

Program

Program Title
Baseline Pointing
Calibration Test

S Observer

VIA UTILIZATION REPORT DECEMBER 1980
Institution

Bands Scheduled

Program	Program Title	S	Observer	Institution	Bands	Scheduled
AA-8	Mass-loss rates from OB stars.	V	D. C. Abbott	Washburn Obs. U of WI	6	155
		V	E. B. Churchwell	Washburn Obs. U of WI		24
		V	J. H. Bieging	U of CA, Berkeley		
AB-97	Double quasar 0957+561.	V	B. F. Burke	MIT	6 and 18 cm.	12
		V	D. H. Roberts	MIT		
		V	P. E. Greenfield	MIT		
AB-100	Spectrum and polarization of jet in NGC 315.	V	A. H. Bridle	UM/NRAO-VIA	20 cm.	12
		R	E. B. Fomalont	NRAO/CV		
		V	J. J. Palimaka	Queen's U, Toronto CANADA		
		V	R. N. Hendriksen	Stanford U		
AB-103/104	Small sources in Sgr A.	V	D. C. Backer	U of CA, Berkeley	2, 6 and 20 cm.	9
AG-54	M-dwarf flare stars.	V	D. M. Gibson	NMIMT	6 and 20 cm.	36
		V	P. I. Fisher	NMIMT		
AH-13	Nova Vulpeculae 1976.	P	R. M. Hjellming	NRAO/VIA	2, 6 and 21 cm.	3
		V	N. R. Vandenberg	GSFC		
AH-41	Positions of OH Masers near compact HII regions.	V	P. T. P. Ho	U of CA, Berkeley	18 cm line.	12
		V	M. C. M. Wright	U of CA, Berkeley		
		V	A. D. Haschick	CFA		
AJ-60	SS433.	V	K. J. Johnston	NRL	1.3, 2, 6 and 21 cm.	12
		P	R. M. Hjellming	NRAO/VIA		
AK-41	Solar active regions and flares.	V	M. R. Kundu	U of MD	1.3, 2, 6 and 20 cm.	36
		V	T. Velusamy	U of MD		
		S	E. J. Schmahl	U of MD		
		S	M. Bobrowsky	U of MD		
AN-8	High mass loss stars.	R	R. T. Newell	NRAO/VIA	1.3 and 2 cm.	11
		P	R. M. Hjellming	NRAO/VIA		
AP-33	Polarization of jet galaxy NGC 6251.	R	R. A. Perley	NRAO/VIA	18 and 21 cm.	12
		V	A. G. Willis	Westerbork, NETHERLANDS		
AS-63	Supernova in M100.	R	R. A. Stramek	NRAO/VIA	1.3, 2, 6 and 21 cm.	12
		V	K. W. Weiler	NSF		
		V	J. M. van der Hulst	U of MN		
AV-40	21-cm absorption in radio galaxy NGC 5128.	V	J. M. van der Hulst	U of MN	21 cm line.	6
		V	A. D. Haschick	CFA		
		V	W. F. Golisch	U of MN		
AW-34	Compact source near supernova remnant G 74.9+1.2	V	A. S. Wilson	U of MD	6 and 21 cm.	2
AW-39	Structure and spectra of active E/SO galaxies.	V	J. M. Wrobel	U of Toronto, CANADA	1.3, 2, 6 and 20 cm.	
		P	D. S. Heeschen	NRAO/CV		

VM-13	Prober motion of H ₂ O Maser sources.	V	J. M. Moran	CFA	1.3 VLB.	74
		V	D. Downes	MPI, W. GERMANY		
		V	R. Genzel	MPI, W. GERMANY		
		V	A. D. Haschick	MIT		
		V	M. Reid	CFA		
		V	B. Rönnäng	Chalmers, SWEDEN		
		V	M. Scheps	CFA		

The average downtime for the month of December, 1980 was approximately 5.6 percent.

Average downtime of operational antennas lost due to hardware and software failures during scheduled observing = $\frac{\text{Total number of antenna-hours of operational antennas scheduled}}{\text{Total number of antenna-hours of operational antennas scheduled}}$ x 100

where "antenna-hours" definition is: An array consisting of N antennas operating for Y hours is defined to have YN antenna-hours operation.

The array was scheduled for 60.2 percent (448 hours) of the time: 39.4 percent (293 hours) to astronomical programs and the remaining 20.8 percent (155 hours) went to tests.

Progr.

Program Title
Baseline Pointing
Calibration Test

S VIA UTILIZATI
Observer

REPORT NOVEMBER 1980
Institution

Bands
A11
Scheduled
101

AB-89	Search for variations in the double quasar 0957+561.	V	B. F. Burke	MIT	6	2
		S	D. H. Roberts	MIT		
		S	P. E. Greenfield	MIT		
AB-102/ AS-68	OH and H ₂ O Masar emissions associated with late-type stars.	V	P. F. Bowers	NRL	1.3 and 18 cm line.	24
		V	K. J. Johnston	NRL		
		V	J. H. Spencer	NRL		
AC-24	Active nuclei of spiral galaxies.	R	J. J. Condon	NRAO/CV	6 cm.	24
		R	M. A. Condon			
		R	G. Gislser	NRAO/CV		
		R	J. J. Puschell	NRAO/CV		
AF-25	OH Masers in NGC 7538 IRS1.	V	J. R. Forster	NRA, Dwingeloo, NETH	18 cm line.	6
		V	H. R. Dickel	U of IL		
		P	A. H. Rots	NRAO/VLA		
		V	W. M. Goss	Groningen U, NETH		
AG-47	0837-12, a QSO in a distant cluster.	V	F. D. Ghigo	U of MN	6 and 20 cm.	12
		V	L. Rudnick	U of MN		
		V	K. J. Johnston	NRL		
		V	S. Wyckoff	ASU		
AH-43	Mapping 4C QSO's; search for distorted objects.	V	P. Hintzen	NASA/GSFC	20 cm.	24
		V	J. Scott	U of AZ		
		P	F. N. Owen	NRAO/VLA		
AJ-54	Cluster radio sources at 3-5 Gyr look-back times.	V	H. Butcher	KPNO	20 cm.	12
		P	W. Jaffe	NRAO/CV		
		V	W. van Breugel	KPNO		
AK-42	Solar magnetic field measurements from simultaneous radio and X-ray observations.	V	M. R. Kundu	U of MD	1.3, 2, 6, and 20 cm.	12
		V	E. J. Schmahl	U of MD		
		V	T. Velusamy	U of MD		
AL-18	Attempt to detect radio emission from X-ray sources.	V	R. C. Lamb	Iowa SU	6 cm.	4
		P	J. P. Basart	NRAO/VLA		
AL-20	Weak radio galaxies with jets: 3C272.1 and 3C296.	R	R. A. Laing	NRAO/CV	6 and 20 cm.	12
AL-21	3C20, a luminous source with multiple hot-spots.	R	R. A. Laing	NRAO/CV	2 and 20 cm.	12
AO-16	Multifrequency observations of NGC 1265.	P	F. N. Owen	NRAO/VLA	20 cm.	12
		V	J. O. Burns	U of NM		
AR-36	Southern lobe of 3C33.	V	L. Rudnick	U of MN	20 cm.	12
		V	W. Saslaw	U of VA/NRAO		
		V	P. Crane	ESO, SWITZERLAND		
		V	J. A. Tyson	U of MN		
AR-39	Infrared object AFGL 2636.	V	G. S. Rossano	USN, Orlando, FL	6 and 20 cm.	12
		V	R. W. Russell	Cornell U		

Progr. Program Title
 Baseline Pointing
 Calibration Test

VIA UTILIZATION REPORT OCTOBER 1980
 Observer Institution

Bands Scheduled
 All 83.25

Progr.	Program Title	S	Observer	Institution	Bands	Scheduled
AB-89	Search for variations in the double quasar 0957+561.	V	B. F. Burke	MIT	6	1
		S	D. H. Roberts	MIT		
		S	P. E. Greenfield	MIT		
AB-90	Ammonia in the Orion Molecular Cloud.	V	J. H. Bieging	U of CA, Berkeley	1.3 cm line	11
		V	R. N. Martin	MPI, FRG		
		V	T. A. Pauls	MPI, FRG		
		V	T. L. Wilson	MPI, FRG		
AF-23	Einstein Serendipitous X-ray sources.	V	E. Feigelson	Cntr for Astphys	6	24.25
		V	R. Giacconi	Cntr for Astphys		
		V	T. Maccacaro	Cntr for Astphys		
		V	G. Zamorani	Cntr for Astphys		
AJ-53	Measurement of the positions of the GPS satellites.	V	K. J. Johnston	NRL	18	with AH-57
		V	W. B. Waltman	NRL		82.50
		P	A. R. Thompson	NRAO/VLA		
AJ-57	Accurate position measurements of calibrators.	V	K. J. Johnston	NRL	6	see above
		P	E. B. Fomalont	NRAO/CV		AJ-53
		R	R. A. Perley	NRAO/VLA		
		R	R. A. Sramek	NRAO/VLA		
		P	C. M. Wade	NRAO/VLA		
AK-23	Solar observations during SMM.	V	M. R. Kundu	U of MD	1.3, 2, 6	12
		S	T. Velusamy	U of MD	and 20.	
		S	F. T. Erskine	U of MD		
AL-16	Late type stars with large magnetic fields.	V	J. L. Linsky	U of CO	1.3, 2 and 6	24
		V	D. E. Gary	U of CO		
AN-7	Early type supergiants with circumstellar plasma.	V	R. T. Newell	NMIMT	6	9
		R	R. M. Hjellming	NRAO/VLA		
		V	A. B. Underhill	NASA/GSFC		
AP-29	Search for background fluctuations.	V	E. B. Partridge	Haverford Coll.	6	19.5
		V	B. E. Corey	MIT		
		V	M. I. Ratner	MIT		
		V	I. I. Shapiro	MIT		
AR-41	Spectra and polarization of compact components of extended sources.	V	L. Rudnick	U of MN	1.3, 2, 6	33.50
		V	T. W. Jones	U of MN	and 21.	
		V	R. L. Fiedler	U of MN		
		V	W. Golisch	U of MN		
AR-42	Spectra and polarization of strong flat spectrum sources.	V	L. Rudnick	U of MN	2, 6, 18	49
		V	T. W. Jones	U of MN	and 20.	
		V	R. L. Fiedler	U of MN		
		V	W. Golisch	U of MN		
AS-59	Centaurus A.	V	E. J. Schreier	Cntr for Astphys	2, 6 and 20.	10
		V	E. D. Feigelson	Cntr for Astphys		
		V	J. O. Burns	U of MN		

The average downtime for the month of October, 1980 was approximately 10.2 percent.

Average downtime of operational antennas = $\frac{\text{Total number of antenna-hours of operational antennas lost due to hardware and software failures during scheduled observing}}{\text{Total number of antenna-hours of operational antennas scheduled}}$ x 100

where "antenna-hours" definition is: An array consisting of N antennas operating for Y hours is defined to have YN antenna-hours operation.

The array was scheduled for 37 percent (276.5 hours) of the time: 26 percent (193.25 hours) to astronomical programs and the remaining 11 percent (83.25 hours) went to tests.

NOTE: Programs AJ-53, AJ-57, AR-41 and AR-42 all shared a total of 82.5 hours of observing time.

ap/801104
U

Progr

Program Title

S

Observer

Institution

Bands

Scheduled

VIA UTILIZATION REPORT SEPTEMBER 1980

Baseline pointing calibration test.

All 111

AB-89 Search for variations in the double quasar 0957+561 V B. F. Burke MIT 6 1

AB-92 Distant, rich, centrally condensed clusters of galaxies: 3C295, et.al. V D. H. Roberts MIT 6 24

AG-48 SNR with point central X-ray source. V P. C. Gregory U of BC, CANADA 1.3, 2, 6, 20 12

AG-49 HI in barred spirals. V S. T. Gottesman U of FL 21cm line. 11

AH-36 Clumpy irregular galaxies. V D. S. Heeschon NRAO-CV 2, 6 24
 Meudon, FRANCE
 V J. M. Huntley IBM
 V J. Heidmann NRAO-CV

AJ-51 A distant, strong X-ray CD galaxy. R W. Jaffe NRAO-CV 2, 6, 20
 V R. E. White U of VA
 V C. L. Sarazin U of VA
 V H. Quintana DRAO, CANADA

AJ-52 Survey of high-redshift clusters of galaxies. R W. Jaffe NRAO-CV 20
 AJ-23 Solar observations during SMM. V M. R. Kundu U of MD 1.3, 2, 12
 V T. Velusamy U of MD 6, 20
 V F. T. Erskine U of MD

AK-37 Structure of 3C218. V P. P. Kronberg U of Toronto, CANADA 1.3, 2 11
 R J. W. Dreher NRAO-VIA

AK-38 Structure of 3C445. V D. Graham MPI, FRG 6, 20 13
 V R. Wielebinski MPI, FRG
 V P. P. Kronberg U of Toronto, CANADA
 V R. M. Price U of NM

AI-15 Solar active regions. V K. R. Lang Tufts U 2, 21 24
 V R. F. Willson Tufts U
 V M. Felli Arcetri, ITALY

AO-16 Synthesis of NGC 1265. R F. N. Owen NRAO-CV 2 12
 R J. O. Burns NRAO-VIA

AP-29 Search for background variations of small angular scale. V E. B. Partridge Haverford Coll. 6 4.5
 V B. E. Corey MIT
 V M. I. Ratner MIT
 V I. I. Shapiro MIT

AR-37 Superthin galaxy NGC 784. P A. H. Rots NRAO-VIA 21 cm line 14
 V J. W. Goad KPNO

VLA UTILIZATION REPORT SEPTEMBER 1980 (Cont.)

<u>Program</u>	<u>Program Title</u>	<u>S</u>	<u>Observer</u>	<u>Institution</u>	<u>Bands</u>	<u>Scheduled</u>
AS-61	Compact infrared sources.	V	M. Simon	SUNY, Stony Brook	2, 6	24.5
		V	J. Fischer	SUNY, Stony Brook		
		V	G. Righini-Cohen	SUNY, Stony Brook		
		V	M. Felli	Arceetri, ITALY		
AF-11	Clumps in ammonia clouds.	V	C. H. Townes	U of CA, Berkeley	1.3 cm line	12
		V	A. C. Cheung	U of CA, Davis		
		V	D. N. Matsakis	USN Obs		
		V	P. Palmer	U of Chicago		
VR-12	Relative proper mutation of quasars - 1038+528 and others.	V	M. J. Reid	CFA	6 VLB	50
		R	F. N. Owen	NRAO-VLA		
		V	D. B. Shafer	NASA/GSFC		
		V	A. Witzel	MPI, FRG		

The average downtime for the month of September, 1980 was approximately 6.5 percent.

Average downtime of operational antennas lost due to hardware and software failures during scheduled observing = $\frac{\text{Total number of antenna-hours of operational antennas scheduled}}{\text{Total number of operational antennas scheduled}}$ $\times 100$

where "antenna-hours definition is: An array consisting of N antennas operating for Y hours is defined to have YN antenna-hours operation.

The array was scheduled for 53.6 percent (386 hours) of the time: 38.2 percent (275 hours) to astronomical programs and the remaining 15.4 percent (111 hours) went to tests.

/ap 10/8/80
U

Program Title
Baseline pointing
calibration test.

S VIA UTILIZATI
Observer

REPORT AUGUST 1980

Institution

Bands

Scheduled

Progr.	Program Title	S	VIA UTILIZATI	Observer	Institution	Bands	Scheduled
AB-89	Search for variations in the double quasar 0957+561	V		B. F. Burke	MIT	6	1
		V		D. H. Roberts	MIT		
		V		P. E. Greenfield	MIT		
AC-22	Survey of two 3° by 3° fields.	R		J. J. Condon	NRAO-CV	20	24
		V		M. A. Condon			
				C. Hazard	Cambridge, ENGLAND		
AD-23	3C390.3	R		J. W. Dreher	NRAO-VLA	2	14.5
AG-42	Compact HII regions in Cepheus IV.	V		E. J. Grayzek	Univ Nev, LV	6, 21	13.5
		V		P. E. Angerhofer	U of MD		
		V		G. S. Rossano	USN, Orlando, FL		
AH-37	Search for radio emission from X-ray burster.	R		R. M. Hjellming	NRAO-VLA	2, 6, 20	17
		S		S. Ewald	NRAO-VLA/NMIMT		
AH-38	Structure of SCO X-1.	R		R. M. Hjellming	NRAO-VLA	6, 20	9
		R		C. M. Wade	NRAO-VLA		
AH-39	Radio/X-ray sources in the Grus quartet.	R		R. M. Hjellming	NRAO-VLA	2, 6, 20	11
		S		S. Ewald	NRAO-VLA/NMIMT		
		V		G. R. Ricker	MIT		
		V		T. Maccacaro	SAO		
AK-36	Radio emission from solar type stars.	V		M. R. Kundu	U of MD	6, 21	15
		R		P. F. Bowers	NRAO-CV		
AM-23	Survey of 14 square degrees at the north galactic pole.	V		K. J. Mitchell	Penn State U	20	24
		V		P. D. Usher	Penn State U		
		R		J. J. Condon	NRAO-CV		
				M. A. Condon			
AP-31/ AJ-49	Formaldehyde in Orion.	V		P. Palmer	U of Chicago	6 cm line	10
		V		K. J. Johnston	NRL		
		V		T. L. Wilson	MPI, FRG		
		V		J. R. Forster	NRA, Dwingeloo, NETHERLANDS		
		V		J. H. Bieging	U of CAL, Berkeley		
		V		W. M. Goss	Groningen U, NETHERLANDS		
AP-32	Optically thin NH ₂ CHO masers in Sagittarius.	V		P. Palmer	U of Chicago	20	8
AS-56	Bright SC galaxies.	P		R. P. Sinha	NRAO-VLA	20 cm line.	13
		V		V. C. Rubin	DTM		
		V		N. Thonnard	DTM		
		P		A. H. Rots	NRAO-VLA		
AS-63	Supernova in M100.	R		R. A. Sramek	NRAO-VLA	1.3, 2, 6,	12
		V		K. W. Weiler	NSF	20	
		V		J. M. van der Hulst	U of MN		

AW-33	Quasars with beams.	V	J. F. C. Wardle	Brandeis U	2	24
		V	R. I. Potash	Brandeis U		
AZ-8	Fine scale solar structure: measurement during eclipse of August 10.	V	H. Zirin	Caltech	1.3, 2, 6	24
		V	K. A. Marsh	Caltech		
		V	G. J. Hurford	Caltech		

The average downtime for the month of August, 1980 was approximately 9.8 percent.

Average downtime of operational antennas lost due to hardware and software failures during scheduled observing = $\frac{\text{Total number of antenna-hours of operational antennas scheduled}}{\text{Total number of antenna-hours of operational antennas scheduled}}$ X 100

where "antenna-hours definition is: An array consisting of N antennas operating for Y hours is defined to have YN antenna-hours operation.

The array was scheduled for 45 percent (335 hours) of the time: 30 percent (220 hours) to astronomical programs and the remaining 15 percent (115 hours) went to tests.

/ap 9/4/80
U

Progr

Program Title

S Observer

Institution

Bands

Scheduled

VLA UTILIZATION REPORT JULY 1980

Baseline pointing calibration test.

ALL 103.0

AA-7	Mass loss from Wolf-Rayet stars.	V	D. C. Abbott	U of WI	6	24
		V	E. B. Churchwell	U of WI		
		V	J. H. Bieging	U of CA, Berkeley		
AB-82	Positions of HO/IR sources.	V	B. Baud	U of CA, Berkeley	18	12
		V	A. I. Sargent	Caltech		
		S	J. Turner	U of CA, Berkeley		
AB-89	Search for variations in 0957+561.	V	B. F. Burke	MIT	6	1
		V	D. H. Roberts	MIT		
		V	P. E. Greenfield	MIT		
AB-93	Double QSO 0957+561.	V	B. F. Burke	MIT	2	12
		V	D. H. Roberts	MIT		
		V	P. E. Greenfield	MIT		
AD-21	Solar observations.	V	G. A. Dulik	U of CO	6, 17, 22	24
AR-34	Polarization of variable sources.	V	L. Rudnick	U of MN	1, 3, 2, 6, 20	18
		S	T. W. Jones	U of MN		
AR-36	Southern lobe of 3C33.	V	L. Rudnick	U of MN	2	12
		V	W. C. Saslaw	U of VA		
		V	P. Crane	ESO		
		V	J. A. Tyson	Bell Labs		
		S	M. Ondrechen	U of MN		
AS-62	One-sided extragalactic sources.	V	G. Swarup	U of MD	6, 20	23.75
		V	V. K. Kapahi	Tata Inst.		
		P	R. P. Sinha	NRAO/VLA		
AW-32	Low-brightness features in Seyfert galaxies.	V	A. S. Wilson	U of MD	6, 20	24.5
		S	J. S. Ulvestad	U of MD		
		R	R. A. Sramek	NRAO/VLA		
AM-19	Polar heating on Venus.	V	D. O. Muhleman	Caltech	6, 18	12
		V	G. L. Berge	Caltech		
		V	S. Deguchi	Caltech		

The average downtime for the month of July, 1980 was approximately 7.6 percent.

Average downtime of operational antennas = $\frac{\text{Total number of antenna-hours of operational antennas lost due to hardware and software failures during scheduled observing}}{\text{Total number of antenna-hours of operational antennas scheduled}}$ x 100

where "antenna-hours definition is: An array consisting of N antennas operating for Y hours is defined to have NY antenna-hours operation.

The array was scheduled for 36 percent (265.5 hours) of the time: 22 percent (163.25 hours) to astronomical programs and the remaining 14 percent (102.25 hours) went to tests.

Progr.	Program Title	S	VIA UTILIZATION	OBSERVER	REPORT	JUNE 1980	Institution	Bands	Scheduled
	Baseline pointing calibration test.							All	102.25
AA-6	Double lobe structure in BL Lac objects and new OVV QSS.	V		J. R. Angel			U of AZ	21	24
		V		R. L. Moore			U of AZ		
		V		H. S. Stockman			U of AZ		
		V		J. F. C. Wardle			Brandeis U		
AB-88	Double quasar 0957+561.	V		B. F. Burke			MIT	2, 6, 20	12
		V		D. H. Roberts			MIT		
		V		P. E. Greenfield			MIT		
AD-20	Limb-brightened "hot spots" in 3C390.3.	P		J. W. Dreher			NRAO (VLA)	6, 20	12
AH-29	Moving jets in SS433.	P		R. M. Hjellming			NRAO (VLA)	2, 6, 21	12.5
		V		K. J. Johnston			NRL		
		V		G. K. Wilely			NRA, Leiden, Netherlands		
AH-34	Steep-spectrum sources with X-ray emission.	V		D. E. Harris			DRAO, Canada	6, 21	12
		V		C. M. Costain			DRAO, Canada		
		V		P. E. Dewdney			DRAO, Canada		
		R		R. A. Perley			NRAO (VLA)		
AJ-42	Recombination lines in W49N.	P		A. H. Rots			NRAO (VLA)	2, 6-cm line	13.75
		V		W. M. Goss			Groningen U, Netherlands		
		V		J. van Gorkom			Groningen U, Netherlands		
		V		K. J. Johnston			NRL		
AJ-45	Structure and polarization of BL Lac objects.	V		K. W. Weiler			NSF	6, 21	24
		V		K. J. Johnston			NRL		
AJ-48	Search for extended structure in normal galaxies with compact nuclear radio sources.	V		D. Jones			NAIC	6	12
		R		R. A. Sramek			NRAO (VLA)		
		V		Y. Terzian			NAIC		
AK-23	Solar observations during SMM.	V		M. R. Kundu			U of MD	1.3, 2, 6, 20	24
		V		T. Velusamy			U of MD		
		V		F. T. Erskine			U of MD		
AL-14	Solar active regions.	V		K. R. Lang			Tufts U	2, 6, 21	36
		V		R. F. Willson			Tufts U		
		R		M. Felli			NRAO (VLA)		
AN-6	Radio structure of QSS.	S		S. G. Neff			NRAO (CV) and U of VA	18	24
		P		R. I. Brown			NRAO (GB)		
AO-15	Abell cluster strong source survey - morphology of extended sources.	P		F. N. Owen			NRAO (CV)	20	24
		P		R. A. White			NRAO (CV)		
AP-30	Compact objects with faint nearby companions.	R		R. A. Perley			NRAO (VLA)	6, 20	24
		P		E. B. Fomalont			NRAO (CV)		
		V		K. J. Johnston			NRL		
AP-28	Compact HII regions.	V		J. L. Pipher			U of Rochester	2	12
		V		T. L. Herter			U of Rochester		
		S		J. Krassner			Grumman Aerospace and U of Rochester		

VLA UTILIZATION REPORT JUNE, 1980 (cont.)

<u>Program</u>	<u>Program Title</u>	<u>S</u>	<u>Observer</u>	<u>Institution</u>	<u>Bands</u>	<u>Scheduled</u>
AR-32	H ₂ CO maser in NGC7538.	P	A. H. Rots	NRAO (VLA)	6-cm line	14
		V	H. R. Dickel	U of IL		
		V	J. R. Forster	NRA, Dwingeloo, Netherlands		
		V	W. M. Goss	Groningen U, Netherlands		
AS-55	Deep mapping of four active galaxies.	R	R. A. Sramek	NRAO (VLA)	6	8.5
		V	D. W. Weedman	Penn State U		
AV-35	Mapping of head-tail source 1200+519.	V	J. P. Vallée	Queen's U, Canada	20	12
		V	A. H. Bridle	Queen's U, Canada		
		R	J. O. Burns	NRAO (VLA)		
AV-37	Central sources in M31 and M33.	V	J. M. van der Hulst	U of MN	6	24
		P	R. L. Brown	NRAO (GB)		
AW-26	Position measurements of 3 pulsars.	V	J. M. Weisberg	U of MA	20	26
		V	J. H. Taylor	U of MA		
		V	J. M. Cordes	NAIC		
AM-19	Polar heating on Venus.	V	D. O. Muhleman	Caltech	6, 18	11
		V	G. L. Berge	Caltech		
		V	S. Deguchi	Caltech		

The average downtime for the month of June, 1980 was approximately 16.1 percent.

Average downtime of operational antennas lost due to hardware and software failures during scheduled observing \bar{x} 100 operational antennas = Total number of antenna-hours of operational antennas scheduled

where "antenna-hours" definition is: An array consisting of N antennas operating for Y hours is defined to have YN antenna-hours of operation.

The array was scheduled for 64 percent (464 hours) of the time: 50 percent (361.75 hours) to astronomical programs and the remaining 14.2 percent (102.25 hours) went to tests.

/ap 7/2/80
AS-6

Progr.	Program Title	S	Observer	Institution	Bands	Scheduled
AA-5	Baseline pointing calibration test.	V	D. C. Abbott	Washburn Obs	All	114.75
AA-5	Mass loss in early type stars.	V	J. H. Bieging	U of Ca, Berkeley	2, 6	24
AA-3	Fine structure of solar active regions in brightness and circular polarization.	V	E. B. Churchwell	Washburn Obs		
AA-3		P	J. W. Archer	NRAO (CV)	1.3, 2, 6	24
AA-3		P	R. M. Hjellming	NRAO (VLA)		
AA-3		V	R. D. Robinson	Sacramento Peak Obs		
AB-84	Astrometry of Sgr A compact object.	V	D. C. Backer	U of CA, Berkeley	6	22.25
AB-84		R	R. A. Sramek	NRAO (VLA)		
AB-73	OH halo structure of Mira variables.	V	B. Baud	U of CA, Berkeley	18-cm line	24
AB-73		R	A. Winnberg	NRAO (GB) and MPI, W. Germany		
AB-73		V	H. E. Matthews	Herzberg Institute, Canada		
AB-87	Jet source NGC 315.	V	A. H. Bridle	Queen's U, Canada	20	12
AB-87		P	E. B. Fomalont	NRAO (CV)		
AB-87		R	R. A. Perley	NRAO (VLA)		
AB-87		V	A. G. Willis	NRA, Zwiggelte, Netherlands		
AB-85	Search for jet-like structure in "classical" double sources.	R	J. O. Burns	NRAO (VLA)	6, 20	48
AB-85		P	D. S. De Young	NRAO (CV)		
AG-43	Mapping ring-type galaxies.	V	F. D. Ghigo	U of MN	6, 20	12
AG-45	M-dwarf flare stars.	V	D. M. Gibson	MNMT	6, 20	5.75
AG-45		S	P. L. Fisher	MNMT		
AH-40	Rapid X-ray burster MXB 1730-335.	P	R. M. Hjellming	NRAO (VLA)	2, 6, 20	8
AH-35	A rich X-ray emitting cluster at z=0.39.	V	D. J. Helfand	Columbia U	2, 6, 21	12
AH-35		V	M. R. Morris	Columbia U		
AH-35		V	L. B. Lucy	Columbia U		
AH-35		V	W. Romanishin	UCIA		
AJ-50	Mapping of Uranus; 6-cm flux of Io.	P	W. Jaffe	NRAO (CV)	2, 6, 21	23
AJ-50		V	R. Courtin	SUNY, Stony Brook		
AJ-50		V	T. C. Owen	SUNY, Stony Brook		
AJ-50		V	G. L. Berge	Caltech		
AK-23	Solar observations during SMM.	V	M. R. Kundu	U of MD	1.3, 2, 6,	23.5
AK-23		V	T. Velusamy	U of MD	20	
AK-23		V	F. T. Erskine	U of MD		
AM-22	Mapping and identification of sources from GB and GB2 surveys.	V	J. Machaliski	Jagiellonian U, Poland	20	20.5
AM-22		V	J. Maslowski	Jagiellonian U, Poland		
AM-22		P	J. J. Condon	NRAO (CV)		
AM-22			M. A. Condon			

VIA UTILIZATION REPORT MAY 1980 (cont.)

Project	Program Title	S	Observer	MMSU	Institution	Bands	Scheduled
AS-58	Continuing observations of Hyades stars.	V	W. I. Sanders	MMSU	NRAO (VIA)	6	24
AS-57	Mapping of barred spirals NGC 2146 and NGC 3079.	P	B. G. Clark	NRAO (VIA)			
AS-55	Deep mapping of active galaxies.	R	R. P. Sinha	NRAO (VIA)			
AS-47	Radio structure of SS433.	V	V. C. Rubin	DTM, Carnegie Inst			
AS-29	Seyfert and emission line galaxy nuclei.	R	R. A. Sramek	NRAO (VIA)			
AS-30	Galactic center in the 1612-MHz OH line.	V	D. W. Weedman	Penn State U			
AS-21	Continuum emission from IR protostars.	V	J. T. Stocke	U of AZ			
		V	E. R. Seagrist	U of Toronto, Canada			
		V	W. S. Gilmore	U of Toronto, Canada			
		V	A. S. Wilson	U of MD			
		S	J. S. Ulvestad	U of MD			
		R	R. A. Sramek	NRAO (VIA)			
		R	A. Winberg	NRAO (CV) and MPI, W Germany			
		V	H. J. Habing	NRAO, Leiden, Netherlands			
		V	F. M. Olmon	NRAO, Leiden, Netherlands			
		V	H. E. Matthews	Herzberg Institute, Canada			
		V	G. C. Wynn-Williams	U of HI			
		V	D. Downes	U of HI			
		V	C. A. Beichman	Caltech			

The average downtime for the month of May 1980 was approximately 11.2 percent.

Average downtime of operational antennas lost due to hardware and software failures during scheduled observing = $\frac{\text{Total number of antenna-hours of operational antennas}}{\text{Total number of antenna-hours of operational antennas scheduled}}$ X 100

where "antenna-hours" definition is: An array consisting of N antennas operating for Y hours is defined to have NY antenna-hours of operation.

The array was scheduled for 65.6 percent (488 hours) of the time: 50.2 percent (373.25 hours) to astronomical programs and the remaining 15.4 percent (114.75 hours) went to tests.

/ap 6/12/80
A1-2

VIA UTILIZATION REPORT APRIL 1980

Program	Program Title	S	Observer	Institution	Bands	Scheduled
AB-83	Seyfert galaxies NGC 1068, 3C120, Mrk 335, and NGC 3516.	V	B. Balick	U of WA	All	144
	Baseline pointing calibration test.	V	T. M. Heckman	NRA, Leiden, Netherlands	6, 20	36
		P	P. C. Crane	NRAO (GB)		
AB-69	Extended radio core and large-scale structure of 3C293.	V	A. H. Bridle	Queen's U, Canada	2,6,20	8.75
		P	E. B. Fomalont	NRAO (CV)		
AB-76	Jet source 0326+396.	V	A. H. Bridle	Queen's U, Canada	6	12
		P	E. B. Fomalont	NRAO (CV)		
		R	R. A. Perley	NRAO (VLA)		
		V	A. G. Willis	NRA, Zwiggelte, Netherlands		
AB-87	Linear polarization of radio jets in 3C31.	V	A. H. Bridle	Queen's U, Canada	20	12
		P	E. B. Fomalont	NRAO (CV)		
		R	R. A. Perley	NRAO (VLA)		
		V	A. G. Willis	NRA, Zwiggelte, Netherlands		
AD-19	W Ursae Majoris stars.	V	A. K. Dupree	SAO	6, 21	12
		V	B. F. Burke	MIT		
AF-17	Optically identified SNR's in M31.	R	M. Felli	NRAO (VLA) and Arcetri, Italy	20	24
		V	S. D'Odorico	ESO, Switzerland		
		V	J. R. Dickel	U of IL		
AF-22	Continuum mapping of M17.	R	M. Felli	NRAO (VLA) and Arcetri, Italy	1.3,6,20	10
		V	K. J. Johnston	NRL		
		V	E. B. Churchwell	Washburn Obs		
AG-45	M-dwarf flare stars.	V	D. M. Gibson	NMTT	6, 20	31.25
		S	P. I. Fisher	NMTT		
AH-32	Point source in SNR G78.2+2.1.	V	L. A. Higgs	Herzberg Institute, Canada	2,6,21	12
		V	T. I. Landecker	DRAO, Canada		
		V	R. S. Roger	DRAO, Canada		
AH-29	Moving jets in SS433.	P	R. M. Hjellming	NRAO (VLA)	2,6,21	11.5
		V	K. J. Johnston	NRL		
		V	G. K. Miley	NRA, Leiden, Netherlands		
AH-13	Nova Vulpeculae 1976.	P	R. M. Hjellming	NRAO (VLA)	2,6,21	3
		V	N. R. Vandenberg	GSFC		
AM-19	Polar heating on Venus.	V	D. O. Muhleman	Caltech	6, 18	12
		V	G. I. Berge	Caltech		
		V	S. Deguchi	Caltech		
AR-33	HII region NGC 6334.	V	L. F. Rodriguez	Inst de Astronomia, Mexico	6, 20	13
		V	J. M. Moran	SAO		
AR-29	NGC 891 in HI line.	P	A. H. Rots	NRAO (VLA)	21	10
		V	J. W. Goad	KPNO		
AS-53	Supernova in M100.	P	R. A. Stramek	NRAO (VLA)	6	12
		V	K. W. Weiler	NSF		
		V	J. M. van der Hulst	U of MN		

VLA UTILIZATION REPORT APRIL 1980 (Cont.)

Program	Program Title	S	Observer	Institution	Bands	Scheduled
AU-4	Head-tail galaxies in X-ray cluster Abell 401.	V	M. P. Ulmer	Northwestern U	6, 20	12
		R	J. O. Burns	NRAO (VIA)		
AW-27	CD galaxies with co-extant X-ray and radio structure.	P	R. A. White	NRAO (CV)	6, 20	12
		R	J. O. Burns	NRAO (VIA)		
AW-28	Compact HII regions near Type I OH masers.	R	A. Winberg	NRAO (GB)	6	21.5
		P	B. E. Turner	NRAO (CV)		

The average downtime for the month of April 1980 was approximately 16.6 percent.

Average downtime of $\frac{\text{Total number of antenna-hours of operational antennas lost due to hardware and software failures during scheduled observing}}{\text{Total number of antenna-hours of operational antennas scheduled}} \times 100$

where "antenna-hours" definition is: An array consisting of N antennas operating for Y hours is defined to have YN antenna-hours of operation.

Array was scheduled for 57 percent (409 hours) of the time: 37 percent (265 hours) to astronomical programs and the remaining 20 percent (144 hours) went to tests.

/drg 5-5-80

Progr.	Program Title	S	Observer	Institution	Bands	Scheduled
AA-4/ AS-45	Peculiar galactic SNR CTB calibration test. 80.	V V V	P. E. Angerhofer M. R. Kundu R. G. Strom	US Naval Obs U of MD NFR A, Dwingeloo, Netherlands	6, 20	92
AB-69	Extended radio core and large-scale structure of 3C293.	V P	A. H. Bridle E. B. Fomalont	Queen's U, Canada NRAO (CV)	2, 6, 20	5
AB-67/ AV-28	Mapping of radio galaxy 3C288.	V V P V V V	A. H. Bridle J. P. Vallée E. B. Fomalont M. J. Valtonen R. N. Whitehurst G. G. Byrd	Queen's U, Canada Queen's U, Canada NRAO (CV) Helsinki U, Finland U of AL U of AL	6, 21	12
AB-79	Observation of Saturn with rings edge-on.	V V V	F. H. Briggs J. N. Cuzzi W. J. Welch	U of Pittsburgh NASA/Ames U of CA, Berkeley	1.3, 2, 6, 20	23.5
AE-6	Jet radio galaxy 3C465.	R R P	J. A. Eilek J. O. Burns F. N. Owen	NRAO (CV) NRAO (VIA) NRAO (CV)	6	12
AH-24	OH masers associated with Orion A and W49N.	R V	S. S. Hansen K. J. Johnston	NRAO (CV) NRL	18	25
AH-29	Moving jets in SS433.	P V V	R. M. Hjellming K. J. Johnston G. K. Miley	NRAO (VIA) NRL NFR A, Leiden, Netherlands	2, 6, 21	12
AJ-39	Seyfert galaxy NGC 4151.	V V V S	K. J. Johnston B. S. P. Shen D. E. Kjer	NRL U of PA U of PA	1.3, 2, 6, 20	12
AJ-29	Parallaxes, proper motions and positions of radio binary stars.	V P V	K. J. Johnston C. M. Wade D. M. Gibson	NRL NRAO (VIA) NMITT	6	12
AK-23	Solar observations during SMM.	V V V V	M. R. Kundu T. Velusamy F. T. Erskine	U of MD U of MD U of MD	1.3, 2, 6, 20	36
AL-13	Solar active regions.	V S R	K. R. Lang R. F. Willson M. Felli	Tufts U Tufts U NRAO (VIA) and Arcetri, Italy	6, 21	12
AM-16	Star formation region in Taurus.	V V	P. C. Myers P. T. P. Ho	MIT U of CA, Berkeley	20	13.5
AP-17	Further mapping of 3C449.	R V	R. A. Perley A. G. Willis	NRAO (VIA) NFR A, Zwiggelte, Netherlands	6, 20	11
AP-19	Flux densities of planetary nebulae.	V V V	C. R. Purton P. A. Feldman S. Kwok	York U, Canada Herzberg Institute, Canada Herzberg Institute, Canada	2, 6	12

VLA UTILIZATION REPORT MARCH 1980 (cont.)

Program	Title	S	Observer	Institution	Bands	Scheduled
AR-30	Radio lobes with optical counterparts in radio galaxies.	V	L. Rudnick	U of MN	6, 20	12
		V	J. A. Tyson	Bell Labs		
		V	P. Crane	ESO, Switzerland		
		R	W. C. Saslaw	U of VA and NRAO (CV)		
AS-49	Two aligned groups of quasars.	R	W. C. Saslaw	U of VA and NRAO (CV)	20	11
		V	L. Rudnick	U of MN		
AS-51	Solar active regions and flares.	V	M. Simon	SUNY, Stony Brook	6	12
		V	G. Righini-Cohen	SUNY, Stony Brook		
		V	J. Fischer	SUNY, Stony Brook		
AS-50	Structure of central extended features of 3C154, 3C172, 3C207, and 3C227.	V	G. Swarup	U of MD	6, 21	22
AT-10	Interstellar ammonia.	V	C. H. Townes	U of CA, Berkeley	1.3	25
		V	A. C. Cheung	U of CA, Davis		
		V	D. N. Matsakis	US Naval Obs		
AV-29	Central components of Sc galaxies with rotation curves.	V	J. M. van der Hulst	U of MN	6	12
		R	D. Burstein	NRAO (CV)		
AV-32	Central region of barred spiral NGC 5383.	V	J. M. van der Hulst	U of MN	20	14.5
		V	R. Sancisi	U of Groningen, Netherlands		
		V	R. D. Ekers	U of Groningen, Netherlands		
AW-19	Nuclei of Seyfert galaxies.	V	A. S. Wilson	U of MD	6, 21	12
		S	J. S. Ulvestad	U of MD		
		P	R. A. Sramek	NRAO (VLA)		
AW-23	Jets in NGC 1097.	V	R. D. Wolstencroft	Royal Obs, Scotland	20	9.5
		R	R. A. Perley	NRAO (VLA)		
		V	R. B. Tully	U of HI		
AZ-7	Solar flares and activity.	V	H. Zirin	Caltch	2, 1.3	24
		V	K. A. Marsh	Caltch		
		V	G. J. Hurford	Caltch		

The average downtime for the month of March 1980 was approximately 11.6 percent.

$$\text{Average downtime of operational antennas} = \frac{\text{Total number of antenna-hours of operational antennas lost due to hardware and software failures during scheduled observing}}{\text{Total number of antenna-hours of operational antennas scheduled}} \times 100$$

where "antenna-hours" definition is: An array consisting of N antennas operating for Y hours is defined to have YN antenna-hours of operation.

Array was scheduled for 61 percent of the time: 49 percent to astronomical programs and the remaining 12 percent went to tests.

Progr

Program Title

S

Observer

Institution

Bands

Scheduled

VLA UTILIZATION REPORT FEBRUARY 1980

Program	Program Title	S	Observer	Institution	Bands	Scheduled
AA-3	Baseline pointing calibration test.	P	J. W. Archer	NRAO (CV)	All	112
	Fine structure of solar active regions in brightness and circular polarization.	P	R. M. Hjellming	NRAO (VLA)	1.3, 2, 6	12
		V	R. D. Robinson	Sacramento Peak Obs		
AB-78	Double QSO 0957+561.	V	B. F. Burke	MIT	2, 6, 20	24
		V	D. M. Roberts	MIT/Brandeis U		
		S	P. E. Greenfield	MIT		
AB-81	Mapping radio galaxy 3C305.	V	T. M. Heckman	NFRA, Leiden, Netherlands	6	12
		V	W. J. M. van Breugel	NFRA, Leiden, Netherlands		
		V	B. Balick	U of WA		
AC-19	Small-scale structure of continuum emission near pulsars.	V	N. L. Cohen	MIT	20	26
		P	W. D. Cotton	NRAO (CV)		
		V	B. J. Geldzahler	MIT		
		V	M. V. Gorenstein	MIT		
		V	J. V. Marcaide	MIT		
AC-16	Point source in or SNR W66.	V	J. M. Cordes	Cornell U	6, 20	12
		P	S. R. Spangler	NRAO (VLA)		
		P	J. M. Dickey	NRAO (CV)		
AD-17	Radio sources in 5C6 and 5C7 fields.	V	A. Downes	U of HI	21	36
		V	M. Longair	Cambridge, England		
		V	M. Perryman	Cambridge, England		
AF-20	Compact HII region S201.	R	M. Felli	NRAO (VLA) and Arcetri, Italy	2, 6	12
		V	R. H. Harten	NFRA, Dwingeloo, Netherlands		
		P	R. M. Hjellming	NRAO (VLA)		
AF-21	Optically identified X-ray quasars.	V	W. R. Forman	SAO	6, 20	24
		V	C. Jones	SAO		
		V	J. E. Grindlay	SAO		
		V	D. H. Harris	DRAO, Canada		
AG-40	Mapping of Sco X-1.	V	B. J. Geldzahler	MIT	20	9
		P	E. B. Fomalont	NRAO (CV)		
AH-26	Faraday rotation through HII regions.	V	C. Heiles	U of CA, Berkeley	20	24
		S	Y. H. Chu	U of CA, Berkeley		
		V	T. H. Troland	U of CA, Berkeley		
AO-14	VLBI observation of M87 nucleus.	P	F. N. Owen	NRAO (CV)	18	12
		V	P. E. Hardee	U of VA		
		V	M. J. Reid	SAO		
AP-26	Search for radio jets in Cygnus A.	R	R. A. Perley	NRAO (VLA)	6, 20	12
		V	J. J. Cowan	U of OK		
		R	J. W. Dreher	NRAO (VLA)		

VLA UTILIZATION RE FEBRUARY 1980 (Cont.)

Program Code	Program Title	S	Observer	Institution	Bands	Scheduled
AP-27	Complex structure associated with compact radio sources.	R	R. A. Perley	NRAO (VLA)	6, 20	24
		P	E. B. Fomalont	NRAO (CV)		
		V	K. J. Johnston	NRL		
AS-16	Compact sources in SNR's.	V	E. R. Seagquist	U of Toronto, Canada	1.3, 2, 6, 21	24
		V	W. S. Gilmore	U of Toronto, Canada		
AS-39	Becklin-Neugebauer object.	V	M. Simon	SUNY, Stony Brook	6	10
		V	J. Fischer	SUNY, Stony Brook		
		V	G. Righini-Cohen	SUNY, Stony Brook		
AS-47	Radio structure of SS433.	V	J. T. Stocke	U of AZ	1.3, 2	12
		V	E. R. Seagquist	U of Toronto, Canada		
		V	W. S. Gilmore	U of Toronto, Canada		

The average downtime for the month of February 1980 was approximately 16.4 percent.

Average downtime of $\frac{\text{Total number of antenna-hours of operational antennas lost due to hardware and software failures during scheduled observing}}{\text{Total number of antenna-hours of operational antennas scheduled}} \times 100$ where "antenna-hours" definition is: An array consisting of N antennas operating for Y hours is defined to have YN antenna-hours of operation.

Array was scheduled for 57 percent of the time: 41 percent to astronomical programs and the remaining 16 percent went to tests.

/drg 3-3-80

Progr Code Program Title S VLA UTILIZATION REPORT JANUARY 1980 Observer Institution Bands Scheduled Time

	Baseline pointing calibration test.						All	109.25
AB-77	Mapping of double sources 0816+526 and 3C388.	R	J. O. Burns	NRAO (VIA)			2	24
		V	W. A. Christiansen	U of NC				
AD-13	Bright jet galaxy 4C32.69.	R	J. W. Dreher	NRAO (VIA)			6, 20	12
AG-41	Comet observations.	V	D. M. Gibson	NMINT			1.3, 2, 6, 20	8
AH-28	Clumpy irregular galaxies.	P	D. S. Heesch	NRAO (CV)			6	15
		V	J. Heidmann	Observatoire de Meudon, France				
AH-27	Mass-loss envelopes around Wolf-Rayet stars.	P	D. F. Hogg	NRAO (CV)			6	24
AJ-41	Deep clusters of galaxies.	P	W. Jaffe	NRAO (CV)			20	24
AJ-43	Astrometric measurements of VLA calibration sources.	V	K. J. Johnston	NRL			6, 20	97.75
		P	E. B. Fomalont	NRAO (CV)				
		P	R. A. Sramek	NRAO (VIA)				
		P	C. M. Wade	NRAO (VIA)				
AK-31	3C9, a highly-redshifted extended QSO.	V	P. P. Kronberg	U of Toronto, Canada			6, 20	12
		V	J. N. Clarke	U of Toronto, Canada				
		V	E. M. Burbidge	U of CA, San Diego				
AK-32	Mapping and rotation measure of 3C218.	V	P. P. Kronberg	U of Toronto, Canada			6, 18	12
		R	J. W. Dreher	NRAO (VIA)				
AO-14	M87 jet.	P	F. N. Owen	NRAO (CV)			18	12
		V	P. E. Hardee	U of VA				
		V	M. J. Reid	SAO				
AS-44/	Very large-scale structure of QSO's; 3C273, 3C345 and 3C380.	V	J. T. Stocke	U of AZ			6, 20	20
AK-35		V	P. P. Kronberg	U of Toronto, Canada				
		V	W. Reich	U of Bonn, West Germany				
		V	P. Kalberla	MPI, West Germany				
AW-20	Astrometry of minor planets.	P	C. M. Wade	NRAO (VIA)			1.3, 2	30
		V	P. K. Seidelmann	USNO				
		V	K. J. Johnston	NRL				

The average downtime for the month of January 1980 was approximately 17.2 percent.

Total number of antenna-hours of operational antennas lost due to hardware and software failures during scheduled observing = $\frac{\text{Total number of antenna-hours of operational antennas scheduled}}{\text{Total number of antenna-hours of operational antennas scheduled}} \times 100$

where "antenna-hours" definition is: An array consisting of N antennas operating for Y hours is defined to have YN antenna-hours of operation.

Array was scheduled for 54 percent of the time: 39 percent to astronomical programs and the remaining 15 percent went to tests.