U. Minnesota: 95 . . . . . [1]
U. Nev. Las Vegas: 102 . . . . . [1]
U. New Mexico: 99 . . . . . [1]
U. Oklahoma: 105 . . . . . [1]
U. Pittsburgh: 106 . . . . . [1]
U. Sydney: 4 . . . . . [1]
U. Texas: 108, 109 . . . . . [2]
U. Toronto: 11, 12 . . . . . [2]
U. Washington: 110, 111 . . . . . [2]
U. Waterloo: 13 . . . . . [1]
U. Wisconsin: 113 . . . . . [1]
UBC Physics: 10 . . . . . [1]
UCLA: 52, 53 . . . . . [2]
UC Berkeley: 58 . . . . . [1]
UC Davis: 59, 60, 61 . . . . . [3]
Univ. Nac. Mexico: 34 . . . . . [1]
Washington St. U.: 112 . . . . . [1]

TAPE

800: 1, 2, 3, 4, 5, 8, 11, 15, 16, 17, 19, 20, 21, 26, 28, 29, 30, 34, 37, 38, 39, 40, 42, 44, 49, 50, 51, 54, 55, 56, 62, 63, 64, 68, 70, 88, 89, 90, 92, 95, 96, 101, 103, 105, 107, 108, 109, 110, 113 . . . . . [49]

1600: 1, 2, 3, 4, 5, 6, 8, 9, 10, 11, 12, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 26, 27, 28, 29, 30, 31, 32, 34, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 54, 55, 56, 57, 58, 60, 61, 62, 63, 64, 65, 66, 68, 69, 70, 71, 72, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 85, 86, 87, 88, 89, 90, 92, 93, 94, 95, 96, 98, 99, 101, 102, 103, 105, 106, 107, 108, 109, 110, 112, 113, 114, 115 . . . [100]
3200: 46 . . . . . [1]
6250: 2, 4, 5, 6, 8, 9, 11, 13, 18, 19, 21, 25, 29, 31, 35, 36, 37, 38, 40, 42, 43, 44, 45, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 59, 61, 63, 64, 65, 67, 68, 69, 70, 71, 72, 73, 75, 76, 77, 82, 86, 87, 88, 89, 90, 92, 94, 95, 96, 96, 97, 98, 99, 110, 115 . . . . . [65]
Cartridge (1/4"): 84 . . . . . [1]

TASKS

0: 1, 4, 6, 8, 9, 10, 13, 13, 17, 22, 25, 26, 27, 28, 29, 31, 34, 36, 38, 41, 51, 52, 55, 59, 64, 65, 73, 75, 81, 86, 87, 92, 93, 96, 103, 105, 106, 110, 112, 113, 114, 115 . . . . [42]
1: 30, 54, 58, 69, 82, 98, 102 . . . . . [7]
2: 48, 88, 97 . . . . . [3]
3: 15, 24, 74, 107 . . . . . [4]
4: 5, 23, 68, 89 . . . . . [4]
4.5: 99 . . . . . [1]
5: 11, 14, 42, 43, 63, 70, 84 . . . . . [7]
6: 19, 67, 108 . . . . . [3]
7: 62 . . . . . [1]
10: 47, 56, 78, 85, 94 . . . . . [5]
20: 57, 95 . . . . . [2]
56: 2 . . . . . [1]
190: 37 . . . . . [1]

TV

AED 512: 4, 58, 102 . . . . . [3]
AED 767: 52 . . . . . [1]
Apollo DN560: 21 . . . . . [1]
Apollo DN660: 78, 79, 80 . . . . . [3]
Aurora Independent Graphi: 84 . . . . . [1]
Aydin: 30 . . . . . [1]
Comtal 1/20: 101 . . . . . [1]
DEC VT125: 16 . . . . . [1]
Gould-DeAnza 85: 2, 75, 89, 90, 115 . . [5]
Gould-DeAnza 95: 91 . . . . . [1]
Gould-DeAnza FD5000: 73 . . . . . [1]
Gould-DeAnza IP8400: 81 . . . . . [1]
Gould-DeAnza IP8500: 92 . . . . . [1]
Gould-DeAnza xxxx: 36 . . . . . [1]
Graphica I5048: 31, 32 . . . . . [2]
Graphics Strategies VGM1024: 107 . . . [1]
Graphics terminals: 10 . . . . . [1]
Grinnell GMR: 57 . . . . . [1]
Grinnell GMR270: 95, 113 . . . . . [2]
Grinnell xxxx: 34, 62 . . . . . [2]
IIS 70: 11, 37, 40, 42, 43, 45, 51, 59, 63, 75[10]
IIS 70E: 35, 112 . . . . . [2]
IIS 75: 9, 27, 47, 48, 68, 87, 99, 103, 110 [9]
IIS IVAS: 8, 38, 61, 65, 66, 70, 85, 86 . . [8]
Image Analytics Corp. QD512: 109 . . . [1]
Jupiter 7: 108 . . . . . [1]
Jupiter J12: 50 . . . . . [1]
Lexidata: 74 . . . . . [1]
Lexidata 3400: 46, 96 . . . . . [2]
RCI TRAPIX 5500: 94 . . . . . [1]
*Ramtek 9460**: 29 . . . . . [1]
Ramtek xxxx: 5 . . . . . [1]
Seiko D-SCAN GR-1104: 82 . . . . . [1]
Sigma ARGS: 5, 15, 17, 19, 20, 24, 25 . . [7]
Sigma ARGS 7000: 23 . . . . . [1]
Sun 3 Color Monitor: 98 . . . . . [1]
Sun Colour Graphics (eventually): 12 . . [1]
TER 4010: 102 . . . . . [1]
VCH-Q: 56 . . . . . [1]
Vicom: 49 . . . . . [1]

USERS

0: 39, 40, 64 . . . . . [3]
1: 6, 22, 36, 51, 59, 93, 97, 106, 112 . . [9]
2: 23, 65, 86, 96, 102, 105 . . . . . [6]
2.5: 17, 69 . . . . . [2]
3: 56, 62, 73, 82, 84, 104, 113, 115 . . . [8]
3.5: 54 . . . . . [1]
4: 14, 15, 26, 28, 41, 52, 87, 98, 107 . . [9]
4.5: 10 . . . . . [1]
5: 1, 5, 9, 16, 29, 37, 55, 74, 94, 99 . . [10]
6: 8, 24, 25, 48, 81 . . . . . [5]
7: 47 . . . . . [1]
8: 78 . . . . . [1]
10: 4, 11, 31, 34, 57, 58, 68, 85, 88, 103 [10]
12: 67, 70, 75, 92 . . . . . [4]
14: 110 . . . . . [1]
15: 2, 30, 63, 95, 108 . . . . . [5]

20: 27, 89 . . . . . [2]
25: 19 . . . . . [1]
27: 45 . . . . . [1]
28: 114 . . . . . [1]
59: 38 . . . . . [1]
91: 44 . . . . . [1]
98: 43 . . . . . [1]
339: 42 . . . . . [1]

VLA

0: 1, 4, 32, 36, 39, 50, 51, 55, 64, 78, 85, 87, 88, 97, 102 . . . . . [15]
1: 31, 33 . . . . . [2]
4: 59 . . . . . [1]
10: 37, 86, 89 . . . . . [3]
15: 57 . . . . . [1]
20: 2, 54, 67 . . . . . [3]
25: 27 . . . . . [1]
30: 103, 110, 111 . . . . . [3]
35: 15 . . . . . [1]
40: 21, 63, 90 . . . . . [3]
43: 19 . . . . . [1]
50: 23, 47, 49, 81, 91, 96, 101, 104, 108, 109 [10]
60: 25 . . . . . [1]
70: 29, 30, 56, 92 . . . . . [4]
75: 14, 61 . . . . . [2]
80: 70, 71, 72, 74, 75, 76, 77, 95, 99 . . [9]
85: 9, 38, 52 . . . . . [3]
90: 8, 17, 18, 68, 94, 113 . . . . . [6]
95: 5, 24, 43, 44, 45, 62, 107 . . . . . [7]
98: 11 . . . . . [1]
99: 42, 79, 80 . . . . . [3]
100: 6, 20, 26, 28, 40, 41, 48, 58, 73, 82, 93, 98, 105, 115 . . . . . [14]