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NASA TN D-1361

NASA TN D-1361

TECHNICAL NOTE

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THE ELECTROMAGNETIC-RADIATION ENVIRONMENT OF A SATELLITE

PART II. RADIO WAVES

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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

WASHINGTON September 1962

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TECHNICAL NOTE D-1361

THE ELECTROMAGNETIC-RADIATION ENVIRONMENT OF A SATELLITE

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SUMMARY

This paper is a compilation of the available information on electromagnetic radiation at radio wavelengths incident on the Earth. Radio waves from the Sun, Moon, and planets and the background radiation from the sky are discussed. A table of the intensities and celestial coordinates of the 2,000 most intense discrete sources (radio stars) is given, together with maps of the brightness temperature of the sky at frequencies of 64 to 910 megacycles per second.

INTRODUCTION

The present paper is a review of the long-wavelength (radio) electromagnetic radiation received from the Sun, the planets, and the Galaxy. With regard to artificial satellites, or space vehicles in general, this radiation is mainly important with regard to interference with communications. However, the material has been presented without special emphasis on those wavelengths that are presently used in communications.

Since Jansky's discovery of radio waves from the constellation of Sagittarius in 1933 (refs. 1 to 3), cosmic radio waves have been observed at most wavelengths from the millimeter range up into the broadcast band. The principal sources have been found to be the Sun, other discrete radio sources or "radio stars" scattered over the sky, and the cosmic background radiation which is concentrated around the galactic equator and which reaches its maximum intensity in the direction of the center of the Galaxy.

There are several features of cosmic radio waves which are not found in the optical range of the electromagnetic spectrum. These consist both of properties of the radiation itself and of characteristics of the sources. With one exception, the spectral distribution of cosmic radio waves is continuous. This exception is the spectral line at 21 centimeters produced by a hyperfine transition of atomic hydrogen.

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*Part I. Range of Thermal to X-Radiation, by S. Katzoff, is NASA Technical Note D-1360.

A curious characteristic of the Sun as a source is its relation to the rest of the sources. The Sun is the source of most radiation of wavelengths between those of infrared and gamma rays - at optical wavelengths it is 10^8 times as intense as the rest of the sky. For radio waves, however, the undisturbed Sun is no stronger than many other celestial sources, and when compared to the background radiation coming from the sky the undisturbed Sun amounts to only one ten-thousandth of the total radiation at a wavelength of 15 meters. (See ref. 4.) As the wavelength of the radio waves decreases, the sky diminishes in importance until at around 10 centimeters the intensity is below the threshold of detection. At these wavelengths the Sun becomes the most important source.

Although the undisturbed or "quiet" Sun is relatively unimportant at longer wavelengths, the intensity is subject to fluctuations which may bring about increases by factors of as much as 10^7. This variation has not been observed in the radiation coming from the rest of the sky, so that during a solar fluctuation or "burst" the Sun accounts for most of the radio-frequency-radiation incident on the Earth.

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SOLAR RADIO WAVES

In speaking of solar radio waves, it is helpful to refer separately to the radiation emitted by the undisturbed or "quiet" Sun and the bursts of radiation associated with various types of solar disturbances. The differences in these two types of radiation lie in their variability and the magnitude of their intensities. The radiation from the quiet Sun varies less and is much less intense than that associated with bursts: Maxwell, Howard, and Garmire, in reference 5 report an increase of the quiet Sun's radiation by a factor of 2 as the sunspot cycle goes from minimum to maximum whereas the bursts may produce changes in intensity by factors of as much as 10^7; the quiet Sun is no more intense than several other discrete radio sources, but during a burst the Sun may become as much as a thousand times more intense than all the rest of the sky combined.

Quiet Sun

Observations of the brightness temperature of the quiet Sun at various wavelengths have been reported in references 6 to 16. The results of several of these observations are shown in figure 1 (refs. 5, 7, and 9 to 12). This temperature is somewhat misleading as it is computed from intensity measurements and is based on the assumption that all the radiation comes from a disk the size of the photosphere. The radiation, especially at longer wavelengths, actually comes from an area somewhat larger than the photosphere. For an antenna of low resolution compared to the angle subtended by the photosphere or the corona, the brightness temperature is not as important as the radiation-flux incident on the antenna. Measurements of this radiation flux for various wavelengths are tabulated in table I (refs. 5, 7, 9, and 16). For antennas of high resolution the apparent temperature distribution of the solar disk and corona becomes significant.

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Theoretical work done on the brightness distribution indicates that at wavelengths below 1 centimeter the Sun should appear as a constant temperature disk whose diameter equals that of the photosphere; from 1 centimeter to about 1 meter the apparent size of the disk should remain the same, but marked limb-brightening is predicted; at wavelengths above 1 meter the limb-brightening should disappear but the apparent size of the disk should increase until it is as much as twice the diameter of the photosphere. (See ref. 13.)

Measurements of the brightness distribution across the solar disk have been made at wavelengths of 60 centimeters (ref. 14), 3.68 meters (ref. 15) and more recently at 9.1 centimeters (ref. 16) and 21 centimeters (ref. 17). The limb-brightening predicted in reference 13 does not appear in the early work at 60 centimeters. However, the later work at 9.1 and 21 centimeters using highly directional antennas indicates that limb-brightening of the basic component is masked by radiation from strongly emitting regions associated with sunspots. After the effect of these regions was eliminated by analysis of the data, the limb-brightening appeared at 9.1 centimeters; whereas, the data at 21 centimeters were taken during a time when the Sun was free of sunspots and the limb-brightening appeared in the original data. It should be noted, however, that the limb-brightening appeared only on the east and west limbs in both cases. The data taken at 3.68 meters show the extension of the apparent disk diameter as predicted in reference 13. The results of the previously noted studies are shown in graphical form in figures 2 and 3.

The quiet Sun is considered as having two components, one of which, the basic component, remains relatively constant varying over the 11-year sunspot cycle. It is this component to which the distribution analysis in the preceding paragraph applies. The other component, the so-called slowly varying component, varies over a 27-day cycle corresponding to the synodic period of rotation of the Sun at the equator.

The 11-year variation of the basic component has been attributed by Van de Hulst (ref. 18) to a variation of the density of the solar corona over the sunspot cycle, which would in turn produce a variation in intensity at a wavelength of 50 centimeters of about 2 to 1. As mentioned before, according to Maxwell et al. in reference 5 this has been observed at wavelengths of 56, 76, 150, and 240 centimeters.

The slowly varying component appears to be related to the sunspots in that over any given short period of time the intensity of this component is roughly proportional to the sunspot area visible from the Earth. In addition, observations at 9.1 centimeters with a high-resolution antenna (ref. 16) show that the sunspots are actually strongly emitting regions. The variation in intensity results from the irregular distribution of sunspots over the surface of the Sun, which in turn produces a change in the sunspot area visible from the Earth as the Sun rotates. At sunspot maximum the average variation in intensity over the 27-day cycle is 100 percent, and at sunspot minimum this variation is 50 percent. It should be noted that for a given visible sunspot area, the random variation may be ±50 percent. The slowly varying component only appears at wavelengths of 3 to 60 centimeters. This is attributed to the fact that the radiation in this range originates in the lower corona and chromosphere, where underlying sunspots cause local enhancement of the radiation.

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Disturbed Sun

Radiation from the disturbed Sun is noted for its intensity, variability, and, by those whose interest is solar physics, its apparently nonthermal origin. It is generally agreed that the radiation is caused by some physical disturbance which occurs in the solar atmosphere at altitudes responsible for the particular frequencies observed. This disturbance may remain fixed in one altitude range, or may move, in the one case causing radiation over a constant-frequency range, and in the other causing the frequency range to vary with time. The exact nature of the disturbances has not been decided; such mechanisms as spontaneous plasma oscillations, moving groups of particles, and shock waves have been proposed.

The radiation phenomena observed from the Earth have been classified into four distinct types according to the way the frequency range of the disturbance varies with time. Ninety-five percent of the observed disturbances fall into these classifications, which are listed and described as follows:

Noise storms.- Noise storms occur as two types, the wide-band type having bandwidths (frequency range) of about 100 mc/sec and lasting a few seconds, and the narrow-band type having bandwidths of 1 or 2 mc/sec and lasting from a fraction of a second to several minutes. Noise storms usually occur at frequencies below 250 mc/sec. The intensity ranges from being barely perceptible to as much as 1,000 times that of the quiet Sun. The radiation is usually circularly polarized with the sense being determined by the largest emitting sunspot such that right-handed polarization appears when the spot is a south (negative) magnetic pole, and left-handed polarization appears with spots which are north magnetic poles.

Slow-drift bursts.- The slow-drift bursts are bands of intense radiation which drift towards lower frequencies. The drift rate is of the order of 200 mc/sec per minute initially, slowing to about 50 mc/sec per minute toward the end of a burst, which usually lasts about 4 minutes. Slow-drift bursts usually begin at about 500 mc/sec, with a bandwidth of 200 mc/sec. The bandwidth remains at about 40 percent of the frequency throughout the burst. Slow-drift bursts are randomly polarized.

Fast-drift bursts.- In the case of fast-drift bursts the drift is also towards lower frequencies, but the drift rate is about 100 times that of the slow-drift bursts. These bursts may begin at any frequency from 50 to 600 mc/sec and are randomly polarized.

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Enhanced continuum radiation.- Enhanced continuum radiation occurs over a bandwidth greater than 300 mc/sec and may drift towards either lower or higher frequencies or not at all. The frequency usually lies between 100 and 600 mc/sec. The intensity is about 10 times that of the quiet Sun.

Figure 4 shows the dynamic spectra of the previously discussed types of solar bursts. The 5 percent of the solar disturbances not included in the four classifications discussed may be of any form. They are usually short lived and isolated from other forms of solar activity such as flares or sunspots.

The frequency of occurrence of these classifications of radiation from the disturbed Sun is greatest during the maximum of the sunspot cycle. During the sunspot maximum of 1957-58, Maxwell et al. (ref. 5) made extensive measurements of solar radio disturbances at frequencies of 125, 200, 425, and 550 mc/sec. The total observing time during the period was 4,008 hours. The resulting distribution of the various types of solar disturbances is given in the following table:

Type of activity	Percentage of total observing time at frequencies of:			
	125 mc/sec	200 mc/sec	425 mc/sec	550 mc/sec
Noise storm	13.3	8.0	0.080	0.053
Slow-drift bursts	.047	.020	.003	.003
Fast-drift bursts	.247	.142	.023	.016
Continuum	.283	.524	.412	.512
Unclassified	.029	.008	.001	.001

In addition to the distribution of various types of disturbances, the distribution of intensities of all types of disturbances was determined and is as follows:

Intensity	Percentage of total observing time at frequencies of:			
	125 mc/sec	200 mc/sec	425 mc/sec	550 mc/sec
1	9.26 ± 0.57	5.59 ± 0.35	0.0570	0.0387
2	2.00 ± .12	1.17 ± .07	.0096	.0066
3	2.07 ± .05	1.25 ± .02	.0133	.0075

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The relations between the three intensity designations and the actual fluxes at the various frequencies are:

Intensity	Flux range, watts - m^{-2} - $(c/sec)^{-1} \times 10^{22}$, at frequencies of:			
	125 mc/sec	200 mc/sec	425 mc/sec	550 mc/sec
1	<40	<60	<50	<50
2	40 to 200	60 to 250	50 to 200	50 to 200
3	>200	>250	>200	>200

Various observers have noted apparent coincidences of radio disturbances with optical phenomena such as flares, sunspots, and ejective prominences. For example, Erickson (ref. 19) observing at a frequency of 26.3 mc/sec during May 1959 observed a strongly emitting region to move from a position in the corona 4.5 solar radii from the center of the Sun, across the disk to a corresponding position on the other side. The movement was such as to indicate a rigid corona, radiating in one spot. On the third day of observation, a class 3+ flare was observed to occur at the location of the disturbance. The flux was 10×10^{-22} watts - m^{-2} - $(c/sec)^{-1}$ for 2 days before the flare, 30×10^{-22} watts - m^{-2} - $(c/sec)^{-1}$ for 3 days during and after the flare, dying out to 1×10^{-22} watts - m^{-2} - $(c/sec)^{-1}$ 8 days after the flare.

Maxwell et al. attempted to find correlations between the disturbances which were observed during the 1957-58 sunspot maximum, with the following results:

No correlation was found for ejective prominences, with few of them being associated with any type of burst at all.

The sunspots were definitely correlated with noise storms, in that all noise storms were associated with sunspot groups. However, not all sunspot groups had accompanying noise storms. The correlation seemed to depend upon the size of the sunspot group, with noise storms being improbable if the sunspot group covers less than 400 millionths of the solar disk, and probable if the group is larger than this. It has also been suggested by Payne-Scott and Little (ref. 20) that a correlation is obtained between the noise storm and the area of the largest spot in the group. This belief is supported by their observations at 97 mc/sec which showed that individual spots whose area is greater than 400 millionths of the solar disk are usually accompanied by noise storms, whereas smaller spots seldom had associated noise storms. The importance of the largest individual spot also appears in the polarization effect mentioned before; that is, the sense of the polarization is determined by the largest emitting spot.

Flares show no association with noise storms, according to the observations of Maxwell et al., but there were indications of a correlation of flares with slow-drift bursts and fast-drift bursts. One-half the slow-drift bursts and 30 percent of the fast-drift bursts were accompanied by flares, and all the flares having areas greater than 600 millionths of the solar disk were observed to have accompanying bursts.

A definite correlation was found by Maxwell et al. between flares and enhanced continuum radiation. All flares of class 1 or above were accompanied by enhanced continuum which tended to last longer with the larger flares. The average duration of the enhanced continuum associated with class 1 flares was 40 minutes; whereas, with class 2 and 3 flares, the average duration was 110 and 220 minutes, respectively. Of course these times are averages, and sometimes the duration is much longer, as in the example mentioned previously which was observed by Erickson.

DISCRETE SOURCES OF COSMIC RADIO WAVES

Scattered about the sky are many discrete sources of radio emission which are much stronger than the background radiation. In the past, these sources have been termed "radio stars" because when they were first discovered, their angular extent was less than the resolving power of the available instruments so that they appeared to be point sources. With the advent of better radio telescopes, it developed that most of the stronger sources have appreciable angular extent, a result that has not been found for optical stars.

Discrete radio sources are divided into two types, class I and class II. The distinction is not based on intrinsic properties of the sources, but on their locations. Class I sources, also called galactic sources, are located within 10° of the galactic equator and are generally agreed to be sources distributed throughout the Galaxy. The class II sources are randomly distributed over the sky. It has been hypothesized that these sources are located close to the solar system and also that they are extragalactic objects, with the consensus of modern opinion favoring the latter.

A number of surveys have been made for the purpose of mapping the discrete sources, and have been reported in references 21 to 29. The total number of sources is probably over 5,000, although not all have been observed because not all the sky has been surveyed exhaustively. Table II is a catalogue of the positions and intensities of the sources which were observed and reported in references 21 to 29.

Nine radio-source surveys are included in table II. The surveys are numbered and referenced as follows:

Survey	Reference
1	21
2	22
3	23
4	24
5	26
6	29
7	27
8	28
9	25

Three of these surveys (5, 7, and 9) are comprehensive, generally considered to be exhaustive for the areas of the sky covered. However, in the case of survey 9, there is considerable doubt as to the accuracy of the positions due to confusion of sources arising from the use of a rather large beamwidth. Therefore, this survey has been used only for declinations not covered by surveys 5 or 7 (declinations greater than 71°; declinations less than 22°). The other surveys are less exhaustive and are included principally to confirm positions of the stronger sources. In the table, repeated observations of the same source are given the same number and designated a, b, c, and so forth. The stated errors are the root-mean-square derivation of several determinations in the case of surveys 6, 7, and 9, and beamwidths to 1/2 maximum in the other surveys.

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COSMIC BACKGROUND RADIATION

In addition to the discrete sources, the entire sky exhibits radiation at radio wavelengths. This radiation, in fact, accounts for most of the energy flux incident on a surface in the vicinity of the Earth, except during solar bursts. As is the case of solar radiation, the brightness of the sky increases with increasing wavelength or decreasing frequency. The intensity of this background radiation varies over the sky, reaching its maximum in the direction of the galactic center.

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A number of surveys have been made of the background radiation of the sky at various frequencies from 18 to 2,000 mc/sec. The first, covering the sky in the vicinity of the Milky Way, was reported by Reber (ref. 30) in 1944 at a frequency of 160 mc/sec. Other surveys have been made at 64 mc/sec (ref. 31), 81 mc/sec (ref. 32), 86 mc/sec (ref. 33), 100 mc/sec (ref. 34), 250 mc/sec (ref. 35), 480 mc/sec (ref. 36), 600 mc/sec (ref. 37), and 910 mc/sec (ref. 38). Ko (ref. 39) has assembled the previously mentioned surveys into a compilation of maps using the same coordinate system, scale, and projection representing the best available picture of the background radiation. These maps are reproduced in figure 5. None of these maps cover the north polar region, and with one exception none cover the south polar region. Westerhout (ref. 40) using observations at 400 mc/sec has prepared a map of the north polar cap which is reproduced in figure 6.

Figures 5 and 6 are reproduced in celestial coordinates, epoch 1950. According to reference 4, the approximate formulas for the yearly change due to precession of the Earth's axis are:

$$\Delta\alpha = 3.07 + 1.34 \sin \alpha \tan \delta$$

$$\Delta\delta = 20.0 \cos \alpha$$

where α and δ are the right ascension and declination, respectively; $\Delta\alpha$ and $\Delta\delta$ are the yearly changes in right ascension and declination, measured in seconds of time and seconds of arc, respectively.

The contours of figures 5 and 6 are isophotes, that is, lines of constant brightness. In figure 5 the width of the antenna beam to 1/2 power is shown. The accuracy of the isophotes is limited by the beamwidth. According to Ko, the absolute accuracy of the maps should be ±50 percent or better, and the relative precision of isophotes on a single map should be better than ±20 percent.

RADIO WAVES FROM THE MOON AND PLANETS

Lunar Radiation

There are in principle two sources of lunar radiation: thermal radiation and radiation from other sources which is reflected by the Moon's surface. The thermal radiation has been measured by Piddington and Minnett (ref. 41) and their result for the brightness temperature is:

$$T = 239 + 40.3 \cos\left(\omega t - \frac{1}{4}\pi\right)$$

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where

T	temperature, $^{\circ}K$
t	elapsed time since full Moon, days
ω	angular velocity of Moon about Earth (0.23 radian/day)

The brightness temperature given is the mean disk temperature. Coates (ref. 42) measured the brightness-temperature distribution at a wavelength of 4.3 millimeters. He concluded that, in general, the maria heat and cool more rapidly than the mountains, with the exception of Mare Imbrium, which always remains cooler.

Measurements of radio waves reflected by the Moon were not found in the literature, except for radar reflections originating on the Earth. This does not indicate that no such reflections exist, since there were also no reports of unsuccessful attempts to find them. Also, these reflections would be most likely to appear at full Moon during solar bursts. The strength of the reflected bursts would be dependent upon the intensity of the radiation incident upon the lunar surface, and upon the efficiency of the Moon as a scatterer or reflector of radiation. Senior and Siegel (ref. 43) give a compilation of scattering cross sections as determined by various observers from radar reflections. These values are tabulated as follows:

λ, meter	Scattering cross section, percent of lunar disk area
0.6	3
0.7	7
1.0	5 to 9
1.5	6 to 10
2.5	10

Since these values of the scattering cross sections are determined by the reflection of radar waves originating on the Earth, they can be strictly applied only to reflection from the Sun when the Earth lies between the Sun and the Moon, that is, at full Moon. For application at any other time, a correction factor must be applied to account for the fraction of the visible disk which is illuminated, and for the difference in reflection characteristics, which is not known at present.

With use of data from reference 5, the intensity of the reflected radiation during a solar burst can be calculated. At a wavelength of 1.5 meters, a typical intensity is 2.5×10^{-20} watts - m^{-2} - $(c/sec)^{-1}$. A scattering cross section of 10 percent of the lunar disk area gives a total reflected flux of 2.4×10^{-8} watts - $(c/sec)^{-1}$. At the distance of the Earth from the Moon, this gives a flux density of 5×10^{-26} watts - m^{-2} - $(c/sec)^{-1}$, about the same as one of the weakest "radio stars."

Planetary Radiation

Planetary radiation is generally classed as thermal and nonthermal. Thermal radiation is nonfluctuating and is presumed to actually be thermal radiation from the surface or atmosphere of the planet. It is usually strong enough to be detectable only at very short wavelengths (<1 meter). Thermal radiation has been observed for Mars, Jupiter, and Venus (refs. 44 to 52). The results of the various observations are given in table III.

At longer wavelengths than those listed in table III, several observers have noted incongruously high disk temperatures for Jupiter (refs. 53 to 56). The observed disk temperatures were:

Wavelength, λ, meter	Disk temperature, T_d, $^{\circ}K$	Reference
0.208	1,000 to 4,700	56
.214	3,500 ± 1,700	53
.31	3,800 to 6,400	55
.68	70,000 ± 30,000	53

Roberts and Stanley in reference 55 hypothesize that likely sources of this anomalous radiation are free-free transitions of electrons in the Jovian corona or else synchrotron radiation from Van Allen belts. It was noted by Epstein (ref. 53) that the radiation varies by as much as a factor of 2 over a few hours observing time.

In addition to the anomalous radiation in the decimeter range mentioned in the previous paragraph, highly fluctuating radiation has been observed from Jupiter at frequencies of 14 to 43 mc/sec (wavelengths of 21 to 6.9 meters). (See refs. 56 to 63.) The initial discovery was made by Burke and Franklin (ref. 56) in 1955. Subsequent observations have revealed several pertinent characteristics of the radiation. It is almost completely circularly polarized, it shows a periodicity of 9 hours, 55 minutes, and 28.8 seconds during active periods (ref. 57), and it appears to be localized on the surface of the planet (ref. 58). It may be that the radiation exists at frequencies below 14 mc/sec but is so strongly attenuated by the Earth's atmosphere that detection is impossible. Attempts have been made to observe this radiation at higher frequencies without success (ref. 59). Even in the range of 14 to 43 mc/sec the radiation is not always present. According to reference 60 several days may pass during which no nonthermal radiation is detected.

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The peak intensity of the radiation is given by various observers as 10^{-21} watts - m^{-2} - $(c/sec)^{-1}$ at 21.1 mc/sec (ref. 61), 2.5×10^{-21} watts - m^{-2} - $(c/sec)^{-1}$ at 27 mc/sec (ref. 57), and 8.5×10^{-20} watts - m^{-2} - $(c/sec)^{-1}$ at 18 mc/sec (ref. 58).

Kraus in reference 62 reports bursts of nonthermal radiation from Venus at 26.7 mc/sec. The peak intensity was 8.9×10^{-22} watts - m^{-2} - $(c/sec)^{-1}$. In reference 63, Kraus reports a 13-day periodicity to the radiation which he attributes to the "beat" frequency between the 24-hour rotation period of the Earth and the 22-hour, 17-minute rotation period of Venus. No other observers have reported nonthermal radiation from Venus.

Smith and Douglas in reference 61 report the possibility of nonthermal radiation from Saturn. Interference from terrestrial sources was such that positive identification could not be made, however.

Langley Research Center,
National Aeronautics and Space Administration,
Langley Station, Hampton, Va., April 10, 1962.

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TABLE I.- RADIANT ENERGY FLUX FROM THE QUIET SUN

Wavelength, λ, meter	Frequency, ν, mc/sec	Intensity, I, watts - m^{-2} - $(c/sec)^{-1}$	Reference
0.0085	35,300	17.7×10^{-20}	9
.0125	24,000	12.0	7
.03	10,000	3.1	5
.075	4,000	2.3	5
.091	3,300	[a].94 (1960 SS max)	16
.091	3,300	[a].70 (1954 SS min)	16
.15	2,000	1.4	5
.3	1,000	.7	5
.546	550	.4	5
.706	425	.3	5
1.0	300	.2	5
1.5	200	.13	5
2.4	125	.06	5
3.0	100	.04	5
6.0	50	.02	5
12.0	25	.003	5

[a]Only the basic component. All other values include the slowly varying component.

TABLE II.- POSITIONS AND INTENSITIES OF DISCRETE RADIO SOURCES

(a) Northern hemisphere

Source	Survey	Frequency, ν, mc/sec	Position (1950 epoch)[a]							Intensity, I, watts - m^{-2} - $(c/sec)^{-1}$
			α, hr	α, min	α, sec	Δα, sec	δ, deg	δ, min	Δδ, min	
1	7	159	00	02	19	±4	17	01	+7	$(8.0 \pm 2.0) \times 10^{-26}$
2	6	960	00	02	35	±30	72	04.5	±4	12.9 ± 1.5
3	5	86	00	04	54	±18	06	05	±8	35
4	7	159	00	07	45	±8	32	46	±5	10.5 ± 2.0
5a	5	86	00	10	12	±12	00	37	±5	20
5b	7	159	00	10	45	±04	00	47	±10	8.0 ± 2.5
6	7	159	00	10	51	±10	30	05	±3	16.5 ± 2.5
7	5	86	00	14	12	±18	06	48	±7	18
8	5	86	00	16	00	±24	08	20	±8	11
9	7	159	00	17	50	±5	15	23	±8	15.5 ± 2.5
10a	4	159	00	22	00	±120	64	15	±35	170
10b	7	159	00	22	37	±2	63	52	±2	110 ± 17
10c	6	960	00	22	45.7	±3	63	51.4	±1	57 ± 3
11	5	86	00	24	48	±24	07	28	±6	11
12	7	159	00	26	35	±4	20	54	±6	10.5 ± 3.5
13	5	86	00	30	00	±36	01	40	±10	68
14	7	159	00	30	06	±4	19	43	±6	9.5 ± 1.5
15	5	86	00	30	48	±18	05	53	±5	25
16	7	159	00	31	35	±5	39	03	±4	12.0 ± 3.0
17	5	86	00	32	06	±24	04	28	±6	16
18	7	159	00	33	35	±3	18	25	±7	13.5 ± 2.0
19	5	86	00	34	12	±18	00	12	±6	15
20	7	159	00	35	52	±6	12	50	±16	10.5 ± 2.0
21	5	86	00	36	42	±24	03	35	±6	14
22a	5	86	00	37	16	±12	09	30	±5	37
22b	7	159	00	37	30	±5	09	54	±7	16.5 ± 4.5
23	7	159	00	38	14	±6	32	54	±4	13.0 ± 2.5
24	5	86	00	40	06	±18	06	53	±7	14
25a	4	159	00	40	15	±30	40	50	±20	160
26	5	86	00	40	36	±16	02	20	±8	7
27	7	159	00	41	34	±4	51	49	±3	30 ± 10
25b	2	81	00	42		±360	38		±300	40
28	5	86	00	42	36	±16	05	26	±7	19
29	7	159	00	44	47	±5	20	24	±3	10.0 ± 2.0
30	7	159	00	48	09	±2	50	51	±5	13.5 ± 2.5
31	9	81.5	00	49	16	±20	76	24	±15	24
32	7	159	00	49	53	±5	17	31	±6	16.0 ± 2.5
33	6	960	00	50	05	±12	56	20.4	±1.5	15.6 ± 1.2
34	7	159	00	50	39	±5	40	12	±5	9.5 ± 1.5
35	7	159	00	50	44	±5	67	08	±10	8 ± 3
36	7	159	00	52	42	±3	68	13	±10	22 ± 5
37	7	159	00	53	09	±6	26	08	±10	19.5 ± 3.5
38	3	101	00	55		±960	24		±90	50
39	3	101	00	55		±480	11		±40	150
40	5	86	00	55	18	±18	01	14	±6	16
41	5	86	00	55	30	±24	08	47	±8	14
42	5	86	00	59	48	±18	04	32	±6	19
43	3	101	01	00		±480	52		±40	50
44	7	159	01	00	08	±6	14	25	±7	14.5 ± 3.5
45	7	159	01	03	53	±7	32	11	±9	10.5 ± 2.0
46	3	101	01	05		480	30		±40	100
47	8	169	01	06	04.5	±1	13	01	±20	30
48	7	159	01	06	13	±3	13	05	±9	58 ± 6
49	7	159	01	07	31	±2	31	24	±4	12.5 ± 2.5
50	7	159	01	08	50	±3	47	05	±6	9.0 ± 2.5
51	2	81	01	09		±180	43	15	±60	45
52	5	86	01	14	54	±18	06	05	±6	11
53	7	159	01	15	14	±5	45	23	±6	8.0 ± 1.5
54	5	86	01	16	18	±12	08	11	±6	14
55	5	86	01	17	18	±24	03	20	±5	33
56	7	159	01	20	00	±4	03	39	±15	9.5 ± 3.0
57	5	86	01	23	06	±18	01	22	±5	20
58	7	159	01	23	54	±5	32	50	±6	8.5 ± 2.0
59	5	86	01	24	24	±18	09	13	±7	16
60a	7	159	01	24	53	±7	28	48	±4	12.0 ± 2.0
60b	2	81	01	25		±300	30		±180	80
61	9	81.5	01	25	21	±20	71	52	±30	39
62	7	159	01	27	14	±5	23	18	±9	16.5 ± 2.5
63	7	159	01	27	52	±3	03	14	±10	8.0 ± 2.5
64	5	86	01	28	42	±12	03	52	±6	18
65	5	86	01	29	12	±12	06	07	±5	23
66	7	159	01	33	25	±7	08	14	±10	9.0 ± 1.5
67	5	86	01	33	30	±24	07	53	±6	15

[a] α, right ascension; δ, declination.

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TABLE II.- POSITIONS AND INTENSITIES OF DISCRETE RADIO SOURCES - Continued

(a) Northern hemisphere - Continued

Source	Survey	Frequency, ν, mc/sec	Position (1950 epoch)[a]							Intensity, I, watts - m^{-2} - $(c/sec)^{-1}$
			α, hr	α, min	α, sec	$\Delta\alpha$, sec	δ, deg	δ, min	$\Delta\delta$, min	
68	7	159	01	33	35	±5	37	41	±6	$(12.5 \pm 3.0) \times 10^{-26}$
69	7	159	01	33	42	±5	20	42	±3	27 ± 5
70	7	159	01	34	51	±5	32	55	±4	50 ± 11
71	5	86	01	34	54	±24	06	34	±8	7.4
72	7	159	01	38	32	±5	13	48	±7	10.0 ± 2.0
73	9	81.5	01	38	51	±20	78	57	±20	22
74	7	159	01	41	11	±7	51	18	±6	8.0 ± 1.5
75	7	159	01	42	36	±4	38	43	±6	8.0 ± 1.5
76	5	86	01	43	00	±18	02	01	±6	9.4
77	5	86	01	46	12	±18	06	10	±8	19
78	7	159	01	47	02	±7	55	19	±5	9.5 ± 1.5
79	5	86	01	47	12	±18	07	07	±6	19
80	5	86	01	52	06	±24	03	32	±6	49
81	7	159	01	52	25	±3	43	23	±5	11.5 ± 2.0
82	7	159	01	54	19	±2	28	34	±4	17.5 ± 3.5
83	5	86	01	57	24	±8	01	10	±6	16
84	7	159	01	58	38	±6	46	02	±7	10.0 ± 2.0
	9	81.5	02	00	11	±120	79	35	±30	30
85	7	159	02	01	41	±2	64	38	±15	13 ± 3
86	5	86	02	02	18	±24	04	20	±8	10
87	7	159	02	03	15	±6	26	55	±6	8.5 ± 2.5
88	5	86	02	07	24	±12	09	35	±8	23
89	7	159	02	08	27	±4	21	04	±6	9.5 ± 2.5
90	7	159	02	10	38	±9	17	18	±7	8.5 ± 1.5
91	5	86	02	11	00	±12	02	58	±5	24
92	5	86	02	12	30	±30	06	11	±8	14
93	2	81	02	16		±180	44	15	±2	60
94	4	159	02	16	00	±90	62	30	±45	80
95	4	159	02	18	00	±240	42	00	±60	10
96	4	159	02	18	00	±120	43	00	±60	25
97a	7	159	02	19	21	±4	08	19	±5	11.5 ± 2.5
97b	5	86	02	19	24	±12	08	08	±6	24
98	7	159	02	19	42	±4	39	46	±3	18.5 ± 3.0
99	7	159	02	20	15	±5	42	51	±5	28 ± 7
100	7	159	02	22	14	±3	29	54	±9	10.0 ± 2.0
101	2	81	02	25		±180	35	30	±120	50
	9	81	02	26	07	±15	77	43	±15	45
102	5	86	02	26	12	±18	02	35	±7	9.0
	9	81	02	33	35	±15	72	09	±15	34
103	7	159	02	34	20	±3	58	59	±3	23 ± 2
104	5	86	02	35	42	±18	07	01	±8	10
105	7	159	02	40	43	±8	26	44	±5	10.0 ± 2.5
106	2	81	02	45		±180	45	15	±45	40
	9	81	02	47	01	±20	77	15	±20	22
107	7	159	02	47	08	±7	39	17	±4	12.0 ± 2.0
108	5	86	02	50	24	±24	01	19	±6	10
109	7	159	02	51	03	±6	19	49	±7	8.5 ± 2.5
110	5	86	02	53	24	±18	06	48	±7	11
111	7	159	02	54	27	±4	06	05	±4	38 ± 10
112	5	86	02	55	06	±6	05	53	±4	51
	9	81	02	57	10	±20	76	26	±20	20
113	5	86	02	58	54	±18	01	35	±5	27
114	7	159	02	59	10	±5	50	44	±6	8.5 ± 1.5
115	5	86	03	00	12	±18	07	20	±6	18
116	5	86	03	00	54	±18	09	37	±6	13
117	7	159	03	03	41	±5	49	55	±6	8.0 ± 1.5
118	7	159	03	05	57	±4	04	09	±6	17.0 ± 5.0
119	5	86	03	05	24	±12	03	50	±5	34
120	7	159	03	07	13	±3	16	55	±3	34 ± 5
121	7	159	03	08	45	±5	48	30	±5	9.5 ± 2.0
122	7	159	03	09	13	±3	40	54	±4	15.0 ± 2.5
123	5	86	03	09	12	±24	05	11	±8	10
124a	3	101	03	10		±240	42		±20	240
125	7	159	03	10	27	±10	26	24	±10	14.0 ± 3.5
124b	2	81	03	12		±180	43	45	±30	95
124c	4	159	03	15	15	±90	41	22	±30	65
126	6	960	03	16	22	±15	16	18.5	±4	9.0 ± 0.9
124d	7	159	03	16	29	±3	41	17	±2	50 ± 7
127	7	159	03	19	30	±5	17	15	±8	8.5 ± 1.5
128a	7	159	03	23	36	±3	55	07	±9	19 ± 4
129	7	159	03	23	41	±3	43	50	±5	9.5 ± 2.0
128b	4	159	03	24	30	±180	55		±60	60
130a	5	86	03	25	12	±18	02	25	±5	41
130b	7	159	03	25	15	±3	02	07	±9	9.0 ± 2.0
131	7	159	03	32	56	±5	13	01	±10	9.0 ± 2.0
132	5	86	03	34	06	±24	09	51	±7	24
133	7	159	03	34	20	±2	50	51	±7	14.0 ± 3.0

[a] α, right ascension; δ, declination.

TABLE II.- POSITIONS AND INTENSITIES OF DISCRETE RADIO SOURCES - Continued

(a) Northern hemisphere - Continued

Source	Survey	Frequency, ν, mc/sec	Position (1950 epoch)[a]							Intensity, I, watts - m^{-2} - $(c/sec)^{-1}$
			α,			$\Delta\alpha$,	δ,		$\Delta\delta$,	
			hr	min	sec	sec	deg	min	min	
134	7	159	03	35	15	±2	29	46	±5	$(11.0 \pm 2.0) \times 10^{-26}$
135	5	86	03	35	48	±24	07	40	±7	13
136	9	81	03	38	21	±20	72	41	±10	45
137a	7	159	03	40	11	±4	05	02	±10	11.5 ± 2.5
137b	5	86	03	40	30	±18	04	55	±5	35
138	3	101	03	45		±480	21		±40	100
139	5	86	03	45	36	±18	00	41	±5	15
140	5	86	03	46	36	±18	05	42	±6	15
141	2	81	03	50		±20	75		±60	140
142	5	86	03	51	24	±24	03	58	±6	16
143	7	159	03	55	28	±6	14	38	±8	9.0 ± 3.0
144	7	159	03	55	43	±4	48	56	±5	10.0 ± 2.0
145	7	159	03	56	14	±3	10	24	±5	41 ± 9
146	9	81	03	57	58	±15	71	19	±10	47
147	2	81	03	58		±90	41		±90	45
148a	5	86	03	58	12	±12	00	27	±5	19
148b	7	159	03	58	30	±4	00	17	±7	14.5 ± 3.5
149	7	159	03	59	58	±3	16	34	±10	9.0 ± 2.0
150	5	86	04	00	00	±18	05	35	±8	13
151	5	86	04	00	.06	±18	02	21	±5	11
152	7	159	04	04	38	±4	42	53	±4	29 ± 6
153	7	159	04	04	41	±3	33	56	±8	9.0 ± 3.5
154a	5	86	04	04	42	±12	03	45	±4	37
154b	7	159	04	04	48	±2	03	35	±7	12.5 ± 5.0
155	4	159	04	06	00	±300	48	00	±120	≦50
156	7	159	04	08	41	±6	07	07	±9	8.0 ± 2.0
157	2	81	04	10		±120	35	45	±30	105
158	7	159	04	10	32	±6	24	59	±5	10.0 ± 2.5
159	7	159	04	10	55	±3	11	15	±4	19.5 ± 3.0
160	5	86	04	11	54	±24	05	43	±7	8.6
161	9	81	04	14	31	±15	76	56	±60	52
162a	8	169	04	14	45	±4	38	00	±30	141
162b	7	159	04	15	05	±2	37	50	±4	60 ± 13
163	7	159	04	17	43	±4	10	57	±9	9.5 ± 2.5
164	7	159	04	18	17	±5	17	43	±12	12.5 ± 3.0
165	7	159	04	18	54	±7	34	44	±6	9.5 ± 2.0
166	7	159	04	20	25	±3	30	06	±4	12.5 ± 2.0
167	7	159	04	20	53	±5	40	44	±5	11.0 ± 2.0
168	5	86	04	21	54	±24	00	24	±8	14
169	5	86	04	23	12	±24	04	26	±6	13
170	2	81	04	26		±60	25		±120	330
171a	7	159	04	28	32	±3	00	54	±12	8.5 ± 2.0
171b	5	86	04	28	48	±12	01	02	±5	20
172	7	159	04	29	08	±3	41	26	±4	14.5 ± 2.5
173	7	159	04	29	32	±4	01	55	±8	11.5 ± 2.5
174	3	101	04	30		±480	31		±40	300
175	7	159	04	31	52	±4	50	55	±6	8.5 ± 1.5
176	5	86	04	32	48	±12	03	57	±5	25
177a	8	169	04	33	50	±2	29	15	±10	125
177b	7	159	04	33	55	±4	29	35	±2	204 ± 32
178	9	81	04	37	46	±15	72	15	±6	28
177c	1	100	04	38			28			300
179	5	86	04	38	12	±30	07	05	±8	8
180	7	159	04	41	45	±4	37	27	±4	12.5 ± 2.0
181	5	86	04	41	48	±18	02	15	±5	30
182	7	159	04	42	55	±3	03	12	±8	10.0 ± 2.0
183	7	159	04	43	10	±10	44	45	±7	12.0 ± 2.0
184	7	159	04	44	01	±4	50	26	±6	11.5 ± 2.5
185	7	159	04	46	33	±4	44	59	±4	21.5 ± 3.5
186	7	159	04	48	50	±3	51	46	±6	9.5 ± 2.0
187	7	159	04	49	13	±5	29	10	±4	16.0 ± 5.5
188	3	101	04	50		±480	10		±40	200
189	5	86	04	51	30	±24	02	33	±6	10
190	7	159	04	52	57	±2	22	50	±6	16.5 ± 2.5
191	5	86	04	54	54	±30	06	43	±8	13
192	2	81	04	56		±120	33		±90	125
193	5	86	04	56	18	±18	05	20	±8	10
194a	4	159	04	57	00	±120	46	30	±60	80
194b	6	960	04	57	30	±30	46	26	±4	22.5 ± 4.5
195	5	86	04	58	30	±24	01	24	±6	15
196	7	159	04	59	59	±3	25	20	±3	23.0 ± 4.0
196a	3	101	05	00		±480	42		±40	150
196b	7	159	05	01	21	±4	38	03	±8	85 ± 11

[a] α, right ascension; δ, declination.

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TABLE II.- POSITIONS AND INTENSITIES OF DISCRETE RADIO SOURCES - Continued

(a) Northern hemisphere - Continued

Source	Survey	Frequency, ν, mc/sec	Position (1950 epoch)[a]							Intensity, I, watts - m^{-2} - $(c/sec)^{-1}$
			α, hr	α, min	α, sec	Δα, sec	δ, deg	δ, min	Δδ, min	
196c	2	81	05	02		±180	37		±120	100 × 10^{-26}
197	5	86	05	04	30	±18	07	20	±7	16
198a	5	86	05	10	54	±18	01	02	±6	38
198b	7	159	05	10	58	±3	01	12	±12	12.0 ± 3.0
199	7	159	05	12	45	±2	51	24	±6	8.0 ± 1.5
200	9	81	05	15	40	±25	77	41	±15	27
201	5	86	05	16	24	±24	09	58	±8	20
202	5	86	05	16	30	±12	03	59	±8	17
203	7	159	05	16	50	±3	50	48	±6	8.5 ± 1.5
204	7	159	05	17	23	±3	13	57	±4	19.5 ± 5.0
205	9	81	05	18	12	±25	80	56	±30	18
206	7	159	05	18	49	±8	22	40	±10	19 ± 6
207	7	159	05	21	53	±5	08	55	±8	10.0 ± 5.5
208	7	159	05	22	28	±3	32	42	±8	20.5 ± 6.0
209	9	81	05	23	02	±15	74	25	±10	26
210	7	159	05	25	22	±6	12	49	±8	9.0 ± 2.0
211	5	86	05	28	54	±18	06	35	±6	30
212	3	101	05	30		±120	22		±20	1,900
213	7	159	05	31	04	±3	36	30	±5	11.5 ± 2.5
214a	6	960	05	31	30		21	59.3		1,030 ± 45
214b	7	159	05	31	31.5		21	59.2		1,500
214c	1	100	05	31	37		22	01		1,850
214d	2	81	05	31	37	±10	22	10	±20	1,250
214e	1	100	05	32			24			600
215	6	960	05	36			28			12.9 ± 1.5
216a	7	159	05	38	46	±4	49	51	±6	63 ± 12
217	5	86	05	38	48	±24	05	43	±8	9.2
216b	4	159	05	39		±120	49	40	±60	50
218	7	159	05	40	07	±10	51	00	±30	11 ± 4
219	5	86	05	41	30	±18	02	46	±6	22
220	7	159	05	47	08	±8	28	41	±7	12.0 ± 2.0
221	7	159	05	55	02	±4	32	29	±6	8.5 ± 1.5
222	7	159	05	59	47	±2	42	11	±6	8.0 ± 1.5
223	5	86	06	00	30	±24	02	23	±7	11
224	9	81	06	01	49	±20	74	31	±20	21
225	5	86	06	02	18	±18	00	54	±5	12
226	7	159	06	02	25	±5	20	30	±12	12.5 ± 2.5
227	5	86	06	05	24	±30	08	08	±10	109
228	7	159	06	05	47	±5	48	04	±4	15.0 ± 2.5
229	7	159	06	10	43	±7	26	04	±4	26 ± 5
230	7	159	06	13	25	±6	53	56	±10	12.5 ± 3.0
231	5	86	06	14	12	±24	05	43	±8	18
232a	6	960	06	14	16	±6	22	36.4	±3	129 ± 6
233	7	159	06	14	24	±5	22	49	±5	14.0 ± 2.5
232b	7	159	06	14	36	±12	22	43	±2	270 ± 40
232c	8	100	06	14	40	±10	22	38	±5	470
234	5	86	06	15	18	±24	03	36	±8	8.8
235	2	81	06	17		±120	33		±120	85
236	7	159	06	18	50	±5	14	31	±8	21.5 ± 4.0
237	5	86	06	20	18	±24	09	00	±10	153
238	7	159	06	21	43	±2	40	16	±5	19.0 ± 3.5
239	7	159	06	22	21	±4	26	55	±6	8.5 ± 2.0
240	5	86	06	24	48	±18	02	50	±5	18
241	9	81	06	27	37	±20	74	45	±10	30
242	7	159	06	28	22	±4	25	07	±7	10.5 ± 2.0
243a	7	159	06	29	18	±12	05	12	±5	450 ± 150
244	7	159	06	29	19	±5	16	31	±7	11.0 ± 2.0
243b	6	960	06	29	24	±10	04	53	±3	105 ± 2
243c	5	86	06	29	36	±12	05	01	±3	250
245	9	81	06	31	27	±15	77	02	±15	22
246	5	86	06	32	36	±18	02	09	±4	29
247	5	86	06	34	48	±18	07	15	±8	72
248	9	81	06	37	09	±15	71	17	±6	33
249	7	159	06	40	09	±5	23	26	±10	12.5 ± 3.5
250	7	159	06	42	27	±5	21	20	±4	16.0 ± 2.5
251a	7	159	06	42	36	±6	05	36	±10	8.0 ± 2.5
251b	5	86	06	42	42	±24	05	15	±8	27
252	5	86	06	42	48	±24	00	10	±10	16
253	7	159	06	46	16	±10	69	16	±15	8 ± 3
254	7	159	06	49	56	±5	22	48	±17	10.0 ± 2.5
255	7	159	06	51	17	±3	54	08	±5	30 ± 8
256	5	86	06	52	30	±24	03	00	±8	22
257	5	86	06	54	06	±18	08	36	±10	24

[a] α, right ascension; δ, declination.

TABLE II.- POSITIONS AND INTENSITIES OF DISCRETE RADIO SOURCES - Continued

(a) Northern hemisphere - Continued

Source	Survey	Frequency, ν, mc/sec	Position (1950 epoch)[a] α, hr	α, min	α, sec	Δα, sec	δ, deg	δ, min	Δδ, min	Intensity, I, watts - m^{-2} - $(c/sec)^{-1}$
258	2	81	06	57		±180	47	30	±90	30 $\times 10^{-26}$
259	7	159	06	59	08	±4	25	22	±10	17.0 ± 6.0
260	7	159	07	01	00	±3	40	14	±5	15.5 ± 4.0
261	7	159	07	10	19	±7	11	55	±4	23.5 ± 5.0
262	3	101	07	15		±240	27		±40	80
263	9	81	07	16	40	±30	83	01	±10	31
264	7	159	07	16	55	±3	17	11	±7	8.5 ± 2.0
265	5	86	07	17	54	±24	08	48	±8	11
266	2	81	07	19		±180	51	51	±60	40
267	5	86	07	19	24	±18	01	34	±5	17
268	7	159	07	21	45	±5	15	35	±10	12.5 ± 4.5
269	7	159	07	22	58	±5	68	00	±10	10 ± 3
270	9	81	07	24	42	±20	74	27	±10	24
271	7	159	07	25	20	±3	14	45	±9	14.0 ± 5.0
272	7	159	07	27	19	±3	27	03	±6	9.0 ± 1.5
273	5	86	07	29	36	±18	03	06	±8	21
274	7	159	07	30	37	±4	41	42	±8	8.5 ± 1.5
275	7	159	07	32	20	±20	70	20	±10	17 ± 5
276	2	81	07	35		±240	42		±150	30
277	7	159	07	41	04	±6	38	05	±4	14.0 ± 3.0
278a	5	86	07	41	54	±12	02	05	±5	36
278b	7	159	07	42	26	±8	01	54	±10	9.0 ± 4.0
279	5	86	07	44	54	±24	09	57	±8	13
280	7	159	07	53	04	±6	01	57	±15	10.5 ± 2.5
281	7	159	07	53	33	±6	38	18	±6	8.0 ± 1.5
282	5	86	07	53	42	±24	07	10	±7	8.2
283	7	159	07	58	52	±3	14	27	±6	12.0 ± 2.0
284	7	159	08	02	10	±2	10	34	±8	11.0 ± 2.5
285	7	159	08	02	38	±5	24	16	±8	17.0 ± 4.0
286	5	86	08	03	24	±24	04	48	±8	8.7
287	7	159	08	06	25	±6	40	17	±12	12.5 ± 2.0
288a	2	81	08	08		±15	48	15	±30	100
288b	4	159	08	09		±120	48		±60	40
288c	7	159	08	10	03	±3	48	22	±3	66 ± 20
289	5	86	08	12	24	±18	01	33	±6	29
290	7	159	08	13	47	±6	20	25	±6	8.5 ± 2.0
291	9	81	08	15	56	±15	74	24	±15	28
292a	5	86	08	19	48	±12	06	07	±4	125
292b	7	159	08	19	57	±4	06	09	±6	16.0 ± 4.0
293	7	159	08	20	59	±4	42	58	±5	8.5 ± 1.5
294	2	81	08	22		±180	36		±90	40
295	7	159	08	25	11	±3	29	28	±5	10.5 ± 2.0
296	9	81	08	29	00	±15	72	26	±15	35
297	7	159	08	31	25	±3	17	27	±12	9.0 ± 1.5
298	7	159	08	31	48	±12	17	09	±10	22 ± 4
299	7	159	08	32	59	±5	65	32	±10	9 ± 3
300	5	86	08	33	24	±18	00	42	±7	17
301	5	86	08	34	30	±18	09	30	±7	13
302	7	159	08	35	28	±4	57	50	±5	11 ± 2
303	5	86	08	38	30	±30	03	17	±8	17
304	7	159	08	40	27	±7	16	05	±6	10.0 ± 2.5
305	5	86	08	41	00	±24	07	28	±7	14
306	9	81	08	41	18	±45	71	08	±10	24
307	5	86	08	43	18	±24	02	20	±8	9.4
308a	2	81	08	48		±120	18		±300	75
308b	3	101	08	50		±240	13		±40	160
308c	7	159	08	50	26	±4	14	07	±9	24.5 ± 4.5
309	2	81	08	51		±120	53		±60	22
310	5	86	08	54	54	±24	09	55	±8	14
311	5	86	08	55	00	±24	03	36	±8	9.0
312	7	159	08	55	05	±5	27	58	±5	10.0 ± 2.0
313	7	159	08	55	40	±6	36	30	±5	9.5 ± 2.0
314	7	159	08	56	00	±5	14	25	±8	21.5 ± 5.0
315	7	159	08	57	09	±7	16	00	±10	11.0 ± 2.0
316	3	101	09	00		±480	34		±40	70
317	3	101	09	00		±240	48		±20	200
318	7	159	09	01	53	±2	06	11	±9	8.5 ± 2.0
319	7	159	09	02	56	±6	14	13	±5	15.5 ± 4.5
320	7	159	09	06	23	±3	43	07	±2	23.5 ± 5.0
321	7	159	09	06	52	±3	38	04	±6	10.5 ± 2.0
322	5	86	09	09	12	±18	08	23	±7	13
323	5	86	09	15	12	±12	09	35	±6	40
324a	2	81	09	16		±240	47		±60	50

[a] α, right ascension; δ, declination.

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TABLE II.- POSITIONS AND INTENSITIES OF DISCRETE RADIO SOURCES - Continued

(a) Northern hemisphere - Continued

Source	Survey	Frequency, ν, mc/sec	Position (1950 epoch)[a] α, hr	α, min	α, sec	Δα, sec	δ, deg	δ, min	Δδ, min	Intensity, I, watts - m^{-2} - $(c/sec)^{-1}$
324b	4	159	09	16		±120	45		±60	30 × 10^{-26}
324c	7	159	09	17	54	±2	45	52	±2	42 ± 9
325	7	159	09	18	07	±3	26	36	±5	10.5 ± 4.0
326	9	81	09	22	44	±20	78	48	±15	55
327	3	101	09	25		±1,920	8		±90	80
328a	2	81	09	32		±360	39		±120	35
328b	7	159	09	32	02	±5	39	56	±6	8.0 ± 1.5
329a	7	159	09	34	01	±5	04	42	±7	12.0 ± 2.5
329b	5	86	09	34	06	±12	04	50	±5	24
330	5	86	09	34	24	±24	02	13	±6	14
331	7	159	09	39	36	±4	14	04	±3	19.5 ± 3.5
332	7	159	09	41	41	±7	10	05	±7	11.0 ± 2.0
333	5	86	09	41	48	±18	09	57	±7	32
334	5	86	09	43	00	±18	02	21	±5	7.1
335a	5	86	09	44	54	±12	07	39	±4	89
335b	7	159	09	45	11	±3	07	37	±4	50 ± 20
336	7	159	09	47	25	±5	14	30	±7	17.0 ± 3.0
	9	81	09	48	01	±20	74	09	±25	53
337	7	159	09	48	21	±7	24	20	±7	10.0 ± 2.0
338a	7	159	09	49	27	±3	00	08	±14	31 ± 8
338b	5	86	09	49	42	±12	00	06	±5	36
339	5	86	09	50	30	±18	09	00	±7	16
340	7	159	09	51	20	±5	70	05	±15	12 ± 3
341	7	159	09	54	31	±6	32	37	±5	8.5 ± 2.5
342	5	86	09	55	18	±12	03	35	±5	18
343	2	81	09	57		±120	56	30	±90	33
344	7	159	09	57	03	±5	30	13	±4	10.0 ± 2.0
345	7	159	09	58	56	±7	29	01	±10	30 ± 8
346	2	81	10	00	30	±30	43	15	±60	75
347	7	159	10	03	33	±3	48	24	±5	8.0 ± 1.5
348	7	159	10	05	05	±7	37	15	±6	12.0 ± 2.5
349a	7	159	10	05	30	±5	07	47	±6	21.5 ± 4.5
349b	5	86	10	05	42	±12	07	54	±6	30
350	7	159	10	07	26	±2	03	26	±10	18.5 ± 9.0
351	7	159	10	07	27	±5	44	33	±10	15 ± 5
352	9	81	10	07	37	±20	71	16	±10	27
353	9	81	10	07	54	±30	74	36	±10	59
354	5	86	10	08	36	±18	06	32	±6	39
355	5	86	10	09	54	±24	04	50	±10	8.7
356	5	86	10	10	54	±18	03	11	±6	9.4
357	7	159	10	15	07	±5	30	08	±5	9.5 ± 2.0
358	7	159	10	19	10	±3	22	11	±5	13.0 ± 3.0
359	5	86	10	22	00	±18	09	36	±8	15
360	7	159	10	22	39	±3	20	28	±7	11.5 ± 2.5
361a	7	159	10	23	16	±6	06	46	±7	12.5 ± 4.5
361b	5	86	10	24	00	±18	06	41	±6	35
362	7	159	10	25	42	±3	48	28	±4	12.0 ± 2.5
363	3	101	10	30		±120	44		±20	220
364	2	81	10	33			56		±60	33
365	9	81	10	33	11	±30	73	25	±12	28
366	3	101	10	35		±240	35		±40	100
367	5	86	10	38	12	±18	02	36	±8	13
368	7	159	10	40	15	±7	12	22	±6	12.0 ± 2.5
369	5	86	10	47	18	±18	04	25	±7	13
370	5	86	10	48	48	±12	00	00	±5	21
371	2	81	10	50		±180	44	15	±120	35
372	9	81	10	51	10	±20	72	18	±20	31
373	5	86	10	54	00	±24	02	09	±6	24
374	7	159	10	55	13	±4	43	23	±5	9.5 ± 2.0
375	5	86	10	56	48	±24	09	15	±7	19
376	7	159	10	58	24	±4	33	04	±6	8.5 ± 1.5
377	2	81	11	03		±180	39	45	±60	60
378	7	159	11	06	12	±4	25	15	±5	14.0 ± 3.5
379	5	86	11	06	30	±30	09	45	±7	16
380	9	81	11	06	39	±20	77	10	±20	24
381	7	159	11	06	44	±6	38	53	±7	9.0 ± 1.5
382	5	86	11	07	06	±24	03	48	±7	15
383	5	86	11	08	00	±30	01	56	±8	7.0
384	7	159	11	08	02	±7	35	54	±5	8.0 ± 2.0
385	7	159	11	11	55	±5	40	58	±3	21.5 ± 3.5
386	7	159	11	18	08	±6	23	41	±8	11.5 ± 2.0
387	5	86	11	20	12	±24	07	40	±8	8.2
388a	7	159	11	20	43	±5	05	52	±8	11.0 ± 2.5
388b	5	86	11	20	54	±18	05	25	±7	19
389	9	81	11	21	07	±10	72	55	±30	24

[a] α, right ascension; δ, declination.

TABLE II.- POSITIONS AND INTENSITIES OF DISCRETE RADIO SOURCES - Continued

(a) Northern hemisphere - Continued

Source	Survey	Frequency, ν, mc/sec	Position (1950 epoch)[a]							Intensity, I, watts - m^{-2} - $(c/sec)^{-1}$
			α, hr	α, min	α, sec	$\Delta\alpha$, sec	δ, deg	δ, min	$\Delta\delta$, min	
390	7	159	11	22	12	±9	19	39	±7	$(10.0 \pm 2.0) \times 10^{-26}$
391	5	86	11	22	30	±24	02	20	±8	8.5
392	7	159	11	24	31	±3	32	40	±5	9.5 ± 2.5
393	5	86	11	26	18	±24	00	42	±8	7.1
394	9	81	11	27	10	±20	77	33	±15	14
395	7	159	11	31	33	±5	23	57	±6	9.5 ± 2.0
396a	7	159	11	32	17	±5	30	26	±5	12.0 ± 3.0
396b	3	101	11	35		±240	31		±40	100
397	7	159	11	36	55	±5	66	07	±10	10 ± 2
398	5	86	11	37	24	±24	01	24	±7	15
399	5	86	11	38	24	±24	05	43	±8	8.2
400	3	101	11	40		±240	50		±20	200
401	5	86	11	42	24	±18	08	14	±7	14
402	5	86	11	42	30	±30	09	30	±10	8.6
403	7	159	11	42	34	±6	20	00	±9	37 ± 5
404	7	159	11	42	54	±6	31	46	±7	30 ± 7
405	2	81	11	43		±180	44		±120	30
406	7	159	11	44	39	±4	52	03	±4	14.0 ± 2.5
407	3	101	11	45		±480	37		±40	100
408	7	159	11	46	40	±5	13	10	±7	14.5 ± 2.5
409	6	86	11	47	00	±18	05	40	±7	11
410	2	81	11	48		±240	64		±180	50
411	7	159	11	50	52	±4	51	15	±6	8.5 ± 1.5
412	1	100	11	52			17			100
413	6	86	11	54	06	±18	04	26	±10	12
414	9	81	11	58	45	±20	73	27	±20	24
415	6	86	11	59	36	±18	00	36	±7	8.5
416	6	86	12	01	42	±30	07	14	±8	13
417	6	86	12	04	12	±12	04	19	±5	25
418	6	86	12	07	24	±18	08	39	±10	12
419	7	159	12	14	38	±5	23	22	±7	14.0 ± 3.0
420	6	86	12	14	48	±12	04	00	±6	30
421a	5	86	12	16	42	±6	05	59	±5	100
421b	7	159	12	16	55	±4	06	15	±15	20 ± 7
422	5	86	12	18	00	±18	09	50	±10	24
423	5	86	12	19	00	±12	02	46	±6	12
424	7	159	12	20	35	±3	16	24	±7	11.5 ± 4.0
425	7	159	12	21	10	±8	42	37	±5	10.5 ± 2.0
426a	5	86	12	26	36	±12	02	17	±4	167
426b	7	159	12	26	44	±4	02	22	±5	79 ± 21
427a	1	100	12	28	11		12	40		1,250
427b	6	960	12	28	18		12	40.1		300
427c	7	159	12	28	18		12	40.1		1,100
427d	2	81	12	28	25	±70	12		±20	1,050
427e	3	101	12	30		±120	12	30	±20	1,200
428	9	81	12	30	58	±20	71	52	±180	30
429	5	86	12	35	18	±18	01	42	±8	16
430	5	86	12	46	54	±30	09	23	±8	14
431a	7	159	12	48	49	±3	45	33	±5	8.0 ± 1.5
431b	4	159	12	49		±120	47	30	±180	18
432	7	159	12	50	38	±5	50	50	±8	12 ± 4
433	5	86	12	51	30	±18	08	53	±6	17
434a	7	159	12	54	43	±4	47	35	±10	25 ± 6
434b	3	101	12	55		±480	49		±40	120
435	9	81	12	57	15	±60	82	20	±20	30
436	9	81	13	00	20	±15	71	57	±20	40
437	5	86	13	02	00	±12	09	02	±7	22
438a	5	86	13	04	30	±24	07	02	±7	18
438b	7	159	13	05	22	±8	06	50	±8	14.0 ± 2.5
439	7	159	13	07	59	±10	66	10	±15	8 ± 2
440	5	86	13	08	00	±18	06	10	±7	22
441	7	159	13	09	33	±6	27	47	±5	10.0 ± 3.5
442	5	86	13	09	42	±12	04	00	±7	7.5
443	5	86	13	12	36	±30	07	41	±8	16
444	3	101	13	15		±240	25		±40	150
445	5	86	13	18	42	±18	01	00	±8	50
446	7	159	13	20	11	±2	42	49	±4	11.0 ± 2.0
447	9	81	13	23	44	±7	71	09	±10	26
448	2	81	13	26		±240	48		±180	35
449	7	159	13	28	49	±5	30	40	±6	30 ± 7
450	7	159	13	29	04	±3	25	24	±6	29 ± 7
451	5	86	13	30	18	±18	02	18	±8	19

[a] α, right ascension; δ, declination.

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TABLE II.- POSITIONS AND INTENSITIES OF DISCRETE RADIO SOURCES - Continued

(a) Northern hemisphere - Continued

Source	Survey	Frequency, ν, mc/sec	Position (1950 epoch)[a]							Intensity, I, watts - m^{-2} - $(c/sec)^{-1}$
			α, hr	α, min	α, sec	Δα, sec	δ, deg	δ, min	Δδ, min	
452	5	86	13	32	48	±18	06	22	±10	8.0 $\times 10^{-26}$
453a	7	159	13	36	38	±3	39	04	±4	15.0 ± 5.5
453b	2	81	13	40		±150	38		±90	30
454	5	86	13	40	18	±24	02	20	±9	13
455	7	159	13	45	00	±4	52	08	±4	12.0 ± 2.0
456	5	86	13	45	30	±18	00	42	±6	8.3
457	7	159	13	46	33	±5	30	03	±10	8.0 ± 2.5
458	7	159	13	47	20	±3	21	26	±5	10.0 ± 2.0
459	7	159	13	48	49	±5	64	54	±10	9 ± 2
460	5	86	13	50	00	±30	06	19	±7	54
461	7	159	13	50	01	±6	31	31	±5	12.5 ± 2.0
462	5	86	13	55	00	±12	01	24	±6	19
463	5	86	13	55	24	±18	04	50	±7	10
464	2	81	14	01		±120	51		±120	75
465	5	86	14	01	00	±18	09	22	±7	28
466	7	159	14	04	35	±4	34	32	±4	12.5 ± 3.0
467	9	81	14	06	14	±20	76	08	±20	13
468	5	86	14	09	24	±18	07	31	±6	14
469a	8	100	14	09	31.5	±4	50	23	±10	35
469b	7	159	14	09	32	±3	52	26	±5	74 ± 15
469c	4	159	14	10		±120	51	30	±60	40
470	5	86	14	13	00	±30	05	49	±8	17
471	7	159	14	13	48	±7	11	22	±7	10.0 ± 2.0
472	5	86	14	15	48	±18	01	06	±7	17
473a	7	159	14	16	40	±8	06	46	±7	61 ± 16
473b	5	86	14	16	42	±6	06	43	±4	114
474	5	86	14	17	00	±12	04	00	±5	22
475	7	159	14	19	02	±3	41	54	±4	10.5 ± 2.0
476	7	159	14	19	54	±8	17	25	±6	15.0 ± 4.0
477	3	101	14	20		±480	51		±40	200
478	5	86	14	24	18	±18	04	19	±7	13
479	5	86	14	25	24	±24	00	36	±6	16
480	9	81	14	29	03	±10	73	23	±15	35
481	9	81	14	32	12	±60	78	01	±20	20
482	7	159	14	32	16	±3	29	40	±12	9.5 ± 2.0
483	5	86	14	32	30	±18	06	38	±7	17
484	7	159	14	35	09	±3	26	23	±6	8.5 ± 2.0
485	5	86	14	35	30	±12	03	36	±6	47
486	5	86	14	35	30	±12	00	23	±6	14
487	5	86	14	37	06	±30	08	58	±8	12
488	9	81	14	38	38	±20	71	30	±15	20
489	3	101	14	40		±480	42		±40	100
490	3	101	14	40		±240	26		±40	100
491	7	159	14	40	02	±6	52	04	±7	9 ± 3
492	5	86	14	40	30	±12	05	04	±6	15
493	5	86	14	45	00	±12	07	54	±6	19
494	7	159	14	46	35	±5	20	35	±6	11.0 ± 4.0
495	7	159	14	48	09	±2	63	33	±15	15 ± 4
496	7	159	14	52	08	±3	16	36	±7	10.0 ± 2.5
497	7	159	14	52	55	±3	69	42	±20	9 ± 2
498	7	159	14	54	39	±3	50	06	±6	10 ± 4
499	5	86	14	56	30	±18	04	01	±30	11
500	7	159	14	57	07	±3	14	26	±7	11.5 ± 2.5
501	2	81	14	59		±180	58		±90	40
502	2	81	15	00		±120	70		±60	90
503	5	86	15	00	06	±24	06	15	±10	15
504	2	81	15	01		±120	36		±180	40
505a	7	159	15	02	48	±2	26	14	±5	72 ± 13
505b	8	169	15	02	48.5	±1.5	26		±15	6
506	7	159	15	03	00	±6	60	07	±4	10.5 ± 2.0
507	9	81	15	04	42	±20	76	30	±10	20
508	7	159	15	06	12	±7	12	23	±9	8.5 ± 2.0
509a	7	159	15	07	50	±6	08	09	±15	21.0 ± 4.5
509b	5	86	15	08	12	±12	08	09	±7	42
510	5	86	15	08	36	±12	06	08	±6	24
511	5	86	15	09	48	±30	01	42	±48	20
512	3	101	15	10		±240	11		±90	100
513	7	159	15	10	27	±3	45	33	±5	8.5 ± 1.5
514	7	159	15	11	32	±4	26	19	±7	26 ± 8
515	7	159	15	13	50	±6	18	35	±8	8.5 ± 2.0
516a	8	169	15	14	10.5	±3	07		±60	45
516b	5	86	15	14	12	±12	07	11	±36	140
516c	7	159	15	14	19	±5	07	11	±4	55 ± 14
517	5	86	15	14	24	±30	00	18	±48	16

[a] α, right ascension; δ, declination.

TABLE II.- POSITIONS AND INTENSITIES OF DISCRETE RADIO SOURCES - Continued

(a) Northern hemisphere - Continued

Source	Survey	Frequency, ν, mc/sec	Position (1950 epoch)[a]							Intensity, I, watts - m^{-2} - $(c/sec)^{-1}$
			α, hr	α, min	α, sec	Δα, sec	δ, deg	δ, min	Δδ, min	
518	7	159	15	17	52	±6	20	28	±5	$(14.5 \pm 3.0) \times 10^{-26}$
519	5	86	15	19	18	±12	07	55	±30	50
520	7	159	15	22	48	±6	54	39	±4	16.5 ± 2.5
521	9	81	15	25	34	±10	72	31	±20	41
522	2	81	15	29		±300	55		±90	45
523	7	159	15	29	37	±5	35	53	±6	8.0 ± 1.5
524	7	159	15	29	41	±6	24	18	±10	15.0 ± 2.5
525	3	101	15	30		±480	26		±40	100
526	7	159	15	30	47	±3	53	59	±4	11.5 ± 2.0
527	5	86	15	33	18	±30	09	29	±8	13
528	5	86	15	34	06	±12	02	38	±6	17
529	5	86	15	36	06	±24	01	42	±7	12
530	5	86	15	37	24	±18	06	08	±8	22
531	7	159	15	40	57	±5	60	18	±10	9 ± 2
532	5	86	15	42	06	±18	04	06	±7	17
533	5	86	15	42	24	±12	02	20	±5	16
534	7	159	15	47	34	±5	21	33	±7	18 ± 5
535	5	86	15	48	54	±12	03	10	±6	18
536	7	159	15	49	08	±5	62	50	±4	15 ± 5
537	7	159	15	49	25	±4	17	47	±6	12.5 ± 2.5
538a	5	86	16	00	00	±12	02	13	±5	100
538b	7	159	16	00	01	±4	02	05	±8	34 ± 8
539	2	81	16	01		±240	66	30	±60	70
540	7	159	16	01	07	±6	30	09	±7	8.0 ± 2.0
541	5	86	16	02	48	±24	01	05	±7	45
542	5	86	16	03	18	±12	00	06	±6	35
543	5	86	16	07	00	±4	04	25	±7	17
544	2	81	16	08		±120	40		±240	35
545	7	159	16	08	11	±3	33	07	±5	11.0 ± 2.5
546	7	159	16	08	59	±5	66	10	±6	24 ± 4
547	7	159	16	10	11	±6	22	41	±9	10.5 ± 3.0
548	9	81	16	12	32	±15	76	44	±18	16
549	5	86	16	13	18	±18	04	25	±6	27
550	7	159	16	14	44	±4	30	09	±6	16.0 ± 2.5
551	7	159	16	15	05	±4	21	11	±4	14.0 ± 2.5
552	7	159	16	18	07	±4	17	44	±8	16.0 ± 3.5
553	7	159	16	18	16	±4	13	45	±11	10.5 ± 5.0
554	9	81	16	19	50	±180	79	59	±30	15
555	7	159	16	21	44	±7	23	48	±5	13.5 ± 2.5
556	5	86	16	22	12	±18	08	21	±6	14
557	9	81	16	22	37	±180	82	08	±20	22
558a	2	81	16	24		±60	38		±90	70
559	7	159	16	25	12	±2	44	20	±5	8.5 ± 1.5
558b	7	159	16	26	54	±5	39	38	±3	49 ± 10
560	7	159	16	27	10	±3	14	43	±4	14.5 ± 2.5
561	7	159	16	27	42	±5	23	40	±7	9.5 ± 2.0
562	7	159	16	28	41	±5	30	09	±11	8.5 ± 3.5
563	5	86	16	29	00	±30	09	08	±10	22
564	3	101	16	30		±240	18		±40	130
565	7	159	16	34	32	±3	26	53	±7	10.5 ± 2.0
566	7	159	16	35	40	±5	62	51	±10	18 ± 3
567	5	86	16	38	06	±18	03	44	±10	23
568	3	101	16	40		±240	41		±40	80
569	7	159	16	41	15	±7	37	28	±10	8.5 ± 1.5
570	7	159	16	41	33	±5	40	11	±5	9.0 ± 1.5
571	7	159	16	41	36	±2	17	24	±5	15.5 ± 3.0
572	7	159	16	43	08	±7	13	16	±5	16.0 ± 3.0
573	5	86	16	44	42	±18	01	43	±8	33
574a	3	101	16	45		±120	6		±90	400
574b	5	86	16	48	42	±6	05	04	±2	890
574c	7	159	16	48	43	±5	05	10	±10	300 ± 50
574d	6	960	16	48	43	±2	05	06.4	±.5	73.5 ± 6
574e	2	81	16	49		±240	7		±540	300
574f	1	100	16	50			5			200
575	9	81	16	55	08	±7	71	22	±6	39
576	7	159	16	58	10	±4	47	08	±6	13.5 ± 2.0
577	7	159	17	00	32	±6	36	55	±5	9.0 ± 2.5
578a	2	81	17	03		±360	63	30	±90	50
579	5	86	17	03	12	±18	09	16	±10	78
578b	7	159	17	04	03	±6	60	48	±5	15 ± 3
580	7	159	17	09	15	±4	46	02	±4	12.0 ± 2.0
581	8	169	17	18	01	±1.5	00		±120	14
582	7	159	17	19	01	±7	19	24	±10	12.0 ± 3.0
583	5	86	17	22	18	±18	05	44	±4	36

[a] α, right ascension; δ declination.

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TABLE II.- POSITIONS AND INTENSITIES OF DISCRETE RADIO SOURCES - Continued

(a) Northern hemisphere - Continued

Source	Survey	Frequency, ν, mc/sec	Position (1950 epoch)[a] α, hr	α, min	α, sec	Δα, sec	δ, deg	δ, min	Δδ, min	Intensity, I, watts - m^{-2} - $(c/sec)^{-1}$
584	7	159	17	22	31	±5	38	17	±5	$(9.0 \pm 1.5) \times 10^{-26}$
585	7	159	17	23	21	±4	51	13	±5	14.0 ± 3.5
586	9	81	17	24	30	±20	79	48	±20	24
587	7	159	17	26	34	±8	31	50	±6	9.0 ± 2.0
588	9	81	17	28	52	±30	73	57	±20	37
589	7	159	17	29	50	±4	20	39	±7	12.0 ± 5.5
590	7	159	17	34	04	±3	40	39	±5	10.0 ± 2.0
591	3	101	17	40		±480	14		±40	150
592	7.	159	17	45	06	±5	18	42	±7	11.5 ± 2.5
593	7	159	17	47	26	±3	59	41	±5	11 ± 2
594	7	159	17	54	01	±5	37	34	±5	10.5 ± 2.0
595	7	159	17	56	01	±5	10	45	±5	15.5 ± 5.5
596	5	86	17	56	06	±24	02	46	±10	48
597	7	159	17	57	00	±3	55	06	±5	9.0 ± 2.0
598	2	81	18	00		±30	47	30	±30	85
599	7	159	18	01	10	±3	55	06	±5	9.0 ± 2.0
600	7	159	18	02	42	±5	10	57	±6	13.5 ± 2.5
601	5	86	18	03	54	±24	00	12	±7	33
602	5	86	18	04	18	±24	03	40	±10	27
603	7	159	18	05	39	±2	25	46	±5	13.0 ± 2.5
604	7	159	18	06	47	±5	32	29	±6	9.0 ± 2.0
605	7	159	18	07	04	±2	69	55	±20	9 ± 3
606	7	159	18	10	35	±4	42	56	±6	9.0 ± 1.5
607	9	81	18	11	37	±15	73	34	±15	21
608	7	159	18	14	16	±5	31	21	±5	11.0 ± 2.5
609	5	86	18	15	18	±24	00	04	±10	14
610	5	86	18	17	24	±18	03	05	±6	41
611	7	159	18	19	54	±7	26	06	±7	9.0 ± 2.5
612	7	159	18	19	58	±5	15	09	±7	11.0 ± 2.5
613	7	159	18	21	15	±5	36	18	±5	14.5 ± 2.5
614	7	159	18	23	39	±4	57	41	±5	9.5 ± 1.5
615	9	81	18	23	40	±15	73	51	±20	30
616	7	159	18	24	16	±5	23	17	±7	8.5 ± 2.0
617	9	81	18	26	19	±15	72	16	±15	21
618	5	86	18	26	30	±24	00	25	±6	50
619a	2	81	18	27			47	45	±60	75
619b	7	159	18	28	12	±3	48	43	±3	70 ± 10
620	5	86	18	29	36	±24	09	40	±10	45
621	7	159	18	32	28	±2	47	24	±4	14.5 ± 3.5
622	7	159	18	33	12	±4	30	23	±4	18.0 ± 5.0
623	6	960	18	33	21	±6	32	40.6	±1	6.9 ± 0.6
624	7	159	18	33	35	±3	65	20	±20	8 ± 3
625	7	159	18	34	12	±6	34	46	±5	13.0 ± 2.5
626	5	86	18	34	36	±18	03	37	±6	20
627	7	159	18	36	13	±4	17	11	±8	27 ± 6
628	2	81	18	40		±600	80		±60	95
629	7	159	18	42	37	±3	45	32	±3	22.5 ± 3.5
630a	5	86	18	42	42	±42	09	30	±10	54
631	1	100	18	43			5			300
630b	7	159	18	43	12	±3	09	49	±4	22.5 ± 4.5
632	5	86	18	43	18	±24	07	15	±8	28
633	5	86	18	44	00	±30	05	07	±8	25
634	9	81	18	49	08	±20	72	58	±20	35
635a	7	159	18	53	35	±5	01	15	±7	680 ± 120
635b	5	86	18	53	42	±6	01	29	±5	550
636	7	159	18	55	48	±7	53	04	±5	10.0 ± 2.0
637	7	159	18	57	02	±6	12	56	±7	18.5 ± 3.5
638	3	101	19	00		±480	7		±90	300
639	7	159	19	00	16	±5	32	06	±10	8.0 ± 2.0
640	2	81	19	01		±240	57	30	±60	38
641	7	159	19	01	42	±5	05	31	±6	24.5 ± 7.0
642	7	159	19	05	06	±8	07	07	±4	29 ± 9
643	9	81	19	08	25	±15	74	05	±25	33
644	7	159	19	08	45	±4	09	09	±3	43 ± 7
645	5	86	19	09	00	±18	05	05	±6	59
646	9	81	19	10	50	±20	78	53	±20	26
647	5	86	19	12	42	±18	00	09	±8	29
648	7	159	19	16	30	±9	53	32	±9	8.0 ± 2.0
649	5	86	19	17	30	±18	00	54	±10	20
650	9	81	19	18	46	±30	77	54	±60	18
651	7	159	19	22	04	±5	13	43	±6	25 ± 4
652	5	86	19	30	06	±18	00	54	±7	20
653	5	86	19	32	24	±24	09	43	±6	30
654	5	86	19	33	48	±18	05	55	±8	18

[a] α, right ascension; δ, declination.

TABLE II.- POSITIONS AND INTENSITIES OF DISCRETE RADIO SOURCES - Continued

(a) Northern hemisphere - Continued

Source	Survey	Frequency, ν, mc/sec	Position (1950 epoch)[a]							Intensity, I, watts - m^{-2} - $(c/sec)^{-1}$
			α, hr	α, min	α, sec	Δα, sec	δ, deg	δ, min	Δδ, min	
655	5	86	19	37	24	±18	04	13	±12	34 × 10^{-26}
656	5	86	19	37	42	±24	01	06	±10	8.3
657	7	159	19	39	37	±4	60	35	±3	22 ± 3
658	7	159	19	40	23	±7	50	32	±8	15.0 ± 3.0
659	5	86	19	43	48	±18	09	16	±8	13
660a	7	159	19	49	41	±6	02	23	±5	23 ± 6
660b	5	86	19	49	48	±18	02	26	±2	64
661a	4	159	19	57	22	±25	40	22	±16	5,700
661b	3	101	19	57	30		40	30		13,000
661c	6	960	19	57	44.5		40	35.8		2,160 ± 120
661d	7	159	19	57	44.5		40	35		8,600
661e	1	100	19	58	18		40	36		12,500
662	7	159	20	00	19	±4	00	20	±9	9.5 ± 2.0
663	7	159	20	07	52	±5	51	39	±20	8 ± 2
664a	8	169	20	12	15	±1	23	25	±15	4
664b	7	159	20	12	17	±2	23	26	±5	102 ± 20
665	5	86	20	15	12	±18	08	49	±8	15
666	5	86	20	15	42	±18	01	54	±7	14
667	5	86	20	16	54	±18	04	00	±7	13
668	7	159	20	18	08	±7	29	31	±8	36 ± 7
669	7	159	20	19	47	±5	09	59	±8	16.0 ± 4.0
670	4	159	20	22	00		40	00		300
671	7	159	20	22	02	±10	69	28	±15	8 ± 2
672	5	86	20	25	36	±36	06	22	±8	16
673	9	81	20	28	44	±60	75	39	±15	39
674	7	159	20	29	52	±4	25	41	±7	10.0 ± 2.0
675	7	159	20	30	17	±3	18	57	±7	9.5 ± 2.0
676	7	159	20	33	13	±5	52	57	±10	9 ± 3
677	5	86	20	35	42	±30	04	13	±10	11
678	7	159	20	35	49	±6	34	10	±5	15.5 ± 4.5
679	7	159	20	37	07	±3	51	07	±10	16.0 ± 3.0
680	5	86	20	37	18	±30	05	20	±8	14
681	7	159	20	38	30	±5	24	25	±7	10.5 ± 2.5
682	5	86	20	39	06	±18	00	48	±7	12
683	9	81	20	41	30	±30	75	43	±15	47
684	7	159	20	41	45	±5	50	20	±15	8.0 ± 2.0
685	5	86	20	42	24	±30	03	29	±7	11
686	7	159	20	43	51	±7	40	21	±9	13.5 ± 3.0
687a	4	159	20	44		±60	50	20	±45	200
687b	6	960	20	45			50	30		60 ± 6
688	7	159	20	45	12	±10	46	31	±7	8.0 ± 2.0
689a	7	159	20	45	43	±4	06	50	±6	16.0 ± 4.0
690	5	86	20	45	54	±18	01	54	±7	19
689b	5	86	20	45	54	±18	06	57	±7	22
691	5	86	20	45	42	±18	04	00	±7	10
692	6	960	20	50			30			33 ± 3
693	5	86	20	55	24	±24	00	42	±4	104
694	5	86	20	55	42	±24	05	43	±8	19
695	7	159	20	58	46	±4	25	59	±7	9.5 ± 2.0
696	9	81	20	59	27	±10	72	23	±7	30
697	9	81	21	03	44	±20	76	17	±10	59
698	7	159	21	05	05	±5	21	12	±12	12.0 ± 2.5
699	7	159	21	06	26	±4	47	20	±8	19.5 ± 4.5
700	5	86	21	07	42	±24	09	19	±10	12
701	5	86	21	12	42	±18	04	06	±5	12
702	7	159	21	12	57	±5	62	17	±10	11 ± 2
703	7	159	21	16	57	±5	60	35	±3	100 ± 40
704	7	159	21	17	11	±4	49	22	±4	31 ± 6
705	7	159	21	20	30	±2	17	04	±5	13.5 ± 2.5
706	7	159	21	21	31	±4	24	48	±7	62 ± 10
707	5	86	21	21	54	±18	02	45	±6	17
708	7	159	21	22	32	±5	15	49	±12	10.5 ± 4.0
709	9	81	21	23	24	±30	75	04	±40	24
710a	5	86	21	26	24	±12	07	15	±7	27
710b	7	159	21	26	39	±5	07	27	±10	12.5 ± 3.0
711	5	86	21	27	06	±30	01	06	±8	67
712	9	81	21	34	41	±15	74	45	±30	21
713	5	86	21	36	00	±24	03	47	±6	12
714	4	159	21	37		±120	56	30	±90	50
715	5	86	21	39	48	±24	02	45	±7	18
716	7	159	21	41	56	±4	27	50	±8	21.0 ± 3.5
717	5	86	21	42	24	±18	07	54	±8	15
718	5	86	21	42	30	±24	04	00	±5	11
719	7	159	21	45	00	±3	15	03	±5	16.0 ± 5.0

[a] α, right ascension; δ, declination.

3V

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TABLE II.- POSITIONS AND INTENSITIES OF DISCRETE RADIO SOURCES - Continued

(a) Northern hemisphere - Concluded

Source	Survey	Frequency, ν, mc/sec	Position (1950 epoch)[a] α, hr	α, min	α, sec	$\Delta\alpha$, sec	δ, deg	δ, min	$\Delta\delta$, min	Intensity, I, watts - m^{-2} - $(c/sec)^{-1}$
720	5	86	21	49	36	±24	07	52	±8	23 $\times 10^{-26}$
721	5	86	21	50	30	±24	05	17	±7	17
722	6	960	21	51	37	±7	46	50	±3	4.5 ± 0.6
723	5	86	21	52	12	±24	02	08	±7	15
724	7	159	21	53	48	±6	37	42	±8	43 ± 7
725	7	159	21	57	20	±5	50	22	±10	8.0 ± 2.0
726	5	86	21	58	18	±30	05	16	±7	8.3
727	5	86	21	59	54	±18	04	25	±5	8.4
728	7	159	22	03	09	±5	62	12	±10	11 ± 3
729	9	81	22	03	36	±10	72	24	±15	38
730	9	81	22	03	39	±15	73	30	±20	20
731	7	159	22	04	42	±5	29	13	±5	12.5 ± 2.5
732	5	86	22	06	30	±24	01	54	±7	26
733	5	86	22	10	00	±30	07	41	±6	14
734	7	159	22	10	30	±4	10	50	±6	33 ± 6
735	5	86	22	10	48	±30	08	48	±7	31
736	9	81	22	14	58	±20	77	37	±15	26
737	5	86	22	21	24	±30	02	17	±7	8.1
738	5	86	22	22	24	±24	05	55	±5	16
739	7	159	22	24	27	±6	39	20	±7	9.0 ± 1.5
740	5	86	22	26	36	±18	08	27	±7	19
741	7	159	22	28	13	±3	44	28	±5	9.5 ± 2.0
742	7	159	22	29	09	±6	38	57	±7	11.5 ± 2.0
743	6	960	22	29	53	±6	11	28.2	±2	7.2 ± 0.6
744	5	86	22	34	54	±24	05	43	±8	12
745	7	159	22	39	43	±10	41	22	±6	8.0 ± 1.5
746	5	86	22	39	54	±24	04	28	±8	12
747	7	159	22	40	40	±7	15	45	±7	9.0 ± 2.0
748	9	81	22	41	30	±20	76	40	±10	24
749	7	159	22	43	30	±5	39	21	±3	50 ± 10
750	7	159	22	44	14	±5	17	10	±8	10.0 ± 2.0
751	5	86	22	46	54	±18	07	00	±8	15
752	7	159	22	47	26	±9	15	50	±10	11.5 ± 4.5
753	5	86	22	49	30	±30	09	43	±7	17
754	5	86	22	50	24	±12	03	35	±5	11
755	5	86	22	51	42	±18	00	54	±7	13
756	5	86	22	52	18	±18	02	43	±7	16
757	7	159	22	53	27	±5	13	12	±5	15.0 ± 2.5
758	5	86	22	55	18	±24	08	08	±6	16
759	5	86	22	57	12	±24	09	43	±8	15
760	5	86	23	05	06	±24	03	23	±6	9.4
761	5	86	23	08	12	±18	07	28	±6	22
762	9	81	23	08	16	±20	77	46	±15	21
763a	7	159	23	09	19	±5	09	06	±8	10.0 ± 2.0
763b	5	86	23	09	36	±24	09	16	±8	51
764	7	159	23	09	36	±3	18	25	±5	12.5 ± 2.0
765	7	159	23	09	37	±5	05	09	±14	12.5 ± 3.5
766	5	86	23	10	30	±18	04	50	±6	18
767a	5	86	23	14	00	±06	03	53	±3	57
767b	7	159	23	14	05	±3	03	55	±5	25 ± 5
768	7	159	23	18	15	±5	23	37	±5	13.0 ± 2.5
769	5	86	23	19	00	±24	09	16	±7	7.8
770a	6	960	23	21	11.4		58	31.9		3,120 ± 150
770b	2	81	23	21	12	±10	58	32	±4	22,000
770c	7	159	23	21	12		58	32.1		13,000
770d	4	159	23	21	36	±30	58	38	±10	9,250
771	7	159	23	23	33	±2	40	26	±5	10.0 ± 2.0
772	5	86	23	24	54	±24	06	49	±8	15
773	5	86	23	25	00	±24	03	54	±36	17
774	7	159	23	25	30	±6	26	50	±6	14 ± 4
775	5	86	23	31	18	±24	01	03	±36	8.6
776	7	159	23	33	58	±5	20	53	±7	8.0 ± 1.5
777	3	101	23	35		±480	10		±90	90
778	5	86	23	35	30	±42	05	39	±7	13
779	7	159	23	35	57	±4	26	38	±5	50 ± 20
780	7	159	23	38	41	±3	22	00	±8	9.0 ± 2.0
781	5	86	23	39	18	±18	04	38	±30	13
782	7	159	23	46	00	±4	18	37	±8	8.0 ± 1.5
783	7	159	23	46	31	±5	50	39	±6	8.0 ± 1.5
784	7	159	23	50	48	±10	32	42	±4	12.0 ± 2.5
785	9	81	23	50	56	±20	79	34	±20	40
786	7	159	23	53	53	±2	43	48	±5	8.0 ± 2.5
787	7	159	23	56	46	±3	41	25	±7	8 ± 2
788	5	86	23	57	06	±30	09	48	±30	12

[a] α, right ascension; δ, declination.

TABLE II.- POSITIONS AND INTENSITIES OF DISCRETE RADIO SOURCES - Continued

(b) Southern hemisphere

Source	Survey	Frequency, ν, mc/sec	Position (1950 epoch)[a]							Intensity, I, watts - m^{-2} - $(c/sec)^{-1}$
			α, hr	α, min	α, sec	$\Delta\alpha$, sec	δ, deg	δ, min	$\Delta\delta$, min	
1	5	86	00	00	00	±12	17	32	±5	28 $\times 10^{-26}$
2	3	101	00	00		±240	14		±40	150
3	5	86	00	00	18	±18	15	28	±5	15
4	5	86	00	00	36	±18	12	23	±6	12
5a	5	86	00	03	18	±18	00	56	±4	35
5b	7	159	00	03	49	±5	00	23	±7	16.5 ± 4.5
6	3	101	00	05		±240	61		±20	150
7	7	159	00	05	06	±5	06	31	±10	11.0 ± 3.0
8	5	86	00	05	36	±18	19	58	±6	17
9	5	86	00	06	00	±24	06	19	±8	15
10	9	81.5	00	06	36	±10	27	34	±120	28
11	5	86	00	09	12	±12	19	07	±5	13
12	5	86	00	12	24	±18	15	07	±8	34
13	5	86	00	15	54	±18	13	02	±5	52
14	5	86	00	16	12	±12	10	46	±5	23
15	7	159	00	17	04	±2	04	38	±9	13.5 ± 2.5
16	5	86	00	17	24	±18	05	01	±6	9.5
17	7	159	00	17	38	±10	08	35	±11	9.0 ± 2.0
18	5	86	00	17	42	±18	02	51	±4	23
19	5	86	00	18	36	±18	19	11	±5	8.7
20	5	86	00	18	48	±18	01	42	±6	9.8
21	9	81.5	00	19	13	±20	32	30	±300	50
22	9	81.5	00	20	46	±10	28	00	±300	17
23	5	86	00	21	30	±24	08	14	±6	24
24	9	81.5	00	24	25	±15	26	00	±180	24
25	5	86	00	25	00	±24	16	48	±6	6.0
26	5	86	00	25	18	±24	13	10	±7	13
27	5	86	00	27	42	±12	11	50	±10	14
28	5	86	00	29	24	±18	15	33	±6	8.8
29	9	81.5	00	32	06	±10	22	32	±120	30
30	5	86	00	32	18	±12	08	27	±4	13
31	5	86	00	32	30	±18	16	50	±6	12
32	5	86	00	32	30	±18	18	14	±5	17
33	5	86	00	32	36	±18	07	32	±6	9.0
34	9	81.6	00	33	00	±10	29	14	±60	17
35	9	81.6	00	34	20	±15	32	30	±300	37
36	5	86	00	35	00	±36	12	35	±8	9.6
37	6	960	00	34	24	±10	01	20	±4	5.1 ± 1.2
38	7	159	00	35	18	±4	01	31	±5	21.5 ± 3.0
39	6	960	00	35	40	±8	02	23	±4	10.2 ± 2.4
40	5	86	00	36	24	±12	02	50	±5	120
41	7	159	00	36	37	±3	02	16	±14	21.5 ± 7.0
42	5	86	00	38	00	±24	13	13	±7	10
43	5	86	00	39	00	±18	15	44	±6	14
44	5	86	00	39	00	±24	06	23	±5	10
45	5	86	00	39	12	±6	09	43	±18	56
46	9	81.6	00	39	52	±20	22	59	±60	17
47	9	81.6	00	40	46	±10	29	30	±120	40
48	5	86	00	42	54	±18	00	05	±5	12
49	5	86	00	43	30	±24	14	49	±6	9.0
50	5	86	00	45	48	±24	17	58	±7	8.9
51	5	86	00	46	00	±18	07	01	±5	12
52	5	86	00	46	42	±18	02	48	±6	18
53	5	86	00	48	48	±18	12	28	±5	18
54	5	86	00	50	06	±18	19	53	±7	11
55	9	81.5	00	51	23	±20	28	05	±240	24
56a	7	159	00	51	36	±4	03	51	±12	8.0 ± 2.0
56b	5	86	00	51	42	±18	03	42	±4	23
57	5	86	00	52	18	±24	16	19	±6	12
58	5	86	00	52	24	±24	05	06	±6	8.5
59	9	81.6	00	54	00	±20	33	00	±180	19
60a	5	86	00	54	30	±6	01	39	±2	90
60b	7	159	00	55	03	±4	01	35	±10	17.0 ± 6.0
61	5	86	00	56	54	±18	13	40	±6	13
62	5	86	00	57	12	±18	15	22	±6	17
63	5	86	00	57	36	±18	17	24	±5	29
64	9	81.6	00	58	33	±15	22	08	±90	37
65	5	86	00	58	54	±18	14	30	±6	9.8
66	5	86	01	01	36	±12	12	27	±5	18
67	9	81.6	01	02	00	±10	27	30	±300	37
68	9	81.6	01	04	04	±20	34	30	±300	45
69a	5	86	01	05	54	±6	16	15	±2	53

[a] α, right ascension; δ, declination.

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TABLE II.- POSITIONS AND INTENSITIES OF DISCRETE RADIO SOURCES - Continued

(b) Southern hemisphere - Continued

Source	Survey	Frequency, ν, mc/sec	Position (1950 epoch)[a] α, hr	α, min	α, sec	$\Delta\alpha$, sec	δ, deg	δ, min	$\Delta\delta$, min	Intensity, I, watts - m^{-2} - $(c/sec)^{-1}$
69b	6	960	01	05	47	±10	16	19.8	±2	$(7.2 \pm 1.5) \times 10^{-26}$
69c	7	159	01	06	00	±12	16	18	±12	20 ± 4
70	5	86	01	06	30	±18	00	57	±6	13
71	5	86	01	07	12	±18	18	51	±6	9.0
72	9	81.6	01	07	42	±10	34	30	±200	37
73	5	86	01	08	12	±24	14	33	±6	16
74	5	86	01	10	30	±18	05	07	±6	15
75	5	86	01	11	42	±24	10	07	±6	7.8
76	5	86	01	14	30	±18	11	53	±6	11
77	9	81.6	01	15	21	±20	27	30	±300	9
78	7	159	01	15	22	±4	00	52	±5	12.0 ± 2.5
79	5	86	01	16	48	±30	16	45	±10	13
80	5	86	01	16	48	±6	19	00	±6	14
81a	5	86	01	18	00	±12	15	34	±3	45
81b	7	159	01	18	06	±12	15	55	±12	22 ± 4
81c	6	960	01	18	05	±12	15	44	±6	8.4 ± 1.5
82	5	86	01	19	36	±18	00	13	±5	19
83	9	81.5	01	19	36	±15	33	00	±3	30
84	5	86	01	21	06	±24	03	50	±6	18
85a	6	960	01	23	20	±4	01	37.7	±2	8.1 ± 1.8
85b	7	159	01	23	35	±2	01	32	±9	26 ± 5
85c	5	86	01	23	30	±6	01	35	±2	88
86	5	86	01	24	54	±18	12	10	±6	7.0
87	5	86	01	25	06	±12	14	13	±3	30
88	5	86	01	27	54	±18	15	38	±5	18
89	5	86	01	28	48	±18	07	03	±6	19
90	9	81.6	01	30	31	±15	29	30	±120	22
91	5	86	01	30	48	±18	00	26	±5	10
92	9	81.6	01	32	13	±15	33	00	±180	47
93	5	86	01	35	06	±12	09	25	±4	18
94	5	86	01	35	24	±18	02	06	±5	13
95	9	81.6	01	35	32	±15	33	00	±180	32
96	5	86	01	36	54	±24	17	49	±6	10
97	5	86	01	38	24	±24	18	25	±7	8.0
98	3	101	01	40		±480	49		±40	80
99	9	81.6	01	40	19	±15	33	00	±180	31
100	5	86	01	40	24	±12	16	51	±4	28
101	5	86	01	43	42	±12	02	27	±5	12
102	9	81.6	01	44	17	±30	32	30	±300	50
103	5	86	01	45	30	±24	00	02	±6	12
104	5	86	01	45	36	±18	18	44	±7	16
105	5	86	01	47	36	±24	09	09	±6	9.4
106	5	86	01	47	36	±18	11	11	±6	10
107	5	86	01	47	54	±18	13	11	±7	8.1
108	5	86	01	49	54	±12	03	52	±4	20
109	3	101	01	50		±8	22		±20	80
110	5	86	01	50	36	±24	14	54	±6	12
111	7	159	01	50	42	±5	04	17	±10	10.5 ± 2.0
112	5	86	01	51	36	±24	07	26	±6	9.0
113	5	86	01	52	12	±18	05	17	±7	6.8
114	9	81.5	01	52	54	±15	27	31	±4	36
115	5	86	01	55	06	±18	00	39	±6	8.0
116	5	86	01	55	06	±18	10	45	±6	16
117	5	86	01	57	00	±24	02	31	±6	8.5
118	9	81.5	01	57	14	±5	29	30	±300	53
119a	5	86	01	59	36	±18	11	47	±6	14
119b	3	101	02	00		±4	11		±40	100
120	3	101	02	00		±16	40		±40	70
119c	7	159	02	00	12	±2	11	47	±10	10.5 ± 2.0
121	5	86	02	02	00	±24	19	43	±7	8.5
122	5	86	02	02	36	±24	05	33	±6	8.5
123	5	86	02	03	30	±18	18	16	±6	17
124	5	86	02	08	00	±12	11	18	±6	30
125	5	86	02	08	18	±24	03	38	±6	12
126	9	81.5	02	09	52	±15	29	00	±180	26
127	5	86	02	10	42	±18	08	11	±6	8.5
128	5	86	02	10	48	±24	04	54	±6	8.7
129	5	86	02	11	24	±18	16	02	±6	8.2
130	9	81.5	02	11	40	±15	26	37	±90	37
131	5	86	02	12	24	±18	02	46	±6	7.5
132a	7	159	02	13	06	±12	13	29	±12	13 ± 4
132b	5	86	02	13	12	±6	13	19	±3	42

[a] α, right ascension; δ, declination.

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TABLE II.- POSITIONS AND INTENSITIES OF DISCRETE RADIO SOURCES - Continued

(b) Southern hemisphere - Continued

Source	Survey	Frequency, ν, mc/sec	Position (1950 epoch)[a]							Intensity, I, watts - m^{-2} - $(c/sec)^{-1}$
			α, hr	α, min	α, sec	Δα, sec	δ, deg	δ, min	Δδ, min	
133	5	86	02	14	12	±18	00	54	±6	12 × 10^{-26}
134	5	86	02	14	48	±24	17	58	±8	8.5
135a	6	960	02	18	07	±10	02	12	±6	6.0 ± 0.9
135b	7	159	02	18	24	±1	02	10	±5	26 ± 5
135c	5	86	02	18	36	±12	02	11	±3	74
136	5	86	02	18	36	±24	03	45	±6	7.5
137	9	81.5	02	18	36	±10	24	12	±90	35
138	3	101	02	20		±1,920	85		±10	150
139	5	86	02	22	54	±18	11	38	±8	13
140	9	81.5	02	23	09	±10	29	00	±240	25
141	5	86	02	26	30	±18	17	31	±6	19
142	7	159	02	28	04	±2	07	20	±3	23 ± 2
143	5	86	02	29	24	±18	04	55	±5	12
144	5	86	02	29	48	±24	00	18	±6	14
145	5	86	02	29	48	±18	06	57	±5	15
146	5	86	02	30	48	±24	02	40	±6	11
147	5	86	02	30	48	±18	10	12	±5	17
148	3	101	02	35		±240	4		±90	50
149	5	86	02	35	24	±6	19	42	±3	44
150	5	86	02	36	00	±24	14	45	±7	14
151	5	86	02	36	18	±24	18	20	±6	9.5
152	7	159	02	39	19	±3	03	15	±14	8.0 ± 2.0
153	5	86	02	39	24	±24	02	30	±6	15
154a	5	86	02	40	00	±6	00	09	±3	35
154b	7	159	02	40	06	±5	00	25	±9	11.0 ± 2.5
155	5	86	02	42	48	±18	05	21	±5	25
156	5	86	02	43	36	±18	09	50	±7	8.7
157	9	81.5	02	44	24	±15	26	14	±90	30
158	5	86	02	45	48	±18	16	47	±6	6.2
159	5	86	02	46	12	±24	13	29	±8	15
160	5	86	02	46	18	±24	07	46	±6	9.0
161	5	86	02	47	30	±18	18	10	±5	9.3
162	9	81.5	02	53	07	±15	30	00	±300	32
163	5	86	02	54	06	±24	03	30	±6	11
164	5	86	02	56	12	±18	16	52	±6	12
165	5	86	02	56	48	±18	05	06	±6	8.8
166	5	86	02	57	48	±18	07	30	±5	11
167	5	86	03	03	30	±18	12	21	±5	18
168	5	86	03	05	24	±24	16	44	±6	17
169	5	86	03	07	30	±18	13	33	±7	16
170	7	159	03	07	59	±5	03	00	±11	8.0 ± 2.0
171	9	81.5	03	10	50	±15	26	55	±120	37
172	1	100	03	11			36			200
173	5	86	03	12	36	±18	03	37	±4	20
174	9	81.5	03	13	44	±20	28	11	±90	33
175	5	86	03	15	06	±18	14	48	±6	9.5
176	9	81.5	03	18	50	±10	27	31	±180	30
177	3	101	03	20		±240	37	30	±18	240
178	6	960	03	20	25	±15	37	215	±4	123 ± 6
179	9	81.5	03	22	04	±15	31	24	±180	37
180	5	86	03	27	54	±18	16	51	±5	16
181	9	81.5	03	29	05	±10	25	44	±90	24
182	5	86	03	29	48	±18	07	40	±5	12
183	5	86	03	31	06	±24	18	48	±6	12
184a	6	960	03	31	26	±10	01	25	±10	6.3 ± 0.9
184b	7	159	03	31	46	±5	01	14	±10	19.5 ± 4.5
184c	5	86	03	31	42	±12	01	25	±4	64
185	9	81.5	03	32	19	±15	32	30	±300	15
186	9	81.5	03	33	01	±10	22	32	±180	54
187	6	960	03	36	54	±50	01	55	±8	3.6 ± 1.2
188	9	81.5	03	37	10	±7	24	12	±60	16
189	5	86	03	39	00	±18	04	55	±5	8.8
190	9	81.5	03	41	45	±15	32	30	±300	24
191	5	86	03	44	06	±12	11	13	±4	34
192	5	86	03	46	00	±24	04	20	±7	16
193	5	86	03	46	24	±24	13	08	±6	10
194	5	86	03	49	18	±12	14	38	±18	44
195	5	86	03	49	36	±12	07	25	±6	25
196	5	86	03	49	42	±12	10	08	±5	21
197	7	159	03	50	08	±3	07	17	±10	15.5 ± 4.0
198	7	159	03	50	49	±6	09	49	±15	8.5 ± 2.0
199	9	81.5	03	51	22	±10	27	31	±180	50

[a] α, right ascension; δ, declination.

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TABLE II.- POSITIONS AND INTENSITIES OF DISCRETE RADIO SOURCES - Continued

(b) Southern hemisphere - Continued

Source	Survey	Frequency, ν, mc/sec	Position (1950 epoch)[a]							Intensity, I, watts - m^{-2} - $(c/sec)^{-1}$
			α, hr	α, min	α, sec	$\Delta\alpha$, sec	δ, deg	δ, min	$\Delta\delta$, min	
200	5	86	03	56	30	±30	03	50	±6	11 $\times 10^{-26}$
201	5	86	03	57	30	±18	16	20	±7	18
202	5	86	03	59	12	±18	02	10	±6	16
203	7	159	03	59	21	±4	09	03	±12	8.5 ± 2.0
204	5	86	04	00	06	±18	09	56	±6	10
205	7	159	04	00	19	±4	01	11	±10	9.0 ± 2.0
206	5	86	04	00	54	±18	08	54	±6	19
207	9	81	04	04	22	±15	32	30	±300	20
208	5	86	04	05	00	±18	13	20	±8	14
209	5	86	04	05	24	±6	12	26	±3	31
210	5	86	04	05	30	±18	05	37	±5	12
211	5	86	04	06	00	±18	06	46	±6	17
212	5	86	04	08	54	±24	16	27	±6	10
213	5	86	04	09	30	±18	01	50	±5	15
214a	5	86	04	09	36	±6	01	02	±4	35
214b	7	159	04	09	55	±3	01	01	±9	11.5 ± 2.5
215	5	86	04	11	24	±24	19	36	±7	9.4
216	5	86	04	11	48	±24	11	26	±6	18
217	9	81.5	04	13	26	±15	32	30	±180	22
218	5	86	04	13	48	±18	15	22	±8	15
219a	7	159	04	14	53	±6	05	52	±11	8.5 ± 2.5
219b	5	86	04	15	30	±18	05	35	±7	36
220a	7	159	04	15	35	±3	03	03	±10	8.0 ± 3.0
220b	5	86	04	15	42	±12	03	21	±4	28
221	5	86	04	16	18	±18	18	13	±5	13
222	5	86	04	20	18	±24	09	28	±6	8.5
223	5	86	04	23	00	±18	16	57	±6	14
224	5	86	04	23	54	±18	12	07	±5	16
	9	81.5	04	25	41	±7	22	32	±120	19
225	5	86	04	25	54	±18	11	38	±7	11
226	5	86	04	26	24	±24	01	15	±6	9.7
227	5	86	04	27	12	±30	18	36	±8	9.0
228	5	86	04	28	12	±18	09	58	±6	7.3
229a	5	86	04	30	54	±12	08	44	±6	11
229b	7	159	04	31	03	±2	08	58	±12	12.0 ± 2.5
230	5	86	04	32	00	±12	13	26	±5	38
231	9	81.5	04	32	09	±15	28	12	±180	27
232	5	86	04	32	54	±18	05	30	±4	10
233	5	86	04	32	54	±24	16	38	±6	15
234	9	81.5	04	32	59	±7	22	13	±180	27
235	5	86	04	36	54	±24	15	00	±7	7.3
236	5	86	04	38	18	±18	12	10	±6	8.0
237	7	159	04	38	20	±2	02	19	±11	8.5 ± 2.0
238	5	86	04	39	00	±12	09	52	±5	17
239	5	86	04	39	36	±18	00	49	±6	12
240a	3	101	04	40		±240	18		±40	150
241	9	81.5	04	40	12	±10	22	49	±20	20
240b	5	86	04	42	48	±30	18	52	±7	7.0
242	9	81.5	04	42	58	±15	27	20	±120	45
243	5	86	04	46	48	±18	09	55	±5	16
244	5	86	04	47	18	±24	04	33	±6	46
245	5	86	04	48	00	±18	17	34	±6	14
246	5	86	04	49	18	±18	06	38	±4	9.6
247	5	86	04	49	36	±24	02	31	±5	13
248a	3	101	04	50		±480	30		±40	100
248b	9	81.5	04	51	47	±15	32	30	±300	50
249	5	86	04	52	06	±24	19	07	±8	7.3
250	5	86	04	52	24	±24	00	24	±6	20
251	5	86	04	54	12	±18	11	51	±6	17
252	5	86	04	58	42	±24	03	39	±6	18
253	9	81.5	04	59	18	±10	28	11	±120	22
254	5	86	04	59	36	±18	05	48	±6	8.5
255	5	86	04	59	54	±12	12	16	±4	14
256	5	86	05	00	00	±24	08	37	±6	9.1
257	1	100	05	01			36			200
258	5	86	05	03	00	±18	10	13	±5	20
259	5	86	05	06	30	±18	14	29	±6	16
260	5	86	05	08	30	±12	18	42	±3	41
261	9	81.5	05	09	20	±15	32	30	±300	25
262	5	86	05	10	00	±18	07	36	±6	16
263	9	81.5	05	11	49	±15	27	25	±60	32
264	5	86	05	12	24	±18	02	19	±5	17
265	5	86	05	13	00	±12	01	15	±6	18

[a] α, right ascension; δ, declination.

TABLE II.- POSITIONS AND INTENSITIES OF DISCRETE RADIO SOURCES - Continued

(b) Southern hemisphere - Continued

Source	Survey	Frequency, ν, mc/sec	Position (1950 epoch)[a]							Intensity, I, watts - m^{-2} - $(c/sec)^{-1}$
			α, hr	α, min	α, sec	$\Delta\alpha$, sec	δ, deg	δ, min	$\Delta\delta$, min	
266	5	86	05	13	00	±18	15	56	±8	11 $\times 10^{-26}$
267	5	86	05	13	18	±18	09	41	±6	8.8
268	5	86	05	13	36	±12	13	41	±6	16
269	9	81.5	05	14	01	±15	32	30	±240	38
270	5	86	05	15	30	±12	16	34	±5	16
271a	1	100	05	18			44			300
271b	6	960	05	18	19	±10	45	52	±5	84 ± 6
272	5	86	05	18	18	±18	06	15	±5	17
273	5	86	05	21	12	±24	11	59	±6	11
274	9	81.5	05	21	30	±20	33	00	±180	25
275	9	81.5	05	22	00	±7	26	51	±60	25
276	5	86	05	22	12	±24	02	46	±6	16
277	5	86	05	22	18	±24	07	22	±6	15
278	5	86	05	23	36	±18	09	36	±6	12
279	5	86	05	23	48	±18	18	24	±6	14
280	5	86	05	24	12	±18	13	36	±6	16
281	5	86	05	24	54	±18	16	31	±7	12
282	5	86	05	24	54	±18	17	35	±6	8.2
283	5	86	05	25	24	±18	10	45	±6	16
284	9	81.5	05	26	06	±15	28	42	±120	31
285	5	86	05	26	36	±24	14	48	±7	8.3
286	5	86	05	27	54	±18	00	03	±5	15
287	3	101	05	30		±240	46		±20	250
288	9	81.5	05	32	01	±5	25	26	±60	17
289a	5	86	05	32	30	±12	05	24	±18	83
289b	7	159	05	32	48	±12	05	18	±4	45 ± 4
289c	6	960	05	32	49		05	25.3		360 ± 9
290	5	86	05	33	18	±18	12	01	±6	15
291	7	159	05	34	29	±2	02	55	±11	9.5 ± 3.5
292	5	86	05	34	36	±24	18	31	±8	12
293	5	86	05	35	00	±24	17	18	±8	15
294	5	86	05	35	18	±18	13	16	±8	14
295	5	86	05	37	06	±18	16	04	±8	9.7
296	5	86	05	38	00	±30	02	20	±10	88
297	5	86	05	39	06	±24	01	25	±6	23
298	5	86	05	40	06	±24	05	16	±6	9.5
299	9	81.5	05	40	26	±10	22	29	±60	40
300	9	81.5	05	41	05	±15	32	30	±240	30
301	5	86	05	42	00	±24	12	33	±8	8.0
302	5	86	05	43	42	±18	17	33	±7	17
303	5	86	05	45	36	±24	04	42	±8	6.1
304	5	86	05	46	36	±24	06	41	±6	9.0
305	9	81.5	05	47	41	±20	34	30	±240	26
306	5	86	05	48	00	±24	08	08	±6	15
307	5	86	05	48	42	±18	15	48	±6	8.7
308	5	86	05	49	18	±12	10	32	±4	17
309	5	86	05	51	00	±18	16	59	±6	8.5
310	5	86	05	51	42	±30	14	19	±7	8.7
311	5	86	05	51	54	±18	12	29	±6	9.5
312	5	86	05	52	00	±18	02	00	±6	29
313	5	86	05	53	06	±30	01	00	±6	19
314	5	86	05	54	48	±18	03	27	±6	18
315	9	81.5	05	54	57	±10	35	30	±180	37
316	3	101	05	55		±480	56		±40	160
317	5	86	05	56	48	±18	08	03	±5	14
318a	5	86	05	57	36	±18	16	50	±6	13
318b	3	101	06	00		±480	17		±40	70
319	9	81.5	06	03	50	±20	32	30	±240	31
320	5	86	06	03	54	±18	10	45	±6	9.2
321	5	86	06	04	30	±18	04	02	±5	9.0
322	5	86	06	04	36	±24	17	49	±7	15
323	5	86	06	06	06	±12	07	21	±4	23
324	5	86	06	07	18	±24	14	40	±7	14
325	9	81.5	06	10	13	±10	22	15	±60	21
326	9	81.5	06	11	26	±15	28	00	±120	17
327	5	86	06	12	00	±12	03	53	±5	15
328	5	86	06	14	48	±30	15	00	±7	19
329	9	81.5	06	17	12	±15	27	30	±300	15
330	5	86	06	17	48	±30	16	36	±10	63
331	9	81.5	06	17	53	±15	35	30	±180	37
332	5	86	06	20	18	±24	13	39	±8	9.5
333	9	81.5	06	21	52	±15	27	30	±240	22

[a] α, right ascension; δ, declination.

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TABLE II.- POSITIONS AND INTENSITIES OF DISCRETE RADIO SOURCES - Continued

(b) Southern hemisphere - Continued

Source	Survey	Frequency, ν, mc/sec	Position (1950 epoch)[a]							Intensity, I, watts - m^{-2} - $(c/sec)^{-1}$
			α, hr	α, min	α, sec	Δα, sec	δ, deg	δ, min	Δδ, min	
334a	8	169	06	24		±3	05	47	±15	40 × 10^{-26}
334b	6	960	06	24	37	±10	05	51.4	±2	24.0 ± 1.5
334c	7	159	06	24	41	±3	05	56	±10	78 ± 30
334d	5	86	06	25	00	±6	05	56	±18	120
335	5	86	06	25	48	±18	12	52	±8	16
336	5	86	06	27	42	±24	02	25	±6	8.7
337a	9	81.5	06	29	14	±15	30	30	±180	50
337b	3	101	06	30		±16	30		±40	100
338	5	86	06	34	06	±24	15	46	±7	16
339	5	86	06	34	54	±18	13	44	±8	9.3
340	5	86	06	36	18	±18	16	50	±6	18
341	5	86	06	38	54	±30	06	40	±8	9.5
342	5	86	06	39	00	±30	08	01	±6	50
343	9	81.5	06	40	04	±15	26	13	±60	22
344	5	86	06	42	12	±24	10	19	±6	84
345	5	86	06	44	00	±12	15	33	±6	18
346	9	81.5	06	44	38	±15	25	44	±90	16
347	5	86	06	45	00	±24	02	06	±6	33
348	5	86	06	45	18	±24	08	10	±6	17
349	5	86	06	45	36	±24	09	16	±6	11
350	7	159	06	45	36	±5	06	16	±12	8.0 ± 2.5
351	5	86	06	47	12	±18	05	37	±5	25
352	5	86	06	49	42	±30	12	43	±10	55
353	9	81.5	06	52	45	±15	23	56	±120	22
354	5	86	06	53	12	±18	19	15	±7	7.6
355	9	81.5	06	55	23	±15	32	30	±300	27
356	9	81.5	06	55	55	±7	23	13	±20	37
357	5	86	06	56	42	±12	02	12	±5	24
358	5	86	07	03	12	±12	11	02	±7	55
359a	5	86	07	03	36	±24	19	13	±7	10
359b	3	101	07	05		±240	20		±40	100
360	7	159	07	05	21	±4	08	05	±12	10.0 ± 2.5
361	9	81.5	07	06	20	±15	30	30	±240	24
362	5	86	07	07	00	±18	00	38	±7	11
363	5	86	07	10	24	±18	09	06	±5	21
364	5	86	07	12	00	±18	14	30	±10	17
365	5	86	07	12	42	±12	02	41	±4	25
366	9	81.5	07	12	44	±15	27	12	±60	20
367	5	86	07	13	48	±24	11	20	±5	25
368	9	81.5	07	14	23	±20	31	30	±240	25
369	5	86	07	16	12	±24	17	07	±7	17
370	9	81.5	07	20	11	±15	26	04	±30	25
371	5	86	07	21	24	±18	18	38	±5	19
372a	5	86	07	22	18	±18	09	49	±4	36
372b	7	159	07	22	33	±4	09	30	±12	9.5 ± 3.5
373	5	86	07	23	06	±18	06	10	±6	94
374	5	86	07	23	48	±24	13	16	±7	13
375a	5	86	07	24	24	±12	02	00	±4	29
375b	7	159	07	24	34	±4	01	59	±10	15.0 ± 3.0
376	9	81.5	07	24	49	±12	35	30	±240	37
377	5	86	07	26	06	±12	14	51	±6	17
378	9	81.5	07	27	58	±15	24	38	±60	10
379	5	86	07	29	42	±24	18	17	±8	29
380	5	86	07	31	24	±24	05	31	±6	8.6
381	5	86	07	32	54	±18	15	59	±6	12
382	5	86	07	34	12	±18	19	38	±6	11
383	9	81.5	07	34	33	±30	30	30	±240	25
384	5	86	07	34	48	±24	15	00	±7	9.2
385a	5	86	07	36	12	±18	02	03	±5	19
385b	7	159	07	36	58	±4	01	42	±11	8.5 ± 2.0
386	5	86	07	38	36	±18	13	58	±6	12
387	5	86	07	38	48	±24	01	01	±6	15
388	5	86	07	41	30	±24	17	43	±7	9.8
389	5	86	07	43	24	±30	16	32	±7	10
390	5	86	07	44	12	±12	08	05	±6	17
391	5	86	07	45	30	±12	19	00	±4	52
392	5	86	07	45	36	±24	10	01	±6	13
393	9	81.5	07	45	46	±15	32	30	±300	36
394	5	86	07	46	12	±24	11	53	±7	20
395	5	86	07	48	36	±18	06	52	±6	11
396	5	86	07	51	18	±30	19	22	±8	17
397	9	81.5	07	55	42	±7	26	48	±120	40

[a] α, right ascension; δ, declination.

TABLE II.- POSITIONS AND INTENSITIES OF DISCRETE RADIO SOURCES - Continued

(b) Southern hemisphere - Continued

Source	Survey	Frequency, ν, mc/sec	Position (1950 epoch)[a] α, hr	α, min	α, sec	Δα, sec	δ, deg	δ, min	Δδ, min	Intensity, I, watts - m^{-2} - $(c/sec)^{-1}$
398	5	86	07	58	54	±24	02	06	±6	7.3 × 10^{-26}
399	5	86	07	59	42	±18	09	40	±6	17
400	5	86	08	00	18	±24	14	40	±7	33
401	5	86	08	01	00	±12	04	13	±6	14
402	5	86	08	03	06	±18	00	30	±6	15
403	5	86	08	03	24	±18	17	11	±5	18
404	7	159	08	03	43	±2	01	07	±10	10.0 ± 2.0
405	5	86	08	03	54	±24	07	54	±7	9.7
406	5	86	08	05	18	±18	12	37	±6	14
407	9	81.5	08	05	41	±15	27	13	±120	25
408a	7	159	08	06	36	±4	10	15	±12	21.0 ± 4.0
408b	5	86	08	07	00	±12	10	27	±3	40
409a	5	86	08	09	18	±12	05	40	±5	22
410	9	81.5	09	09	29	±15	30	30	±240	20
409b	3	101	08	10		±480	4		±90	50
411	5	86	08	13	06	±24	11	49	±7	4.2
412	5	86	08	13	24	±12	02	53	±5	35
413	5	86	08	13	48	±18	15	57	±5	14
414	5	86	08	17	36	±24	11	00	±7	8.9
415a	1	100	08	18			42			300
416	9	81.5	08	21	15	±15	30	30	±240	40
415b	6	960	08	21	20	±15	42	52	±4	102 ± 6
417	5	86	08	21	30	±12	09	32	±6	20
418	5	86	08	22	42	±24	04	38	±7	8.8
419	5	86	08	27	12	±18	03	15	±6	27
420	5	86	08	27	18	±24	17	39	±6	14
421	9	81.5	08	29	30	±20	29	30	±300	26
422	9	81.5	08	31	55	±15	35	30	±180	21
423	5	86	08	32	00	±18	05	10	±6	13
424a	5	86	08	32	18	±18	07	25	±6	13
424b	7	159	08	32	27	±6	08	23	±12	8.5 ± 2.0
425	5	86	08	33	06	±24	16	04	±7	8.8
426	5	86	08	34	18	±18	01	04	±7	13
427a	5	86	08	35	00	±18	11	27	±6	18
428	3	101	08	35		±480	42		±20	60
427b	7	159	08	38	16	±6	11	39	±12	13.0 ± 2.5
429	9	81.5	08	38	51	±15	23	00	±240	17
430	5	86	08	39	36	±18	17	49	±6	10
431	5	86	08	40	18	±24	09	15	±7	7
432	9	81.5	08	42	51	±20	27	31	±180	19
433	5	86	08	43	48	±18	11	28	±6	12
434	5	86	08	44	36	±24	17	44	±7	9.4
435	5	86	08	45	30	±24	15	33	±7	6.6
436	5	86	08	48	24	±24	10	15	±7	7.6
437	5	86	08	51	18	±12	14	18	±5	24
438	7	159	08	52	46	±2	07	10	±12	8.5 ± 3.0
439	5	86	08	53	12	±18	12	27	±6	13
440	5	86	08	53	30	±18	06	07	±6	12
441	5	86	08	54	24	±30	15	38	±8	9.4
442	5	86	08	55	36	±18	19	38	±7	17
443	5	86	08	57	36	±24	02	05	±7	7.8
444	9	81.5	08	59	32	±10	30	30	±300	50
445	5	86	08	59	54	±18	05	07	±6	18
446	5	86	09	00	00	±18	14	18	±6	12
447	5	86	09	01	18	±18	06	46	±6	13
448	5	86	09	03	30	±18	12	32	±6	16
449	5	86	09	06	24	±24	10	22	±7	9.5
450	5	86	09	06	30	±18	09	38	±6	17
451	5	86	09	06	54	±24	03	15	±7	7.6
452	5	86	09	07	00	±18	01	22	±7	7.3
453	9	81.5	09	14	19	±20	30	30	±180	33
454a	7	159	09	15	42	±3	11	53	±5	210 ± 32
454b	5	86	09	15	42	±6	11	53	±2	690
454c	6	960	09	15	43	±2	11	52.4	±1	67.2 ± 1.8
455	3	101	09	20		±120	11		±40	250
456a	3	101	09	20		±480	30		±40	80
456b	9	81.5	09	20	53	±10	32	30	±180	33
457	5	86	09	21	36	±24	04	22	±7	9.5
458	9	81.5	09	26	58	±15	33	30	±300	33
459	5	86	09	30	00	±18	19	56	±6	11
460	5	86	09	31	24	±18	16	47	±6	13
461	9	81.5	09	33	03	±10	32	00	±300	56

[a] α, right ascension; δ, declination.

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TABLE II.- POSITIONS AND INTENSITIES OF DISCRETE RADIO SOURCES - Continued

(b) Southern hemisphere - Continued

Source	Survey	Frequency, ν, mc/sec	Position (1950 epoch)[a]							Intensity, I, watts - m^{-2} - $(c/sec)^{-1}$
			α, hr	α, min	α, sec	$\Delta\alpha$, sec	δ, deg	δ, min	$\Delta\delta$, min	
462	5	86	09	34	54	±18	04	00	±6	15 $\times 10^{-26}$
463	3	101	09	35		±480	19		±40	150
464	5	86	09	38	12	±24	17	18	±6	15
465	5	86	09	38	48	±24	01	17	±6	12
466	5	86	09	39	18	±18	16	09	±7	10
467a	7	159	09	39	22	±5	11	57	±10	14.5 ± 5.0
467b	5	86	09	39	42	±18	11	28	±5	50
468	5	86	09	41	24	±24	07	14	±7	8.4
469	5	86	09	42	00	±30	09	39	±8	100
470	5	86	09	42	42	±18	19	33	±6	12
471	5	86	09	43	30	±12	13	19	±5	25
472	9	81.5	09	43	43	±10	30	30	±180	37
473	5	86	09	47	00	±24	18	15	±7	12
474	5	86	09	48	42	±18	04	57	±6	9.3
475	5	86	09	48	54	±18	08	31	±6	12
476	9	81.5	09	50	55	±7	25	00	±180	62
477	5	86	09	53	18	±24	12	50	±7	9.5
478	5	86	09	54	00	±18	13	36	±6	14
479a	1	100	09	55			5			200
480	3	101	09	55		±960	62		±20	100
481	9	81.5	10	00	05	±15	33	00	±300	32
482	5	86	10	03	48	±24	10	38	±7	7.3
483	9	81.5	10	04	57	±30	35	30	±180	31
479b	3	101	10	05		±480	5		±90	50
484	5	86	10	05	18	±12	09	45	±5	17
485	5	86	10	07	18	±18	03	44	±6	10
486	5	86	10	07	42	±18	11	47	±7	32
487	5	86	10	08	06	±18	07	25	±6	17
488	5	86	10	08	18	±18	14	47	±6	17
489	3	101	10	10		±480	42	30	±20	100
490	5	86	10	10	06	±18	18	15	±6	14
491	5	86	10	10	18	±24	15	16	±7	9.2
492	5	86	10	11	48	±24	09	30	±6	9.4
493	9	81.5	10	13	20	±15	32	00	±180	31
494	5	86	10	16	54	±18	02	34	±6	16
495	5	86	10	17	42	±24	03	00	±7	7.3
496	5	86	10	18	54	±18	19	43	±6	7.5
497	5	86	10	19	54	±18	10	25	±7	6.5
498	9	81.5	10	19	56	±20	32	30	±300	14
499	5	86	10	22	24	±18	10	43	±6	18
500	9	81.5	10	22	39	±10	29	14	±120	31
501	5	86	10	23	00	±24	11	44	±7	8.5
502	5	86	10	23	06	±18	08	10	±6	11
503	5	86	10	23	36	±24	18	10	±6	10
504	5	86	10	24	06	±18	02	19	±6	17
505	5	86	10	24	18	±18	04	47	±7	5.3
506	5	86	10	25	24	±18	07	20	±6	10
507	5	86	10	27	18	±12	05	57	±6	17
508	9	81.5	10	27	25	±10	30	00	±300	25
509	5	86	10	28	00	±18	15	28	±6	18
510	5	86	10	30	00	±24	13	36	±7	7.5
511	5	86	10	30	06	±24	09	10	±7	6.5
512	5	86	10	31	00	±24	17	04	±8	9.0
513	5	86	10	32	24	±24	19	15	±7	11
514	5	86	10	33	24	±18	02	29	±6	16
515	5	86	10	33	30	±18	10	20	±5	9.4
516	5	86	10	33	42	±24	06	17	±7	6.5
517	5	86	10	34	42	±18	18	24	±6	14
518	9	81.5	10	35	12	±10	25	52	±90	41
519	5	86	10	36	00	±24	00	53	±6	8.2
520	9	81.5	10	38	30	±10	25	00	±180	31
521	5	86	10	38	42	±24	11	53	±7	6.5
522	5	86	10	39	24	±24	14	00	±7	9.3
523	5	86	10	41	54	±30	08	12	±7	17
524	5	86	10	44	42	±18	01	06	±6	14
525	5	86	10	44	48	±24	17	08	±7	7.5
526	9	81.5	10	45	13	±15	28	00	±300	17
527	5	86	10	46	18	±12	02	33	±5	20
528	5	86	10	46	36	±18	18	46	±6	24
529	5	86	10	48	30	±24	09	19	±7	8.5
530	5	86	10	48	42	±18	20	12	±6	13
531a	7	159	10	49	43	±6	09	11	±12	8.5 ± 2.0

[a] α, right ascension; δ, declination.

TABLE II.- POSITIONS AND INTENSITIES OF DISCRETE RADIO SOURCES - Continued

(b) Southern hemisphere - Continued

Source	Survey	Frequency, ν, mc/sec	Position (1950 epoch)[a] α, hr	α, min	α, sec	Δα, sec	δ, deg	δ, min	Δδ, min	Intensity, I, watts - m^{-2} - $(c/sec)^{-1}$
532	9	81.5	10	52	59	±15	32	00	±240	25 $\times 10^{-26}$
533a	5	86	10	54	36	±24	16	00	±7	9.2
531b	5	86	10	59	36	±24	09	39	±6	6.5
532a	7	159	10	59	37	±6	01	00	±7	14.5 ± 3.5
532b	5	86	10	59	48	±12	00	52	±5	23
533b	5	86	11	00	18	±18	06	18	±6	15
534	5	86	11	00	36	±30	15	01	±10	56
535	5	86	11	03	00	±24	08	22	±7	8.5
536	9	81.5	11	03	35	±20	25	57	±120	33
537	5	86	11	05	24	±24	03	55	±7	5.0
538	5	86	11	09	00	±18	06	10	±6	12
539	5	86	11	10	24	±18	11	50	±6	10
540	7	159	11	11	01	±3	02	18	±11	8.0 ± 2.0
541	5	86	11	11	12	±18	13	15	±6	17
542	5	86	11	11	48	±24	01	54	±6	18
543	9	81.5	11	12	52	±30	30	30	±300	19
544	9	81.5	11	13	05	±15	26	56	±120	25
545	5	86	11	13	18	±18	07	10	±6	16
546	5	86	11	16	06	±18	08	43	±6	15
547	9	81.5	11	16	13	±15	33	00	±300	24
548	7	159	11	16	35	±3	06	23	±8	15.0 ± 7.5
549	5	86	11	16	54	±12	02	46	±5	31
550	5	86	11	19	54	±18	12	00	±6	12
551	9	81.5	11	24	33	±15	33	00	±300	33
552	5	86	11	25	24	±24	06	52	±7	14
553	5	86	11	28	06	±18	03	15	±6	10
554	5	86	11	30	24	±24	15	16	±6	9.4
555	5	86	11	30	54	±12	19	22	±4	32
556	5	86	11	31	24	±24	07	43	±7	6.0
557	5	86	11	32	36	±18	17	25	±6	19
558	5	86	11	34	12	±24	00	30	±7	8.2
559	7	159	11	36	00	±2	02	23	±15	10.5 ± 3.0
560	5	86	11	36	30	±6	13	41	±4	44
561	5	86	11	39	18	±24	01	28	±7	6.3
562	5	86	11	39	48	±24	17	11	±6	7.3
563	5	86	11	40	00	±12	15	08	±5	25
564	5	86	11	40	18	±18	11	29	±6	14
565	5	86	11	41	36	±18	03	45	±5	8.4
566	5	86	11	42	36	±18	15	43	±6	15
567	5	86	11	42	42	±30	06	06	±7	6.0
568	5	86	11	42	54	±12	00	12	±5	24
569	3	101	11	45		±8	14		±40	50
570	5	86	11	46	24	±18	06	59	±6	16
571	5	86	11	47	06	±18	11	47	±6	17
572	5	86	11	50	24	±24	10	10	±7	7.7
573	5	86	11	52	00	±24	15	22	±6	6.6
574	5	86	11	53	06	±18	17	39	±6	9.5
575	5	86	11	56	12	±18	00	30	±6	16
576	5	86	11	56	36	±24	11	42	±7	7.3
577	5	86	11	59	30	±12	18	41	±6	10
578	5	86	11	59	54	±18	10	27	±5	16
579	5	86	12	01	48	±18	04	36	±6	11.8
580	5	86	12	01	48	±18	15	33	±8	14
581	5	86	12	02	24	±30	17	39	±10	48
582	5	86	12	03	42	±18	07	37	±7	18
583	5	86	12	04	00	±18	12	53	±10	56
584	5	86	12	04	24	±12	07	27	±5	9.9
585	5	86	12	05	00	±18	08	42	±6	11
586	5	86	12	08	36	±24	09	38	±7	11
587	5	86	12	09	06	±12	10	55	±5	10
588	5	86	12	09	18	±18	19	27	±5	11
589	5	86	12	11	12	±18	04	36	±10	9.9
590	5	86	12	11	54	±18	00	36	±8	15
591	5	86	12	13	42	±18	14	39	±7	6.3
592	5	86	12	15	54	±18	04	47	±7	15.7
593	5	86	12	15	54	±12	09	54	±7	23
594	5	86	12	16	06	±12	07	03	±5	9.2
595	5	86	12	18	12	±12	16	30	±5	12
596	5	86	12	22	30	±18	19	32	±6	9.0
597	5	86	12	23	24	±12	11	22	±6	16
598	9	81.5	12	28	00	±15	33	00	±300	37
599	5	86	12	28	24	±6	16	59	±4	38

[a] α, right ascension; δ, declination.

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TABLE II.- POSITIONS AND INTENSITIES OF DISCRETE RADIO SOURCES - Continued

(b) Southern hemisphere - Continued

Source	Survey	Frequency, ν, mc/sec	Position (1950 epoch)[a]							Intensity, I, watts - m^{-2} - $(c/sec)^{-1}$
			α, hr	min	sec	$\Delta\alpha$, sec	δ, deg	min	$\Delta\delta$, min	
600	9	81.5	12	38'	41	±15	28	00	±300	27 $\times 10^{-26}$
601	5	86	12	34	00	±18	14	13	±7	9.6
602	9	81.5	12	34	10	±10	22	27	±90	33
603	5	86	12	35	12	±18	19	53	±6	24
604	5	86	12	35	54	±18	00	31	±6	8.0
605	5	86	12	37	06	±30	07	19	±6	52
606	5	86	12	37	18	±30	15	38	±6	14
607	5	86	12	37	42	±18	04	24	±6	25
608	5	86	12	39	12	±12	08	33	±7	20
609	7	159	12	39	49	±6	04	39	±7	18.0 ± 5.0
610	5	86	12	40	30	±24	06	07	±8	12
611	9	81.5	12	41	07	±15	33	00	±300	24
612	5	86	12	41	54	±12	19	36	±5	18
613	5	86	12	43	06	±24	03	06	±6	10
614	5	86	12	43	18	±18	17	50	±5	7.0
615	5	86	12	43	36	±12	11	06	±5	18
616	5	86	12	44	48	±18	05	21	±8	14
617	5	86	12	45	30	±24	06	12	±8	17
618	5	86	12	48	00	±12	01	36	±6	14
619	9	81.5	12	50	14	±10	25	48	±30	28
620	5	86	12	51	36	±12	18	20	±7	13
621a	7	159	12	52	00	±6	12	25	±6	42 ± 10
621b	6	960	12	52	00	±6	12	25	±6	9.6 ± 1.5
622	9	81.5	12	52	06	±15	32	30	±300	37
621c	5	86	12	52	18	±6	12	19	±4	53
623a	7	159	12	53	37	±3	05	41	±7	20.5 ± 5.0
623b	6	960	12	53	37	±3	05	41	±7	6.9 ± 1.2
623c	5	86	12	53	42	±6	05	38	±5	37
624	5	86	12	57	00	±24	17	16	±6	27
625	5	86	12	57	18	±12	00	24	±6	7.5
626	5	86	12	58	06	±18	11	17	±5	19
627	9	81.5	12	58	38	±10	26	02	±40	22
628	9	81.5	12	59	31	±10	31	00	±240	43
629	5	86	13	00	00	±18	18	03	±8	18
630	5	86	13	04	12	±18	05	42	±8	8.5
631	5	86	13	06	00	±24	09	49	±7	19
632	5	86	13	07	18	±12	00	29	±5	25
633	9	81.5	13	07	52	±15	33	00	±240	16
634	5	86	13	08	18	±18	12	07	±7	8.9
635a	6	960	13	08	50	±18	22	11	±5	10.2 ± 1.5
635b	7	159	13	09	12	±12	21	44	±16	36 ± 9
636	5	86	13	09	36	±12	02	29	±7	11
637	5	86	13	12	00	±18	12	07	±7	8.7
638	5	86	13	12	48	±24	08	05	±8	45
639	5	86	13	12	48	±12	18	41	±5	22
640	5	86	13	13	00	±18	06	17	±6	7.0
641	5	86	13	13	06	±18	01	25	±8	16
642	9	81.5	13	13	08	±15	28	00	±300	20
643	9	81.5	13	14	48	±15	33	00	±240	31
645	5	86	13	16	48	±24	00	30	±7	13
644a	9	81.5	13	15	20	±15	22	32	±180	12
644b	3	101	13	20		±480	22		±130	100
646a	3	101	13	20		±120	43		±20	160
647	9	81.5	13	20	12	±15	33	00	±240	27
646b	1	100	13	22	27		42	38		1,850
646c	6	960	13	22	28		42	45.6		462 ± 30
648	9	81.5	13	27	05	±15	33	00	±300	45
649	5	86	13	28	24	±24	06	07	±6	13
650	5	86	13	31	42	±36	14	18	±10	22
651	5	86	13	31	54	±18	10	00	±7	18
652	5	86	13	33	48	±24	07	54	±7	8.7
653	5	86	13	34	24	±18	10	57	±7	17
654	5	86	13	34	42	±18	17	55	±6	11
655	3	101	13	35		±480	60	15	±10	75
656	5	86	13	35	42	±12	06	21	±6	35
657	9	81.5	13	37	06	±10	27	31	±180	31
658	9	81.5	13	39	57	±15	33	00	±240	32
659	5	86	13	41	24	±24	19	22	±6	14
660	5	86	13	41	42	±24	12	21	±6	18
661	5	86	13	41	48	±12	03	04	±7	16
662	5	86	13	43	00	±18	07	48	±7	53
663	5	86	13	45	24	±18	11	07	±7	15

[a] α, right ascension; δ, declination.

TABLE II.- POSITIONS AND INTENSITIES OF DISCRETE RADIO SOURCES - Continued

(b) Southern hemisphere - Continued

Source	Survey	Frequency, ν, mc/sec	Position (1950 epoch)[a] α, hr	min	sec	$\Delta\alpha$, sec	δ, deg	min	$\Delta\delta$, min	Intensity, I, watts - m^{-2} - $(c/sec)^{-1}$
664	5	86	13	46	48	±24	12	58	±7	14 $\times 10^{-26}$
665	9	81.5	13	47	04	±15	32	30	±300	37
666	5	86	13	47	12	±24	16	30	±5	12
667	5	86	13	48	06	±18	09	55	±7	8.0
668	5	86	13	48	18	±18	05	36	±6	12
669	5	86	13	50	00	±18	06	07	±7	7.8
670	5	86	13	52	06	±18	19	23	±5	15
671	5	86	13	53	24	±12	08	10	±10	8.7
672	5	86	13	53	54	±12	17	39	±6	18
673	9	81.5	13	54	04	±15	33	00	±300	26
674	5	86	13	56	42	±24	09	57	±8	8.5
675	5	86	13	56	48	±24	16	17	±7	8.7
676	9	81.5	13	58	10	±15	28	00	±240	12
677	9	81.5	13	58	24	±7	22	19	±180	27
678	5	86	13	59	06	±12	11	35	±5	13
679	5	86	13	59	54	±12	14	50	±9	15
680	5	86	14	01	18	±24	19	23	±7	14
681	9	81.5	14	03	37	±15	32	30	±300	28
682	5	86	14	04	12	±12	02	09	±8	12
683	5	86	14	05	30	±12	06	19	±5	18
684	5	86	14	06	06	±12	09	49	±8	10
685	5	86	14	06	30	±18	08	59	±8	27
686	5	86	14	09	00	±12	02	58	±8	7
687	5	86	14	09	36	±12	06	52	±7	14
688	5	86	14	09	48	±24	18	41	±7	15
689	9	81.5	14	10	12	±10	31	00	±240	21
690	5	86	14	14	42	±18	03	50	±7	24.4
691	5	86	14	15	18	±24	17	15	±10	14
692	7	159	14	15	30	±4	03	58	±9	14.5 ± 2.5
693	5	86	14	16	00	±12	15	47	±8	34
694	9	81.5	14	17	30	±15	25	40	±120	27
695	5	86	14	17	42	±18	19	14	±8	11
696	9	81.5	14	17	46	±15	33	00	±300	71
697	5	86	14	19	42	±18	05	20	±6	5.0
698	5	86	14	20	06	±18	09	09	±7	16
699	5	86	14	20	24	±12	14	29	±8	26
700	5	86	14	20	30	±30	13	14	±8	12
701	5	86	14	20	54	±18	18	20	±10	9.0
702	5	86	14	23	24	±36	08	00	±7	7.5
703	5	86	14	23	36	±24	17	28	±8	11
704	9	81.5	14	24	19	±15	33	00	±300	50
705	5	86	14	24	36	±12	11	44	±4	22
706	5	86	14	26	36	±24	01	18	±5	25
707	5	86	14	29	06	±18	03	38	±5	16
708	5	86	14	31	24	±30	19	13	±8	8.9
709	5	86	14	32	00	±24	12	22	±6	6.5
710	5	86	14	32	48	±24	11	11	±8	8.5
711	5	86	14	34	42	±12	08	21	±6	14
712	9	81.5	14	36	17	±15	26	01	±120	24
713	5	86	14	37	12	±12	17	08	±8	11
714	5	86	14	37	24	±18	06	56	±5	22
715	9	81.5	14	41	30	±10	24	52	±60	41
716	5	86	14	41	42	±12	18	00	±8	11
717	5	86	14	42	24	±24	08	44	±7	20
718	5	86	14	42	54	±12	19	23	±6	14
719	5	86	14	43	00	±18	03	45	±7	7.6
720	9	81.5	14	43	58	±10	26	17	±60	25
721	5	86	14	44	06	±18	11	36	±7	17
722	5	86	14	46	54	±24	15	53	±6	42
723	9	81.5	14	48	53	±10	32	00	±240	31
724	9	81.5	14	49	56	±10	25	57	±60	19
725	5	86	14	50	12	±18	12	58	±6	19
726	5	86	14	51	42	±18	18	30	±7	9.3
727	5	86	14	52	42	±12	04	10	±6	22
728	5	86	14	53	24	±12	11	02	±5	41
729	5	86	14	53	30	±12	05	44	±5	16
730	5	86	14	55	30	±18	00	54	±7	19
731	9	81.5	14	59	11	±15	26	28	±120	27
732	5	86	14	59	18	±18	16	10	±7	10
733	5	86	15	00	18	±12	14	41	±7	13
734	9	81.5	15	01	00	±20	33	00	±300	41
735	5	86	15	02	36	±18	00	18	±13	18

[a]α, right ascension; δ, declination.

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TABLE II.- POSITIONS AND INTENSITIES OF DISCRETE RADIO SOURCES - Continued

(b) Southern hemisphere - Continued

Source	Survey	Frequency, ν, mc/sec	Position (1950 epoch)[a] α, hr	α, min	α, sec	$\Delta\alpha$, sec	δ, deg	δ, min	$\Delta\delta$, min	Intensity, I, watts - m^{-2} - $(c/sec)^{-1}$
736	5	86	15	02	42	±12	12	00	±10	9.3 $\times 10^{-26}$
737	5	86	15	03	18	±18	16	36	±8	10
738	9	81.5	15	04	06	±15	33	00	±300	28
739	5	86	15	04	18	±12	06	41	±6	17
740	5	86	15	04	30	±12	13	52	±7	13
741	5	86	15	08	06	±18	18	05	±8	15
742	5	86	15	08	18	±18	00	42	±6	19
743	5	86	15	09	00	±12	09	17	±5	18
744	5	86	15	09	00	±24	05	26	±6	8
745	5	86	15	09	12	±18	08	15	±7	7.5
746	5	86	15	10	36	±30	19	23	±6	49
747	9	81.5	15	13	27	±15	33	00	±300	41
748	5	86	15	14	06	±18	13	58	±7	19
749	5	86	15	16	36	±12	12	32	±6	13
750	9	81.5	15	16	51	±15	34	00	±240	31
751	5	86	15	20	24	±18	05	12	±7	14
752	5	86	15	21	48	±24	06	52	±7	12
753	5	86	15	21	54	±24	03	13	±6	7.0
754	5	86	15	22	06	±18	07	28	±7	18
755	5	86	15	22	54	±18	08	17	±6	12
756	5	86	15	23	30	±12	13	41	±4	16
757	9	81.5	15	26	19	±15	32	00	±240	40
758	5	86	15	27	06	±18	12	21	±6	8.2
759	5	86	15	31	30	±18	18	36	±8	13
760	9	81.5	15	33	30	±20	27	12	±60	27
761	5	86	15	37	48	±12	17	23	±7	16
762	5	86	15	38	06	±30	01	54	±6	37
763	5	86	15	39	00	±18	04	59	±7	12
764	5	86	15	40	54	±30	16	02	±8	7.5
765	5	86	15	41	18	±18	13	36	±10	8.8
766	5	86	15	42	30	±18	03	41	±9	23
767	5	86	15	43	54	±12	12	23	±7	9.5
768	5	86	15	45	18	±30	07	20	±9	14.8
769	5	86	15	46	00	±12	07	55	±8	12
770	5	86	15	48	36	±12	19	51	±5	11
771	9	81.5	15	49	47	±15	31	00	±300	47
772	5	86	15	50	00	±18	16	57	±10	21
773	5	86	15	51	48	±30	02	52	±5	9.7
774	5	86	15	52	24	±12	06	57	±8	19
775	9	81.5	15	53	12	±15	34	00	±300	53
776	5	86	15	53	18	±18	16	10	±7	10
777	5	86	15	53	24	±24	09	05	±7	10
778	5	86	15	57	18	±18	04	38	±7	7.0
779	9	81.5	15	57	34	±10	36	00	±240	66
780	5	86	16	02	42	±18	09	15	±6	20
781	5	86	16	03	12	±18	17	19	±6	16
782	5	86	16	04	06	±18	18	20	±10	7.6
783	9	81.5	16	04	13	±10	22	56	±40	19
784	5	86	16	05	30	±18	16	18	±8	8.5
785	5	86	16	05	48	±18	06	36	±6	9.5
786	5	86	16	07	42	±18	12	45	±7	15
787	5	86	16	08	06	±24	10	44	±7	11
788	9	81.5	16	08	59	±10	31	00	±240	21
789	3	101	16	10		±480	60	45	±10	850
790	5	86	16	12	18	±12	02	30	±4	9.1
791	5	86	16	12	24	±12	00	35	±5	15
792a	5	86	16	14	00	±18	05	44	±7	9.5
793a	9	81.5	16	14	58	±10	22	34	±60	28
792b	3	101	16	15		±240	5		±90	200
793b	5	86	16	16	00	±18	08	42	±7	8.0
794	5	86	16	16	54	±24	10	05	±7	17
795	5	86	16	17	36	±18	13	36	±6	12
796	5	86	16	21	06	±18	11	28	±4	20
797	5	86	16	22	00	±18	17	34	±7	15
798	5	86	16	22	48	±30	19	23	±5	11
799	5	86	16	26	24	±24	06	20	±6	9.0
800	5	86	16	26	36	±24	03	24	±6	17
801	9	81.5	16	28	56	±10	26	29	±30	38
802	5	86	16	30	24	±12	12	48	±6	15
803	5	86	16	32	36	±30	15	18	±9	14
804	9	81.5	16	33	08	±15	23	44	±120	20
805	5	86	16	34	06	±18	03	33	±8	12

[a] α, right ascension; δ, declination.

TABLE II.- POSITIONS AND INTENSITIES OF DISCRETE RADIO SOURCES - Continued

(b) Southern hemisphere - Continued

Source	Survey	Frequency, ν, mc/sec	Position (1950 epoch)[a] α, hr	α, min	α, sec	Δα, sec	δ, deg	δ, min	Δδ, min	Intensity, I, watts - m^{-2} - (c/sec)$^{-1}$
806	5	86	16	34	54	±18	14	18	±7	16 × 10^{-26}
807	5	86	16	36	54	±30	00	30	±6	26
808	5	86	16	36	54	±30	12	53	±7	8.9
809	5	86	16	38	00	±12	19	35	±6	23
810	5	86	16	38	06	±30	17	50	±10	19
811	5	86	16	40	24	±18	15	19	±5	30
812	5	86	16	42	42	±12	07	14	±7	21
813	5	86	16	43	06	±24	18	20	±6	18
814	5	86	16	45	24	±12	10	48	±6	37
815	9	81.5	16	45	56	±15	34	00	±300	30
816	9	81.5	16	46	26	±15	23	44	±180	12
817	5	86	16	48	06	±18	12	53	±7	14
818	5	86	16	49	18	±24	00	18	±6	80
819	5	86	16	52	00	±24	05	09	±6	11
820	5	86	16	52	36	±12	02	17	±9	60
821	9	81.5	16	52	44	±15	26	00	±300	12
822	9	81.5	16	53	18	±15	33	00	±300	30
823	5	86	16	54	36	±18	09	08	±6	11
824	5	86	16	55	30	±24	18	51	±8	17
825	5	86	16	55	42	±18	14	03	±5	22
826	5	86	16	56	00	±18	01	11	±7	15
827	5	86	17	05	12	±18	10	02	±6	15
829	5	86	17	05	24	±18	17	13	±6	60
829	9	81.5	17	05	24	±10	30	00	±300	68
830	5	86	17	05	48	±24	01	36	±6	17
831	5	86	17	06	12	±18	04	41	±5	12
832	5	86	17	09	42	±18	00	26	±7	15
833	5	86	17	10	30	±30	13	41	±8	32
834	5	86	17	12	30	±24	03	16	±7	21
835	5	86	17	15	00	±42	12	43	±7	16
836	5	86	17	15	54	±24	16	25	±7	15
837	5	86	17	16	54	±18	04	25	±8	31
838a	7	159	17	17	58	±3	00	52	±6	180 ± 40
838b	6	960	17	17	59	±3	00	55.5	±1.5	83.7 ± 1.8
838c	5	86	17	18	06	±6	00	55	±3	475
839a	5	86	17	19	24	±30	18	45	±7	150
839b	6	960	17	19	24	±30	18	45	±7	5.1 ± 1.8
840	3	101	17	20		±240	39		±20	400
841	5	86	17	22	06	±18	03	50	±9	16
842	5	86	17	22	18	±24	10	49	±8	21
843	5	86	17	24	36	±24	08	21	±7	15
844a	7	159	17	27	47	±5	21	16	±10	58 ± 12
844b	6	960	17	27	47	±5	21	16	±10	19.5 ± 2.1
845	5	86	17	30	54	±12	05	10	±7	16
846	9	81.5	17	31	35	±15	28	00	±240	37
847	7	159	17	33	23	±5	08	26	±11	14.5 ± 3.5
848	5	86	17	33	42	±18	06	52	±8	19
849	9	81.5	17	36	28	±15	33	00	±240	153
850	5	86	17	37	06	±24	11	40	±6	16
851	5	86	17	37	42	±24	01	18	±8	39
852	5	86	17	47	42	±24	13	04	±9	18
853	5	86	17	48	06	±18	02	06	±8	53
854	5	86	17	48	42	±24	17	28	±8	30
855	5	86	17	51	06	±18	14	56	±9	19
856	5	86	17	51	18	±30	10	43	±8	16
857	5	86	17	53	48	±24	08	10	±8	21
858	5	86	17	53	54	±18	11	39	±6	12
859	5	86	17	54	24	±18	05	34	±6	55
860a	3	101	17	55		±480	23		±40	150
860b	9	81.5	18	00	44	±10	22	14	±40	155
861	3	101	17	55		±240	29		±20	300
862	5	86	17	55	24	±18	16	07	±7	24
863	5	86	17	55	42	±12	01	24	±6	50
864	5	86	18	00	06	±30	17	49	±7	40
865	5	86	18	02	24	±18	05	19	±7	25
866	5	86	18	04	42	±30	11	26	±7	29
867	5	86	18	05	12	±18	00	59	±8	62
868	9	81.5	18	05	28	±15	35	30	±180	35
869a	3	101	18	10		±240	6		±90	250
870a	1	100	18	11			15			200
870b	5	86	18	11	36	±12	17	12	±3	160
871	5	86	18	12	00	±24	12	40	±10	20

[a] α, right ascension; δ, declination.

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TABLE II.- POSITIONS AND INTENSITIES OF DISCRETE RADIO SOURCES - Continued

(b) Southern hemisphere - Continued

Source	Survey	Frequency, ν, mc/sec	Position (1950 epoch)[a] α, hr	α, min	α, sec	Δα, sec	δ, deg	δ, min	Δδ, min	Intensity, I, watts - m^{-2} - $(c/sec)^{-1}$
869b	5	86	18	12	24	±18	05	59	±7	82 $\times 10^{-26}$
872	5	86	18	14	54	±18	07	03	±8	30
873	5	86	18	14	54	±18	10	57	±7	35
874	9	81.5	18	17	19	±10	24	15	±60	27
875	5	86	18	17	36	±24	09	32	±5	50
876	9	81.5	18	17	39	±20	31	00	±240	57
877	5	86	18	18	54	±30	18	38	±10	15
878	7	159	18	20	17	±5	02	10	±10	12.0 ± 2.5
879	5	86	18	20	36	±12	01	34	±6	76
880	5	86	18	21	30	±18	13	50	±5	40
881	5	86	18	21	48	±18	12	24	±4	150
882	5	86	18	25	00	±18	11	17	±4	50
883	5	86	18	25	18	±18	04	38	±8	40
884	9	81.5	18	25	39	±15	32	00	±240	52
885	5	86	18	26	30	±18	17	54	±7	15
886	5	86	18	27	30	±18	12	46	±6	40
887	5	86	18	28	42	±24	14	36	±8	30
888	5	86	18	30	06	±12	10	01	±4	230
889	5	86	18	31	36	±12	08	42	±10	160
890	9	81.5	18	34	36	±15	27	01	±180	42
891	7	159	18	35	16	±5	07	01	±11	17.0 ± 3.5
892a	7	159	18	37	52	±3	05	19	±10	22.0 ± 5.0
892b	5	86	18	37	30	±12	05	10	±6	20
893	5	86	18	41	42	±24	03	51	±5	180
894	5	86	18	41	48	±30	01	48	±10	25
895	5	86	18	42	06	±24	19	40	±8	56
896	5	86	18	42	54	±24	13	37	±8	24
897	7	159	18	42	56	±5	03	23	±12	17.0 ± 6.0
898	9	81.5	18	45	01	±10	25	51	±60	33
899a	5	86	18	46	18	±24	00	53	±8	20
899b	7	159	18	46	47	±5	00	59	±6	27 ± 6
900	5	86	18	48	54	±24	10	55	±7	23
901	5	86	18	50	18	±24	07	48	±8	17
902	5	86	18	51	06	±18	17	08	±7	15
903	9	81.5	18	52	27	±7	22	00	±240	36
904	5	86	18	53	00	±24	02	42	±7	150
905	9	81.5	18	54	11	±8	25	53	±120	31
906	5	86	18	57	54	±18	04	13	±5	34
907	9	81.5	18	59	29	±10	24	36	±120	40
908	5	86	19	04	12	±24	03	06	±7	53
909	5	86	19	04	54	±30	19	01	±9	20
910	9	81.5	19	05	42	±10	25	00	±60	37
911	5	86	19	05	48	±18	12	37	±5	17
912	9	81.5	19	07	05	±15	33	00	±300	32
913	5	86	19	08	54	±18	06	41	±7	16
914	5	86	19	11	18	±18	09	41	±7	15
915	5	86	19	11	18	±18	15	11	±6	17
916	5	86	19	14	06	±30	02	17	±7	28
917	5	86	19	14	42	±18	16	30	±8	12
918	5	86	19	14	54	±12	11	58	±6	25
919	5	86	19	18	30	±18	05	33	±8	9.8
920	5	86	19	20	00	±36	03	38	±7	16
921	5	86	19	24	06	±30	14	18	±9	28
922	5	86	19	26	12	±30	02	05	±5	23
923	5	86	19	27	06	±12	15	19	±6	23
924	5	86	19	28	06	±18	06	41	±6	12
925	5	86	19	29	30	±12	19	44	±7	22
926	5	86	19	31	42	±18	17	18	±8	12
927	5	86	19	32	12	±24	10	55	±7	75
928	5	86	19	32	36	±18	09	46	±8	23
929	5	86	19	37	42	±12	15	36	±4	38
930	5	86	19	39	42	±18	13	26	±7	13
931	5	86	19	39	48	±18	04	36	±8	12
932	3	101	19	40		±8	50		±40	50
933	5	86	19	40	48	±30	07	29	±6	33
934	5	86	19	42	54	±24	04	55	±8	20
935	5	86	19	43	30	±12	02	45	±6	22
936	5	86	19	44	48	±24	00	13	±7	22
937	5	86	19	45	48	±24	08	54	±8	9.5
938	5	86	19	48	54	±18	14	08	±8	15
939	5	86	19	49	54	±18	18	10	±7	11

[a] α, right ascension; δ, declination.

TABLE II.- POSITIONS AND INTENSITIES OF DISCRETE RADIO SOURCES - Continued

(b) Southern hemisphere - Continued

Source	Survey	Frequency, ν, mc/sec	Position (1950 epoch)[a] α, hr	α, min	α, sec	Δα, sec	δ, deg	δ, min	Δδ, min	Intensity, I, watts - m^{-2} - $(c/sec)^{-1}$
940	5	86	19	50	36	±24	19	43	±7	18 × 10^{-26}
941	7	159	19	52	45	±5	07	29	±10	14.0 ± 2.5
942	5	86	19	53	18	±18	05	22	±8	10
943	5	86	19	53	18	±24	12	30	±7	19
944	5	86	19	54	06	±18	16	30	±6	9.2
945	5	86	20	04	06	±18	19	32	±8	15
946a	7	159	20	05	45	±5	04	26	±10	11.5 ± 3.0
946b	5	86	20	06	24	±18	04	25	±7	19
947	9	81.5	20	07	06	±15	32	30	±300	40
948	5	86	20	08	12	±18	16	14	±8	8.3
949	5	86	20	09	42	±18	09	00	±7	9.5
950	9	81.5	20	17	04	±15	30	30	±300	25
951	5	86	20	18	42	±24	09	38	±7	9.0
952	9	81.5	20	19	52	±15	27	30	±300	21
953	3	101	20	20		±960	06		±90	100
954	5	86	20	21	18	±18	17	38	±8	8.5
955	5	86	20	21	54	±18	13	56	±9	6.7
956	5	86	20	22	24	±24	19	43	±7	8.8
957	5	86	20	23	12	±24	01	18	±7	14
958	5	86	20	25	30	±12	15	41	±4	20
959	9	81.5	20	26	44	±10	29	30	±180	33
960	5	86	20	27	00	±24	00	47	±7	8.7
961a	7	159	20	28	27	±8	07	25	±13	8.5 ± 2.0
961b	5	86	20	28	36	±12	08	09	±7	14
962	9	81.5	20	30	03	±15	24	54	±120	14
963	9	81.5	20	32	10	±15	32	30	±300	41
964	5	86	20	33	12	±18	17	54	±6	15
965	5	86	20	33	30	±12	09	27	±8	14
966	5	86	20	36	30	±24	13	47	±7	13
967	5	86	20	37	30	±18	02	54	±7	9.7
968	9	81.5	20	39	44	±10	26	27	±60	20
969	5	86	20	40	54	±24	15	00	±8	9.0
970	5	86	20	43	00	±24	10	12	±10	8.0
971a	5	86	20	44	06	±18	02	17	±7	18
972	9	81.5	20	44	32	±15	32	30	±300	41
971b	7	159	20	44	37	±4	02	31	±10	9.5 ± 2.5
973	5	86	20	45	00	±18	07	59	±8	9.0
974	5	86	20	45	00	±18	18	20	±7	15
975	5	86	20	45	06	±18	03	15	±7	27
976	5	86	20	48	30	±18	14	45	±7	13
977	5	86	20	48	48	±24	16	15	±9	17
978	5	86	20	50	12	±18	16	23	±7	13
979	5	86	20	50	18	±18	18	41	±7	9.0
980	5	86	20	53	12	±24	06	52	±8	15
981	5	86	20	53	30	±18	12	22	±7	8.5
982	9	81.5	20	56	22	±15	30	30	±240	87
983	5	86	20	56	48	±12	15	00	±6	13
984	5	86	20	58	12	±18	17	48	±6	24
985	5	86	20	58	48	±24	08	49	±7	17
986	5	86	20	59	42	±18	13	20	±7	14
987	3	101	21	00		±8	31		±40	80
988	3	101	21	00		±16	71		±20	200
989	5	86	21	00	12	±18	09	45	±6	12
990	5	86	21	00	54	±18	04	02	±7	19
991	5	86	21	01	24	±12	10	44	±5	14
992	5	86	21	02	06	±18	00	30	±7	11
993	5	86	21	03	24	±12	11	28	±6	12
994	5	86	21	05	24	±18	07	06	±5	17
995	9	81.5	21	05	40	±7	27	37	±120	72
996	5	86	21	07	18	±18	13	25	±8	10
997	5	86	21	10	30	±18	09	50	±7	11
998	9	81.5	21	12	51	±15	32	30	±240	38
999	5	86	21	13	42	±18	02	47	±10	28
1,000	5	86	21	15	18	±18	16	03	±7	9.3
1,001	5	86	21	15	48	±24	14	08	±7	14
1,002	5	86	21	17	00	±18	12	02	±6	7.1
1,003	5	86	21	17	42	±12	15	16	±7	17
1,004	9	81.5	21	18	26	±20	31	30	±240	38
1,005	5	86	21	19	06	±18	18	40	±8	9.7
1,006	5	86	21	20	12	±24	16	49	±7	30
1,007	9	81.5	12	23	45	±15	35	30	±180	19
1,008	5	86	21	24	30	±24	19	27	±8	8.2
1,009	9	81.5	21	24	38	±7	23	38	±120	14

[a] α, right ascension; δ, declination.

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TABLE II.- POSITIONS AND INTENSITIES OF DISCRETE RADIO SOURCES - Continued

(b) Southern hemisphere - Continued

Source	Survey	Frequency, ν, mc/sec	Position (1950 epoch)[a] α, hr	α, min	α, sec	$\Delta\alpha$, sec	δ, deg	δ, min	$\Delta\delta$, min	Intensity, I, watts - m^{-2} - $(c/sec)^{-1}$ ($\times 10^{-26}$)
1,010	5	86	21	24	54	±18	05	35	±8	19
1,011	5	86	21	25	00	±24	06	36	±6	10
1,012	3	101	21	25		±480	41		±40	50
1,013	5	86	21	25	42	±30	00	59	±7	15
1,014	5	86	21	26	00	±18	14	37	±7	8.4
1,015	5	86	21	28	06	±30	09	15	±7	16
1,016	5	86	21	31	54	±18	02	28	±6	9.0
1,017	5	86	21	31	36	±18	01	16	±6	6
1,018	5	86	21	32	42	±18	13	09	±7	15
1,019	5	86	21	33	18	±12	11	39	±6	28
1,020	5	86	21	34	42	±12	14	39	±5	33
1,021	5	86	21	35	12	±18	18	54	±7	23
1,022	9	81.5	21	35	28	±10	29	30	±180	22
1,023	5	86	21	38	00	±24	07	02	±8	12
1,024	5	86	21	38	12	±18	16	35	±6	16
1,025	5	86	21	40	36	±24	09	14	±7	7.0
1,026	5	86	21	41	42	±18	04	02	±8	12
1,027	5	86	21	43	48	±18	08	10	±7	13
1,028	9	81.5	21	44	24	±7	25	14	±60	30
1,029	5	86	21	46	12	±18	17	07	±8	13
1,030	5	86	21	46	54	±24	13	36	±7	2.5
1,031	9	81.5	21	48	39	±15	30	30	±300	26
1,032	5	86	21	48	42	±18	15	54	±7	8.8
1,033	5	86	21	48	54	±18	19	53	±7	18
1,034	5	86	21	50	42	±18	03	40	±7	6.0
1,035	5	86	21	53	42	±12	12	53	±7	8.8
1,036	5	86	21	54	12	±18	01	29	±8	15.6
1,037	5	86	21	54	12	±12	18	25	±6	25
1,038	3	101	21	55		±240	24		±40	80
1,039	5	86	21	56	18	±18	05	55	±8	11
1,040	5	86	21	57	42	±18	03	55	±8	13
1,041	5	86	21	58	12	±12	17	04	±5	14
1,042	5	86	21	58	30	±24	13	30	±6	12
1,043	3	101	22	00		±8	54		±40	50
1,044	5	86	22	02	12	±18	08	43	±8	11
	9	81.5	22	02	14	±15	27	30	±300	38
1,045	5	86	22	03	00	±12	18	40	±5	16
1,046	5	86	22	03	24	±18	15	33	±10	6.7
1,047	5	86	22	04	36	±12	09	16	±5	10
1,048	5	86	22	05	24	±12	05	30	±6	7
1,049	5	86	22	05	42	±18	03	27	±8	13
1,050	5	86	22	07	42	±18	14	13	±5	10
1,051	5	86	22	08	30	±18	10	12	±6	9.5
1,052	5	86	22	08	30	±18	12	58	±7	14
1,053	5	86	22	10	18	±18	11	58	±6	16
1,054	5	86	22	10	48	±12	09	29	±5	17
1,055a	7	159	22	11	48	±6	17	27	±6	49 ± 10
1,055b	8	169	22	11	48.5	±2	16	10	±20	40
1,055c	5	86	22	12	00	±6	17	11	±4	127
1,056	5	86	22	16	18	±18	03	46	±6	33
1,057	5	86	22	16	54	±18	00	42	±9	13
1,058	5	86	22	19	24	±24	08	43	±10	7.1
1,059	9	81.5	22	19	28	±10	29	30	±240	28
1,060a	7	159	22	20	31	±5	02	18	±5	20.5 ± 6.0
1,061	5	86	22	21	24	±18	15	43	±6	10
1,060b	5	86	22	21	30	±6	02	18	±3	60
1,062	5	86	22	22	36	±18	14	08	±6	15
1,063	5	86	22	23	00	±12	16	46	±6	15
1,064a	7	159	22	23	04	±5	05	24	±8	33 ± 10
1,064b	5	86	22	23	06	±18	05	13	±5	30
1,065	9	81.5	22	24	19	±15	32	30	±300	32
1,066	5	86	22	24	30	±18	03	39	±8	9.6
1,067	5	86	22	27	06	±18	18	51	±7	11
1,068	5	86	22	28	00	±18	10	23	±8	6.5
1,069	5	86	22	29	12	±24	08	33	±6	15
1,070	5	86	22	33	18	±18	07	03	±8	8.0
1,071	5	86	22	34	54	±12	13	56	±6	10
1,072	5	86	22	35	24	±12	12	03	±7	16
1,073	5	86	22	35	48	±12	17	36	±6	17
1,074	5	86	22	36	42	±18	19	33	±7	17
1,075	5	86	22	36	54	±18	04	13	±6	16
1,076	5	86	22	39	54	±24	14	56	±7	6.0
1,077	5	86	22	40	36	±24	16	36	±7	8

[a]α, right ascension; δ, declination.

TABLE II.- POSITIONS AND INTENSITIES OF DISCRETE RADIO SOURCES - Concluded

(b) Southern hemisphere - Concluded

Source	Survey	Frequency, ν, mc/sec	Position (1950 epoch)[a]							Intensity, I, watts - m^{-2} - (c/sec)$^{-1}$
			α, hr	α, min	α, sec	Δα, sec	δ, deg	δ, min	Δδ, min	
1,078	5	86	22	43	30	±24	02	10	±7	14 × 10^{-26}
1,079	5	86	22	43	42	±12	19	02	±5	8.0
1,080	5	86	22	45	00	±18	02	52	±7	20
1,081	5	86	22	45	12	±24	03	25	±8	9
1,082	5	86	22	53	06	±30	06	37	±8	12
1,083	5	86	22	53	54	±30	00	18	±6	32
1,084	5	86	22	54	54	±12	01	16	±6	6.6
1,085	5	86	22	55	18	±18	08	32	±8	13
1,086	5	86	22	56	00	±12	12	11	±6	8.6
1,087	5	86	22	56	54	±18	15	12	±8	12
1,088	5	86	22	57	24	±18	13	35	±8	6.7
1,089	5	86	22	58	00	±30	10	28	±8	8.0
1,090	5	86	23	01	42	±24	02	17	±8	7
1,091	5	86	23	02	36	±18	05	27	±6	10
1,092	5	86	23	02	48	±24	01	00	±8	9.5
1,093	9	81.5	23	03	28	±15	22	32	±300	16
1,094	5	86	23	03	36	±18	03	43	±6	14
1,095	5	86	23	04	48	±24	12	01	±7	8.6
1,096	5	86	23	05	30	±18	07	59	±7	6.7
1,097	5	86	23	06	30	±18	19	53	±7	11
1,098	5	86	23	07	30	±24	09	22	±8	9.0
1,099	5	86	23	07	42	±18	10	45	±7	7.6
1,100	9	81.5	23	08	56	±15	32	30	±300	37
1,101	9	81.5	23	09	27	±15	24	53	±120	33
1,102	5	86	23	09	36	±18	12	54	±6	11
1,103	5	86	23	12	36	±18	05	57	±6	6.7
1,104	5	86	23	13	54	±18	14	18	±7	9.6
1,105	5	86	23	14	06	±18	12	10	±6	8.6
1,106	5	86	23	15	36	±18	02	29	±7	9.8
1,107	5	86	23	15	54	±30	11	07	±7	6.9
1,108	9	81.5	23	16	32	±10	26	27	±30	46
1,109	5	86	23	17	36	±18	16	30	±5	23
1,110	5	86	23	18	06	±18	19	32	±6	15
1,111	5	86	23	18	30	±18	13	36	±8	7.4
1,112	9	81.5	23	19	20	±15	27	22	±120	20
1,113	5	86	23	19	30	±12	09	16	±5	6.0
1,114	5	86	23	20	06	±24	15	33	±8	10
1,115	5	86	23	22	36	±12	12	29	±5	30
1,116	9	81.5	23	24	17	±7	23	08	±300	31
1,117	5	86	23	24	18	±18	05	15	±6	35
1,118	5	86	23	25	06	±18	02	22	±6	19
1,119	5	86	23	25	12	±24	08	10	±8	9.0
1,120	5	86	23	25	18	±18	15	02	±7	14
1,121	9	81.5	23	26	01	±15	32	30	±300	27
1,122	9	81.5	23	26	37	±20	25	21	±40	31
1,123	5	86	23	26	42	±12	19	37	±5	19
1,124	5	86	23	27	18	±12	17	56	±6	11
1,125	5	86	23	27	36	±12	18	47	±6	13
1,126	5	86	23	29	12	±24	16	51	±6	10
1,127	5	86	23	30	00	±18	10	16	±7	10
1,128	5	86	23	32	42	±18	04	59	±5	9.7
1,129	5	86	23	33	24	±30	00	19	±5	9.5
1,130	5	86	23	34	54	±18	14	52	±6	16
1,131	9	81.5	23	36	21	±10	30	30	±180	43
1,132	5	86	23	38	00	±18	00	08	±6	11
1,133	5	86	23	39	30	±24	12	51	±7	6.9
1,134	5	86	23	39	42	±18	16	46	±6	16
1,135	5	86	23	42	30	±18	05	22	±7	7.6
1,136	5	86	23	42	54	±24	15	22	±8	13
1,137	9	81.5	23	43	54	±12	27	46	±120	50
1,138	5	86	23	46	06	±18	03	36	±8	8.6
1,139	9	81.5	23	47	59	±15	27	31	±180	25
1,140	5	86	23	48	06	±24	16	25	±6	13
1,141	9	81.5	23	48	23	±15	32	30	±300	32
1,142	5	86	23	48	42	±18	04	21	±8	13
1,143	5	86	23	49	42	±18	08	10	±7	10
1,144	5	86	23	45	54	±18	01	23	±7	18
1,145	5	86	23	51	18	±18	05	30	±7	9
1,146	9	81.5	23	53	57	±7	23	58	±120	24
1,147	5	86	23	54	30	±18	13	20	±8	8.3
1,148	9	81.5	23	54	55	±15	30	30	±180	31
1,149	9	81.5	23	58	32	±5	33	45	±250	62
1,150	5	86	23	59	36	±12	17	26	±6	14

[a]α, right ascension; δ, declination.

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TABLE III.- THERMAL RADIATION FROM VENUS, JUPITER, AND MARS

Planet	Wavelength, λ, meter	Frequency, ν, mc/sec	Flux, watts - m^{-2} - $(c/sec)^{-1}$	Disk temp., T_d, $^{\circ}K$	Time	Reference
Venus	0.0315		3.8×10^{-25}	620 ± 110	Early May 1956	47
	.0315		9.6×10^{-25}	560 ± 73	Inferior conj.[a] 1956	47
	.0337			575	April 1958	50
	.094			580 ± 230	June 25 and July 7, 1956	47
	.0086			410	Inferior conj.[a] 1958	48
Jupiter	0.0315		9.5×10^{-26}	140 ± 56	May 1956	44, 46
	.0315		1.4×10^{-25}	145 ± 26	March 1957	44, 46
	.0337			165 ± 17		52
	.0375			210		45
	.103	2,910	$(.27 \text{ to } .62) \times 10^{-25}$	395 to 860	June 1958	49
	.103 to .102			640 ± 85	June - August 1958	54
	.103 to .102			315 ± 65	October 1959	54
Mars	0.0315		6.5×10^{-26}	218 ± 76	September 1956	44, 46

[a]At inferior conjunction, the dark side of Venus faces the Earth.

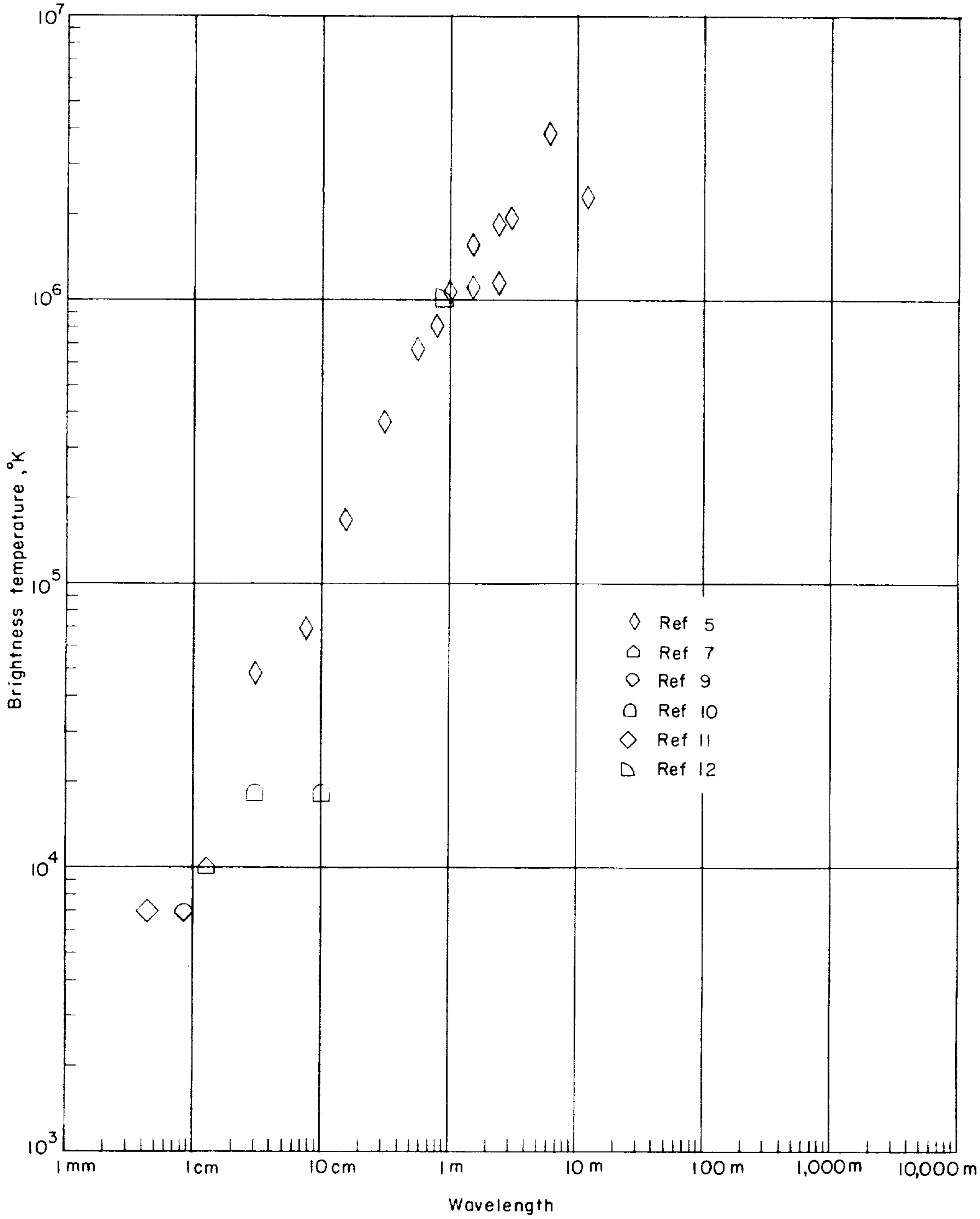

Figure 1.- Brightness temperature of the solar disk at various wavelengths according to several observers.

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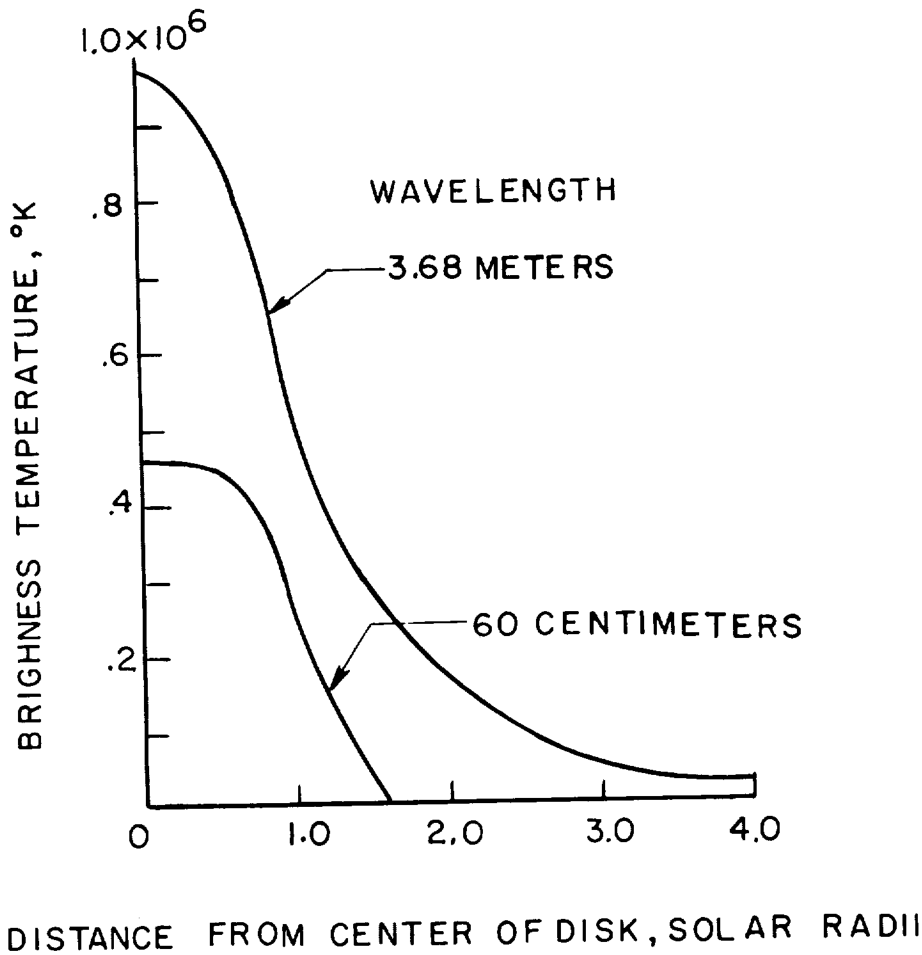

Figure 2.- Brightness-temperature distribution across the solar disk at wavelengths of 60 centimeters and 3.68 meters. Stanier (ref. 14) and Machin (ref. 15).

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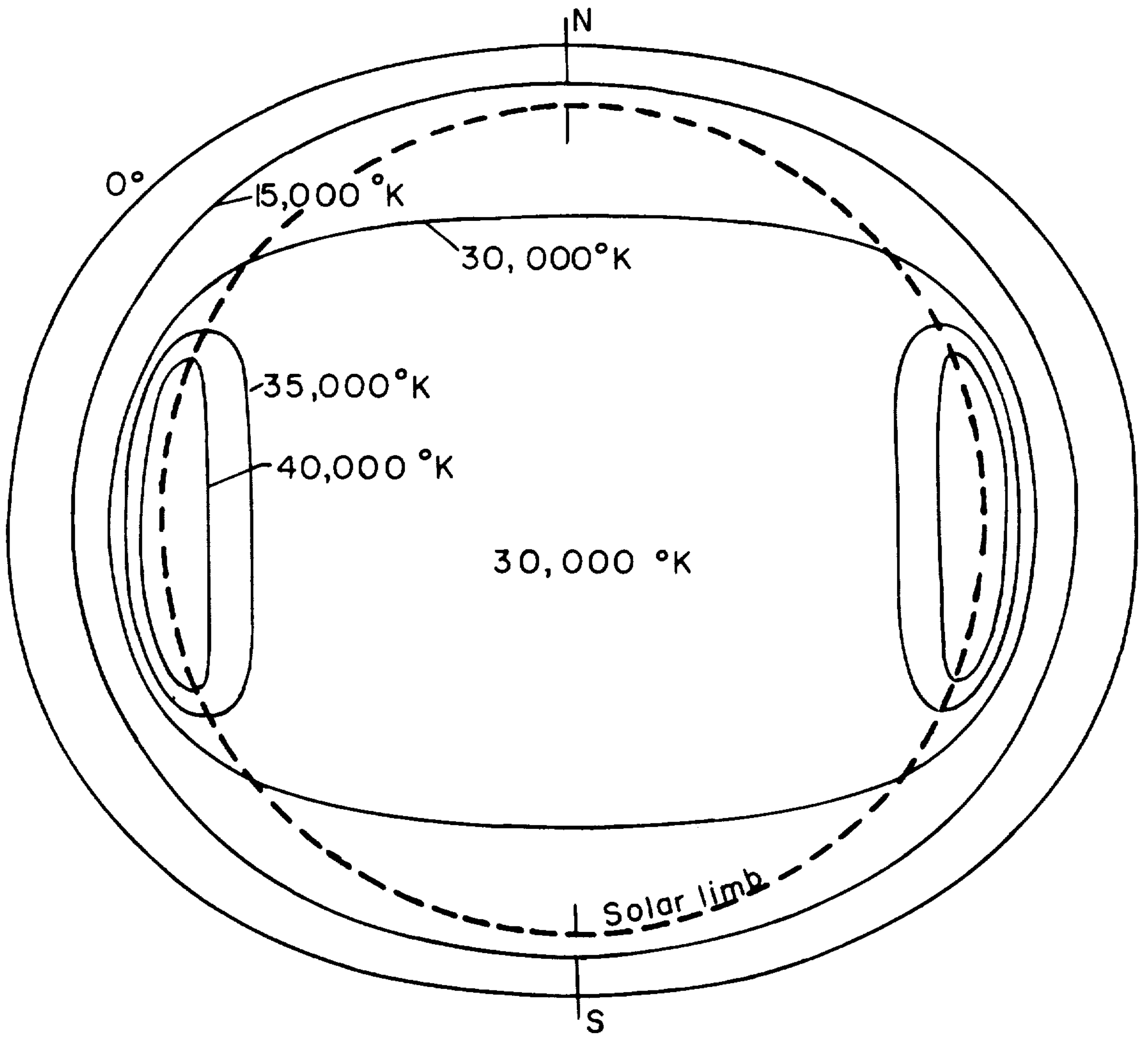

Figure 3.- Brightness-temperature distribution of the Sun at a wavelength of 9.1 centimeters (Swarup, ref. 16).

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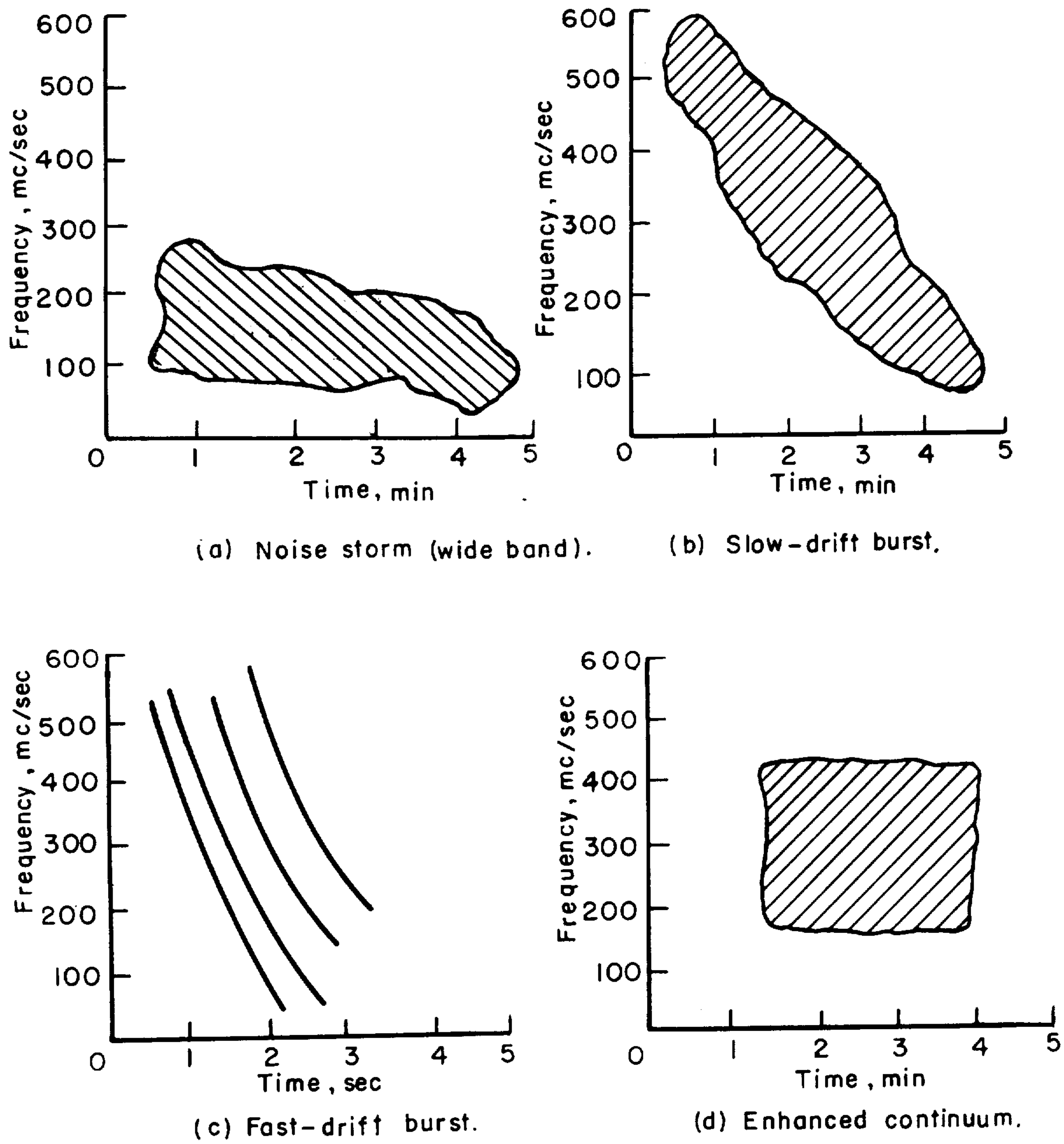
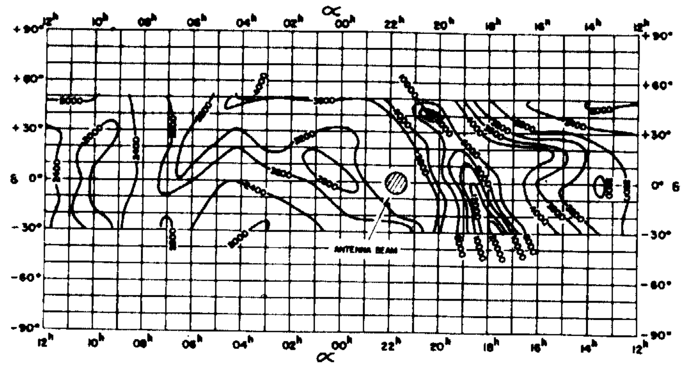
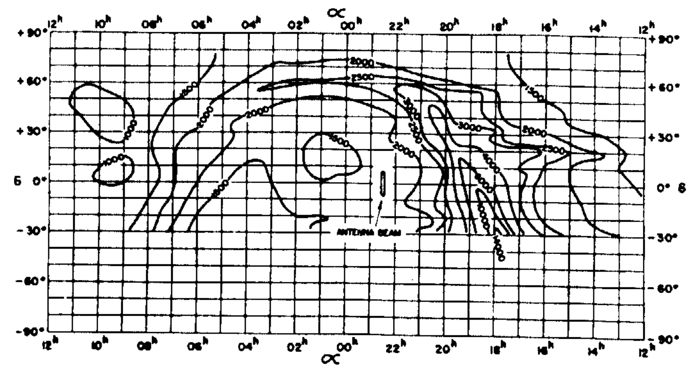


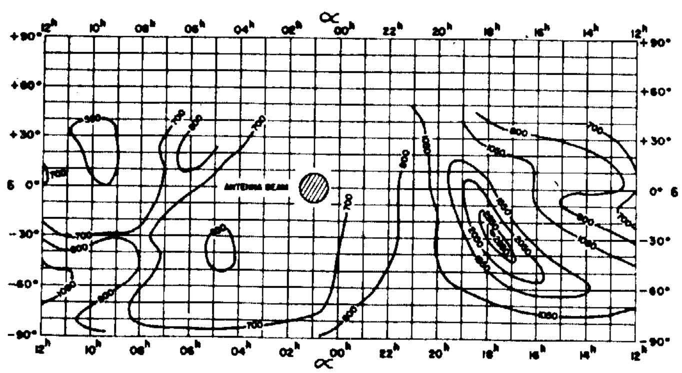
Figure 4.- Dynamic spectra of various types of solar disturbances.



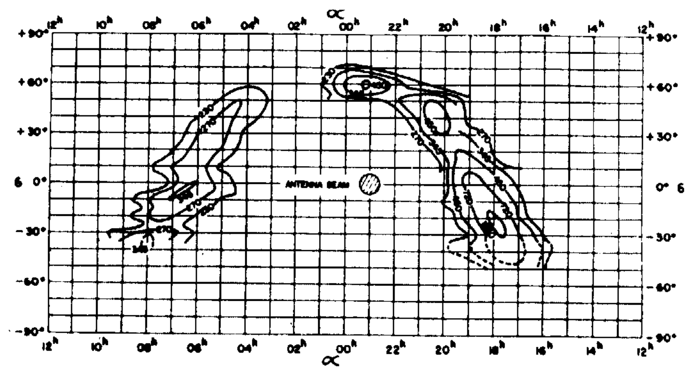
(a) 64 mc/sec. Ko (ref. 39) after Hey, Parsons, and Phillips (ref. 31).



(b) 81 mc/sec. Ko (ref. 39) after Baldwin (ref. 32).

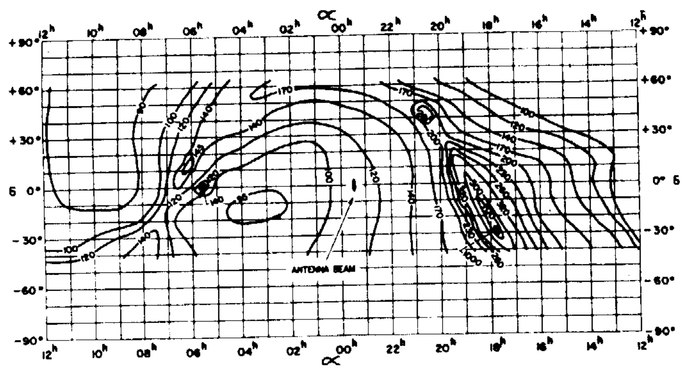


(c) 100 mc/sec. Ko (ref. 39) after Bolton and Westfold (ref. 34).

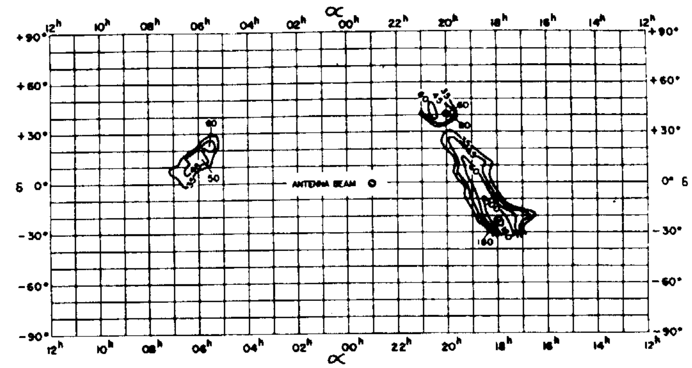


(d) 160 mc/sec. Ko (ref. 39) after Reber (ref. 36).

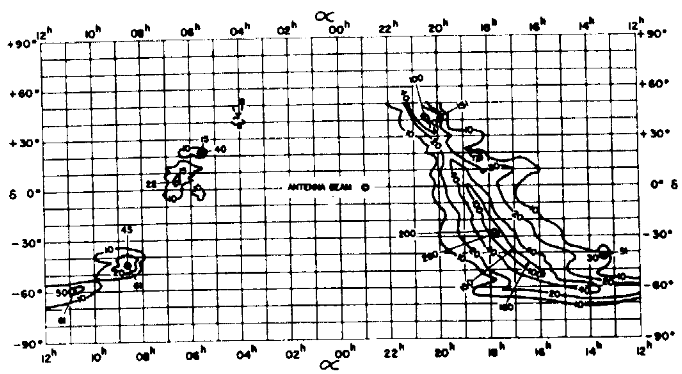
Figure 5.- Distribution of radio brightness temperature. α, right ascension; δ, declination; h, hour.



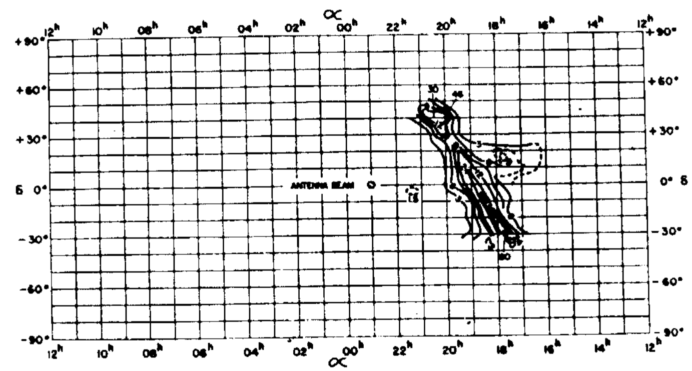
(e) 250 mc/sec. Ko (ref. 39) after Ko and Kraus (ref. 35).



(f) 480 mc/sec. Ko (ref. 39) after Reber (ref. 36).



(g) 600 mc/sec. Ko (ref. 39) after Piddington and Trent (ref. 37).



(h) 910 mc/sec. Ko (ref. 39) after Denisse, Leroux, and Steinberg (ref. 38).

Figure 5.- Concluded.

L-2080

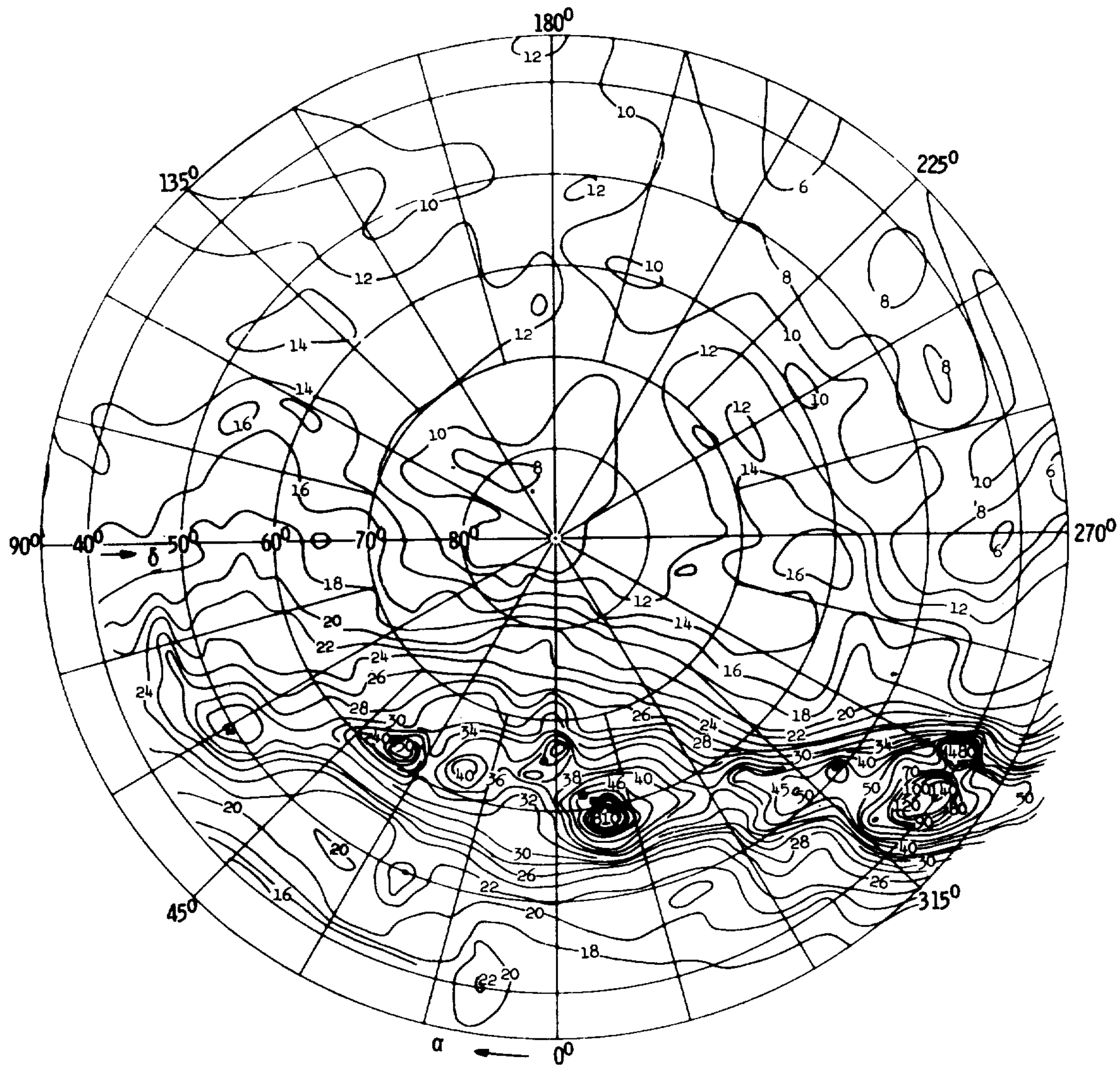


Figure 6.- Distribution of radio brightness temperature for the north polar cap at 400 mc/sec. Units are °K. Westerhout (ref. 40).