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NRL Memorandum Report 1758

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Information on Over-the-Horizon Radar

Part XII - Missile Detection at Altitude for a Medium Distance

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February 1967



DECLASSIFIED: By authority of

OPNAVINST 5510.14, 29 Apr 88

Cite Authority

Date

C. ROGERS

1221-1

Entered by

NRL Code

[REDACTED]
[REDACTED]

NAVAL RESEARCH LABORATORY
Washington, D.C.

[REDACTED] - [REDACTED]
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Report Documentation Page				Form Approved OMB No. 0704-0188	
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1. REPORT DATE FEB 1967		2. REPORT TYPE		3. DATES COVERED 00-00-1967 to 00-00-1967	
4. TITLE AND SUBTITLE Information on Over-the-Horizon Radar, Part XII -Missile Detection at Altitude for a Medium Distance				5a. CONTRACT NUMBER	
				5b. GRANT NUMBER	
				5c. PROGRAM ELEMENT NUMBER	
6. AUTHOR(S)				5d. PROJECT NUMBER	
				5e. TASK NUMBER	
				5f. WORK UNIT NUMBER	
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) Naval Research Laboratory, Washington, DC, 20375				8. PERFORMING ORGANIZATION REPORT NUMBER	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)				10. SPONSOR/MONITOR'S ACRONYM(S)	
				11. SPONSOR/MONITOR'S REPORT NUMBER(S)	
12. DISTRIBUTION/AVAILABILITY STATEMENT Approved for public release; distribution unlimited					
13. SUPPLEMENTARY NOTES					
14. ABSTRACT					
15. SUBJECT TERMS					
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT Same as Report (SAR)	18. NUMBER OF PAGES 74	19a. NAME OF RESPONSIBLE PERSON
a. REPORT unclassified	b. ABSTRACT unclassified	c. THIS PAGE unclassified			

[REDACTED]

This document is classified [REDACTED] because it reveals proposed location of a new facility, the location of targets of interest and characteristics of an R and D equipment.

ABSTRACT

([REDACTED])

This report gives expected OTH radar performance for a site near Diyarbakir viewing the region around Lake Balkash.

PROBLEM STATUS

This is an interim report on a phase of the problem; work is continuing.

AUTHORIZATION

USAF MIPR (30-602) 64-3412 to the
Naval Research Laboratory
dated 26 March 1964
NRL Problem 53R02-42

[REDACTED]

MISSILE DETECTION AT ALTITUDE FOR A MEDIUM DISTANCE
(Unclassified Title)

INTRODUCTION

It has been suggested that a limited capability hf radar might be accommodated on the existing Turkish site near Diyarbakir and that this radar could furnish useful coverage for missiles in the Lake Balkash region (1, 2 and 3). The radar location is taken as 38°N 40°E and the target as 46°N 73°E giving a great circle ground range of 1494 naut mi and forward and reverse bearings of 061° and 262° true. ITSA long range ionospheric data have been used with the prediction methods of ESSA Technical Report, IER 1 - ITSA 2 and the radar application of such methods as is described in an NRL report (5). The operating period of 1968-1970 with an estimated average sunspot number (SSN) of 110 is examined for three months, June, September and December, being representative of summer, spring/fall and winter respectively. A frequency complement composed of narrow band channels at nominally 9, 10, 11, 12, 13, 14, 16, 18, 20, 22, 24, 27, 30 Mc has been assumed available. Target altitudes considered are 0, 50, 100 and 150 km. The signal absorbing layer has been considered slightly below 100 km. Since the radar installed on the existing site probably will not permit a full ground screen, a launch angle minimum of 4° has been set. This controlling noise was taken as that given in CCIR Report #322 except that noise power was not allowed to drop below a threshold set by a median level, $N_m = 148 + 12.6 \ln(fmc/3)\text{db}$, below a watt; this noise is an estimate for the narrow band (5-10 kc) frequency complement assumed.

RESULTS

The results are given in the form of diurnal graphs of % Time, S/N, γ and f.

% Time is a measure of radar effective operating time and also it is referred to as Total Reliability. In effect it is a combined reliability computed from individual reliabilities based upon the fading signal, fluctuating noise and probability of ionospheric support for the better frequencies in the complement. Implicit assumptions are that the radar is frequency and launch angle flexible, that existing propagation conditions are known and that the radar is properly operated.

S/N is the ratio in db of output signal-to-noise at the monthly median MUF.

γ is the vertical launch angle in degrees for the monthly median MUF path

f is the median MUF for the month given in megacycles per second.
Time is given in hours GMT.

The modes considered are as sketched in Fig. 1, and on the diurnal graphs the mode for the median MUF is indicated. All percent time curves have been computed with the requirement that the output signal-to-noise be 10 db or better. The product (radiated power over a watt) (antenna gain over a free space isotrope)² (signal processing time over a second) (target radar area over a square meter) or $PG^2T\sigma$, has been taken as 143, 133, 123 and 113 db. As an example the $PG^2T\sigma = 143$ may be broken down as follows:

P = 400 kw average or	56 db
G ² =	60 db
T = 10 sec. or	10 db
σ = 50 sq. meters or	<u>17 db</u>
	143 db

An example of $PG^2T\sigma = 133$

P = 400 kw average or	56 db
G ² =	50 db
T = 10 sec. or	10 db
σ = 50 sq. meters or	<u>17 db</u>
	133 db

An example of $PG^2T\sigma = 123$

P = 200 kw average or	53 db
G ² =	50 db
T = 2 sec. or	3 db
σ = 50 sq. meters or	<u>17 db</u>
	123 db

Figures 2 through 13 are diurnal graphs of Total Reliability or Percent Time of effective operation (% Time), output median signal to median noise ratio (S/N) for the median MUF, launch angle (ψ) in degrees for the median MUF, and frequency (f) in megacycles per second for the median MUF. The median MUF mode is indicated between the % Time and S/N plots. These curves show a marked decrease in radar capability near midday local time (0900 GMT) for the summer months and equinoxes.

The effective operating times are summarized in Fig. 14 by daily average. The $PG^2T\sigma = 143$ table shows daily effective times of near 95%. With minor exceptions Fig. 14 shows more effective operating time for targets of 100 km and lower altitudes.

Figures 15, 16 and 17 give composite plots of S/N, the median MUF and its launch angle. For the years considered, an overall frequency span of 10 through 33 megacycles is required. Launch angles up to 11° are useful with indications that launch angles of less than 4° would also be useful if permitted. The modes, 1F 1F-, and 1F+ provide the coverage.

CONCLUSIONS

The problem under study is of missile skin tracking at about 1500 naut mi employing an AN/FPS-95 capability radar (6) but with frequency, azimuth sector and launch angle abbreviations. Some of the results are:

(a) The $PG^2T\sigma = 133$ db case corresponds to 400 kw average power (two AN/FPS-95 transmitters) and an assumed 10 seconds effective processing time against a 50 m^2 target. Effective operating time indicated is high at all altitudes, averaging over 80%.

(b) The $PG^2T\sigma = 123$ db case illustrates expected performance for a single AN/FPS-95 transmitter (200 kw) with 2 seconds of processing gain against a 50 m^2 target. Effective operating time averages over 50%.

(c) The exhibits for $PG^2T\sigma = 143$ and 113 db are given to show how even higher and lower performance radars can be expected to operate.

Examination of Figs. 15, 16, 17 shows that a single vertical beam covering 4° to 12° provides for all average vertical launch angles. These figures also show that provisions for radiation below 4° can significantly improve performance, principally at the 100 km target altitude but to some extent at the 150 km altitude.

A single beam AN/FPS-95 with a considerably abbreviated antenna can provide useful coverage.

PREDICTION EXPLANATION AND SET OF TABLES

The problem brief will be stated. The predictions were computer for June, September and December, sunspot number 110 using the following parameters:

- a. Height of target - (0, 50, 100 and 150 km)
- b. Gain of antenna - (25 db)
- c. Target radar area - (SIGMA) (1000 sq. meters). This area was a computational convenience to go with the noise tabulation which was in power in a 1-cps band. The specified parameter in fact is the (radar area) (integration time) product which would be $1000 \text{ m}^2 \text{ sec}$.
- d. 3 Mc/s manmade noise - (-148 dbw)

- [REDACTED]
- e. Required signal-to-noise ratio - (0, 10, 20 and 30 db)
 - f. Power - (200 kw)
 - g. Minimum acceptable angle of takeoff and arrival - (4 degrees)

A description of the body of the printout follows:

- 1. MUF: Monthly median maximum usable frequency
- 2. MODE: The mode contributing most to the overall probability that at least one sky-wave path exists
- 3. ANGLE: The average takeoff and arrival angle associated with the above mode
- 4. C. PROB.: The overall probability that at least one mode is present to produce the quasi-minimum loss for the circuit
- 5. NOISE: The predominant noise (atmospheric, manmade or cosmic) (db < 1 watt in a 1-cps bandwidth)
- 6. F.S. LOSS: The free space loss between isotropic radiators (two-way)
- 7. P. LOSS: The propagation losses two way (ionospheric quasi-minimum and ground losses)
- 8. S/N - DB: The received signal power in the occupied bandwidth relative to noise in a 1-cps bandwidth
- 9. S/N PROB. A, B, C, and D: The probability that the available signal-to noise exceeds the required signal-to-noise, considering only the fluctuations of the signal and noise (ionospheric probability of support not included)
 - A, $PG^2T\sigma = 143$ db
 - B, $PG^2T\sigma = 133$ db
 - C, $PG^2T\sigma = 123$ db
 - D, $PG^2T\sigma = 113$ db
- 10. T. REL.: The total combined reliability of the frequency complement ($PG^2T\sigma = 143, 133, 123$ and 113 db)

Computation results are shown in the following tables for $PG^2T\sigma = 143, 133, 123$ and 113 db.

An approximate manual solution for one hour will be given. The relation used is $(S/N) = \frac{PG^2T\sigma\lambda^2}{NL(4\pi)^3R^4}$

The computations were for $\sigma = 1000$ and $T = 1$, however, any $\sigma T = 1000$ is valid, and the examples in the body of the report were taken as $\sigma = 50 \text{ m}^2$ and $T = 20 \text{ sec.}$ since 50 m^2 is an appropriate estimate of missile skin radar area and 20 sec. is approximately the maximum signal processing time that can be effective. Since the free space spreading loss as given in the table is

$$\text{F.S. LOSS} = \left(\frac{4\pi R}{\lambda} \right)^4$$

that is, the two-way spreading loss between two isotropes, the radar equation will be rearranged:

$$(S/N) = \frac{PG^2T\sigma}{NL} \times \left(\frac{\lambda}{4\pi R} \right)^4 \times \frac{4\pi}{\lambda^2}$$

or using db

$$(S/N)_{\text{db}} = 10 \log P + 20 \log G + 10 \log \sigma T - 10 \log N - 10 \log L - \text{F.S. LOSS} - 10 \log \frac{\lambda^2}{4\pi}$$

The specified parameters set

$$10 \log P = 53$$

$$20 \log G = 50$$

$$10 \log \sigma T = 30$$

consider the case for June, 18 hours and 150 km altitude at the MUF.

$$-10 \log N = 169 \text{ from the table}$$

As a matter of interest this happened to be the median noise level set by specifying a rural noise threshold

$$10 \log L = 9 + 9$$

One factor is taken from the table and is the quasi-minimum loss plus ground reflection loss where appropriate. The other is the excess system loss which though not printed out in the table was used in the computations. The excess system loss is the factor that randomly varies giving the fluctuating signal description. Its median value for the problem here under study remained approximately 9 db at all times.

F.S. LOSS = 253 from the table

$$10 \log \frac{\lambda^2}{4\pi} \approx 13 \text{ at } 17.9 \text{ Mc/s}$$

$$\text{So } 53 + 50 + 30 + 169 - 9 - 9 - 253 - 13 = 18 \text{ db}$$

This compares with the 17 printed out in the table.

An example of determining Total Reliability (T. REL) or % Time of effectiveness will be given for the same time block for which the above output signal-to-noise ratio was computed. By inspection the highest best frequency of the complement is 14 Mc/s, and the reliability at that frequency can be computed

$$R_1 = (\text{C. PROB}) (\text{S/N PROB})$$

or using the

$$PG^2 T \sigma = 123$$

$$R_1 = (0.96)(0.42) = 0.40$$

Another reliability is computed selecting the best case from frequencies more than 15% above that of R_1 . This turns out to be at 18 Mc/s.

$$R_2 = (0.48)(0.42) = 0.20$$

Similarly a reliability is computed for the best case among frequencies at least 15% below that of R_1 . This is for 11 Mc/s and gives

$$R_3 = (0.99)(0.32) = 0.32$$

It has been assumed that these reliabilities from frequencies at least 15% apart are independent thus $T. REL. = R_1 + R_2 + R_3 - R_1 R_2 - R_1 R_3 - R_2 R_3 + R_1 R_2 R_3$
 $= 0.40 + 0.20 + 0.32 - 0.08 - 0.13 - 0.06 + 0.03 = 0.95 - .27 = 0.68 \text{ or } 68\%$
This is what the computer printed out.

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4. D.L. Lucas and G.W. Haydon, Predicting Statistical Performance Indexes for High Frequency Ionospheric Telecommunication Systems (U), ESSA Technical Report, IER 1 - ITSA 1, Department of Commerce, Environmental Science Services Administration, August 1966
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6. F.E. Boyd, F.M. Gager, J.M. Headrick, G.K. Jensen, E. Lurker, LCDR, USN, G.A. Morgan, E.N. Zettle, Information on Over-the-Horizon Radar, Part II (U), NRL Memo Report June 1, 1965 [REDACTED]

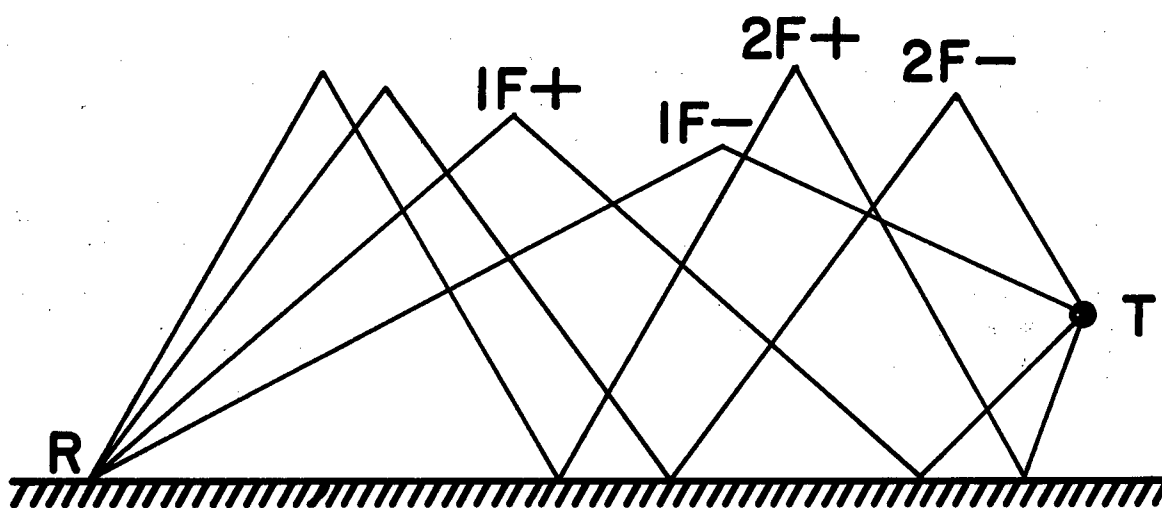


Fig. 1 - The transmission modes considered for targets at altitudes greater than zero are sketched for F-layer reflection

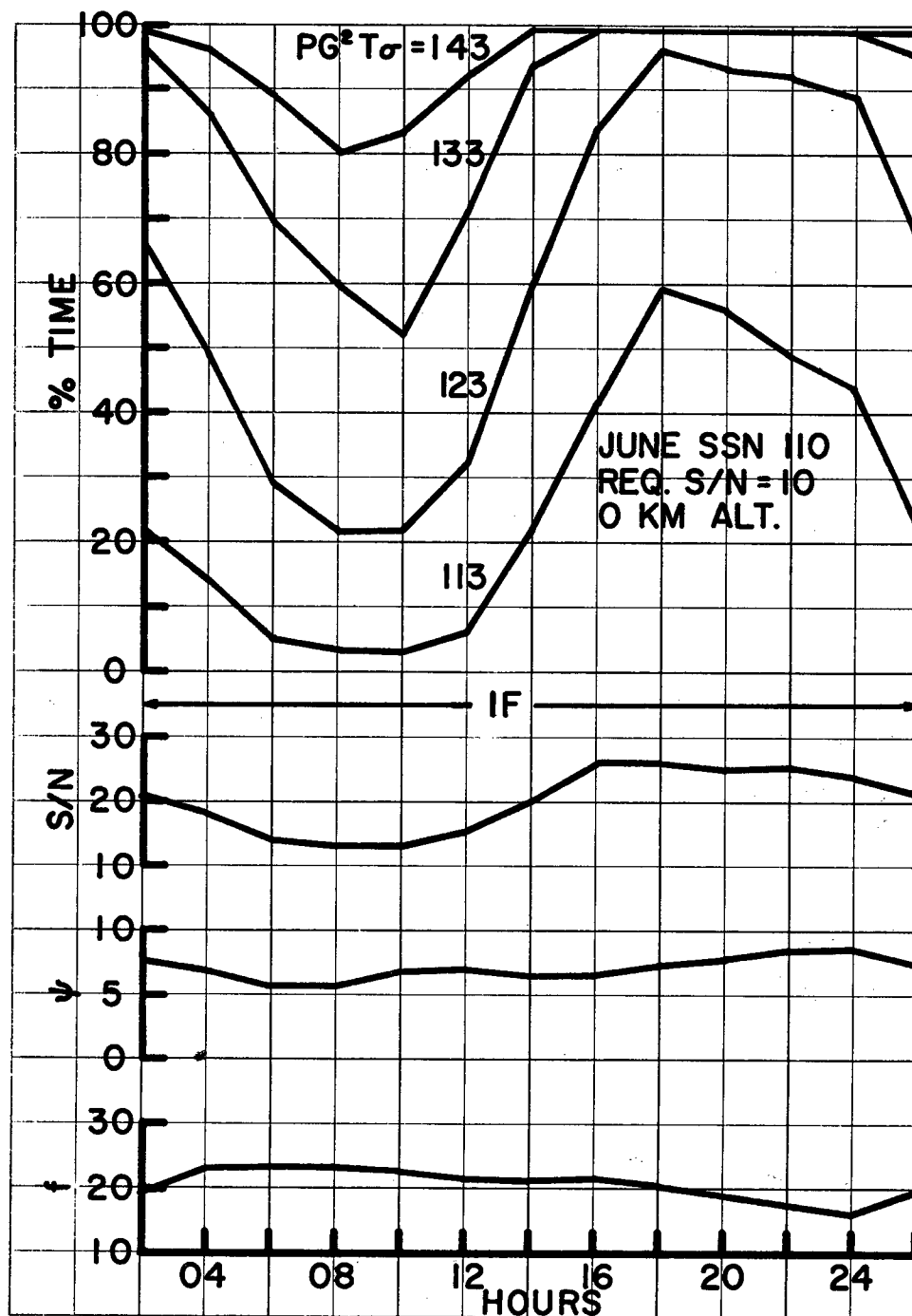


Fig. 2 - Percent of time of effective operation for four values of PG^2T_σ , the median MUF (f) for the designated month in Mc/s, the signal-to-noise ratio (S/N) at the median MUF in db for $PG^2T_\sigma = 133$, the vertical launch angle (ψ) in degrees for the median MUF path, and the transmission mode for the median MUF path are given versus GMT hours

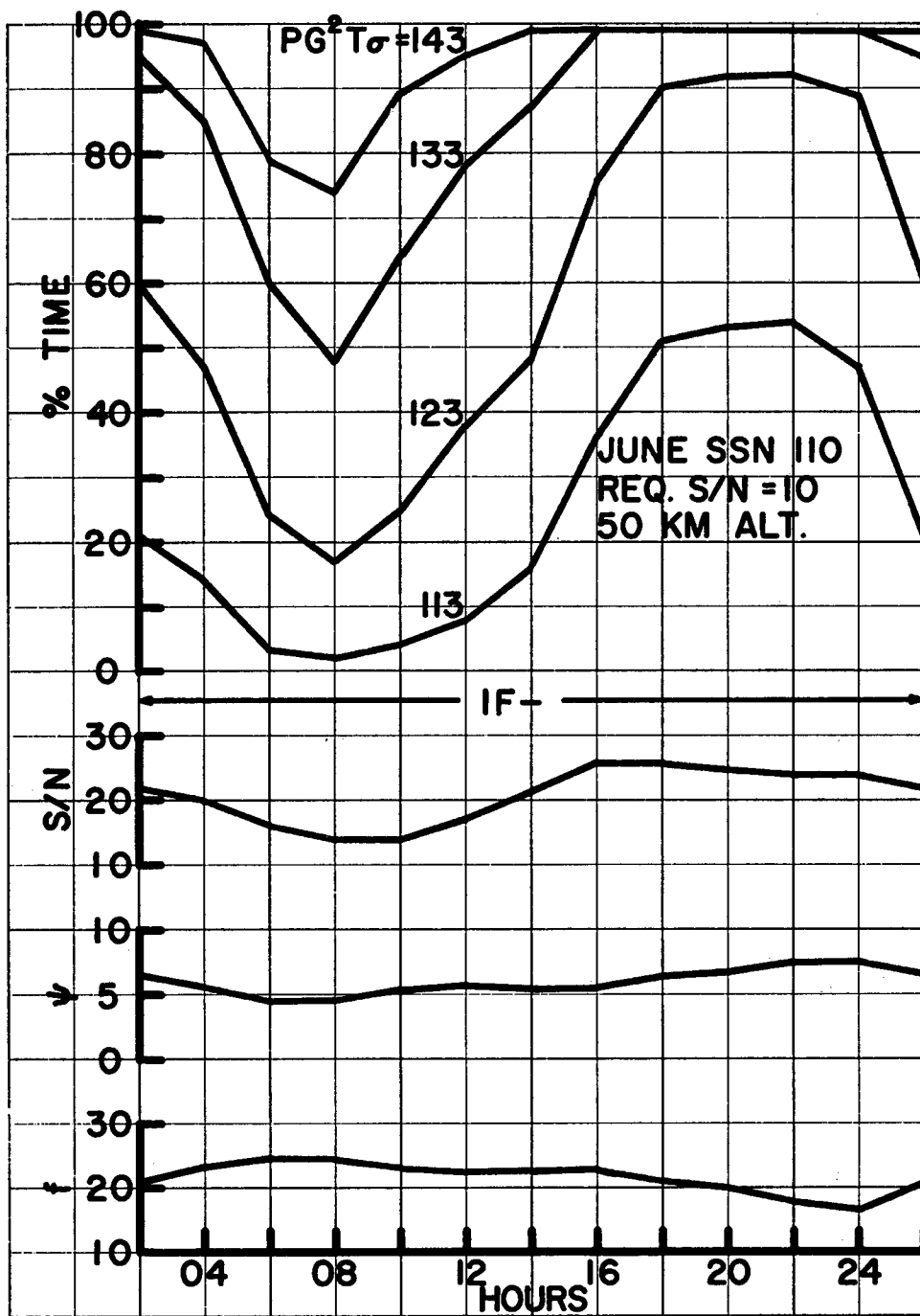


Fig. 3 - Percent of time of effective operation for four values of PG^2T_σ , the median MUF (f) for the designated month in Mc/s, the signal-to-noise ratio (S/N) at the median MUF in db for $PG^2T_\sigma = 133$, the vertical launch angle (ψ) in degrees for the median MUF path, and the transmission mode for the median MUF path are given versus GMT hours

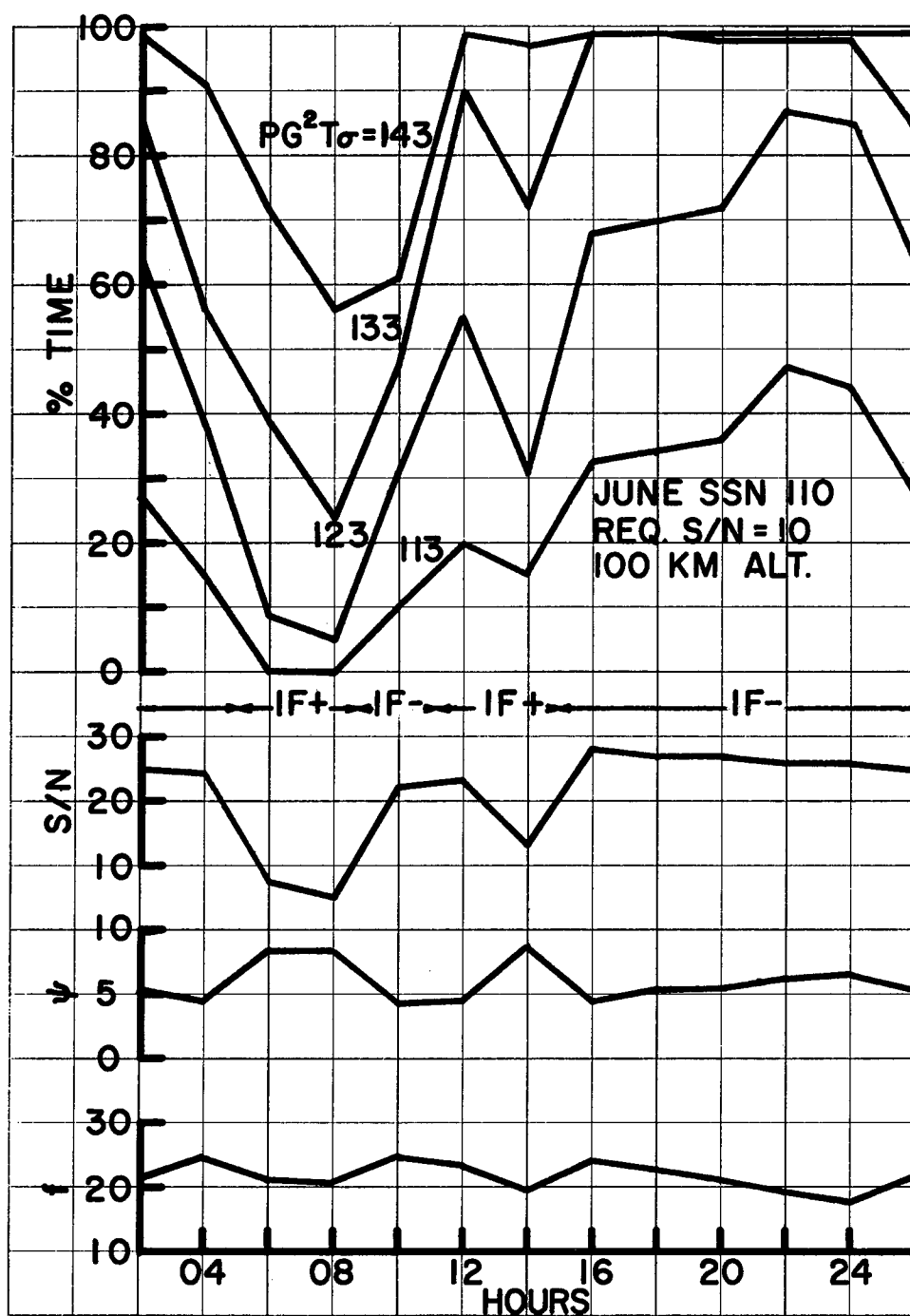


Fig. 4 - Percent of time of effective operation for four values of $PG^2T\sigma$, the median MUF (f) for the designated month in Mc/s, the signal-to-noise ratio (S/N) at the median MUF in db for $PG^2T\sigma = 133$, the vertical launch angle (ψ) in degrees for the median MUF path, and the transmission mode for the median MUF path are given versus GMT hours

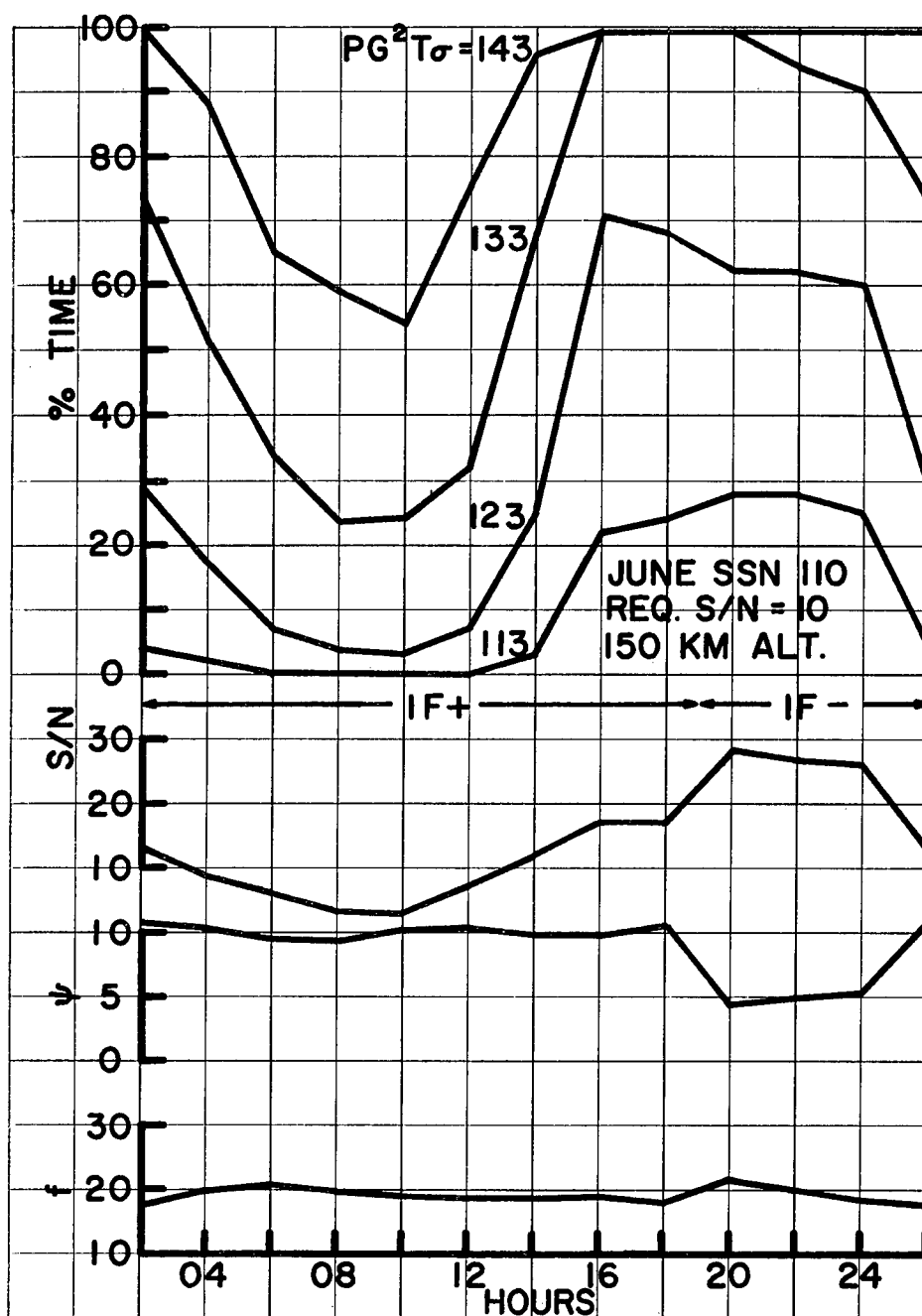


Fig. 5 - Percent of time of effective operation for four values of $PG^2T\sigma$, the median MUF (f) for the designated month in Mc/s, the signal-to-noise ratio (S/N) at the median MUF in db for $PG^2T\sigma = 133$, the vertical launch angle (ψ) in degrees for the median MUF path, and the transmission mode for the median MUF path are given versus GMT hours

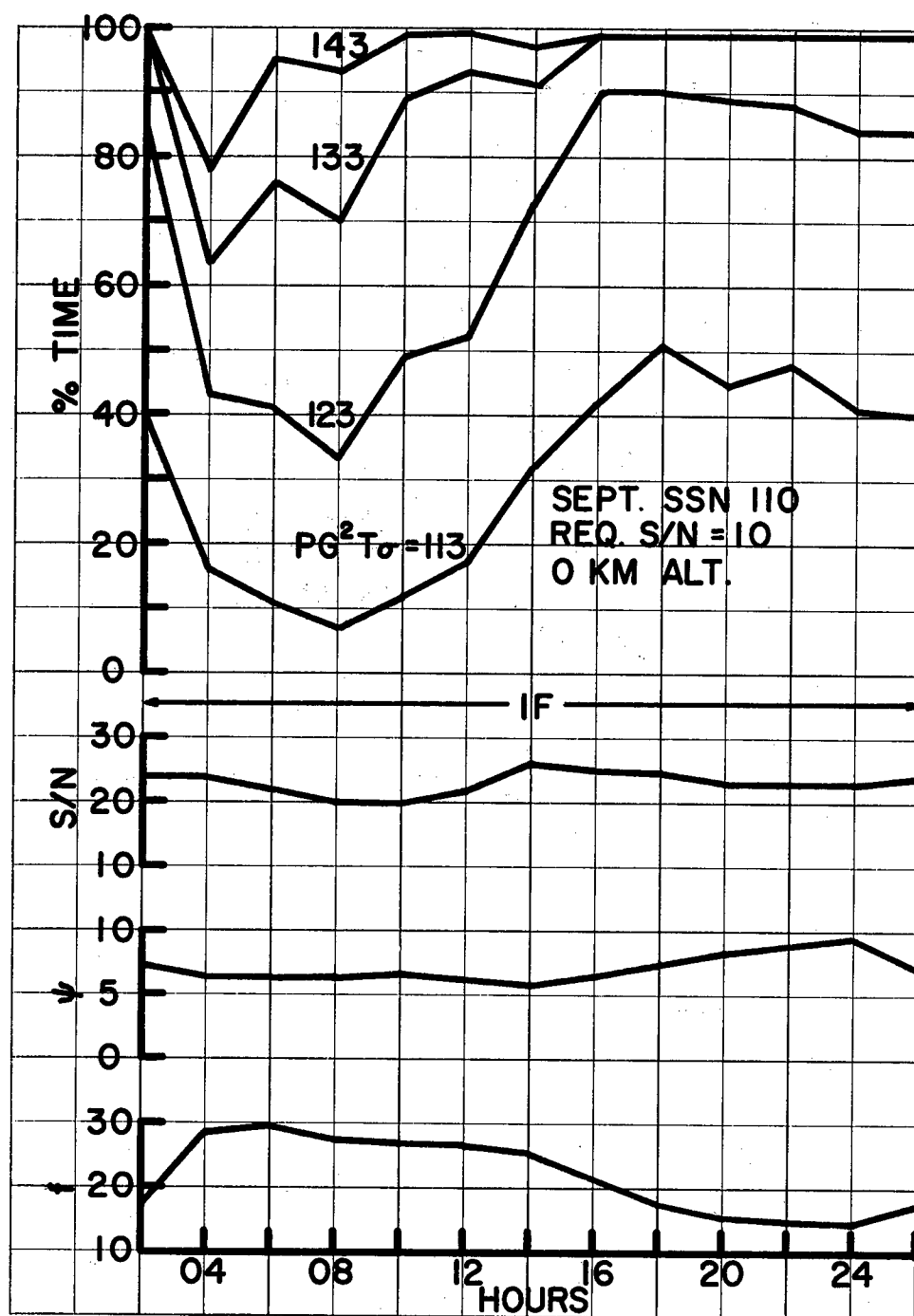


Fig. 6 - Percent of time of effective operation for four values of $PG^2T\sigma$, the median MUF (f) for the designated month in Mc/s, the signal-to-noise ratio (S/N) at the median MUF in db for $PG^2T\sigma = 133$, the vertical launch angle (ψ) in degrees for the median MUF path, and the transmission mode for the median MUF path are given versus GMT hours

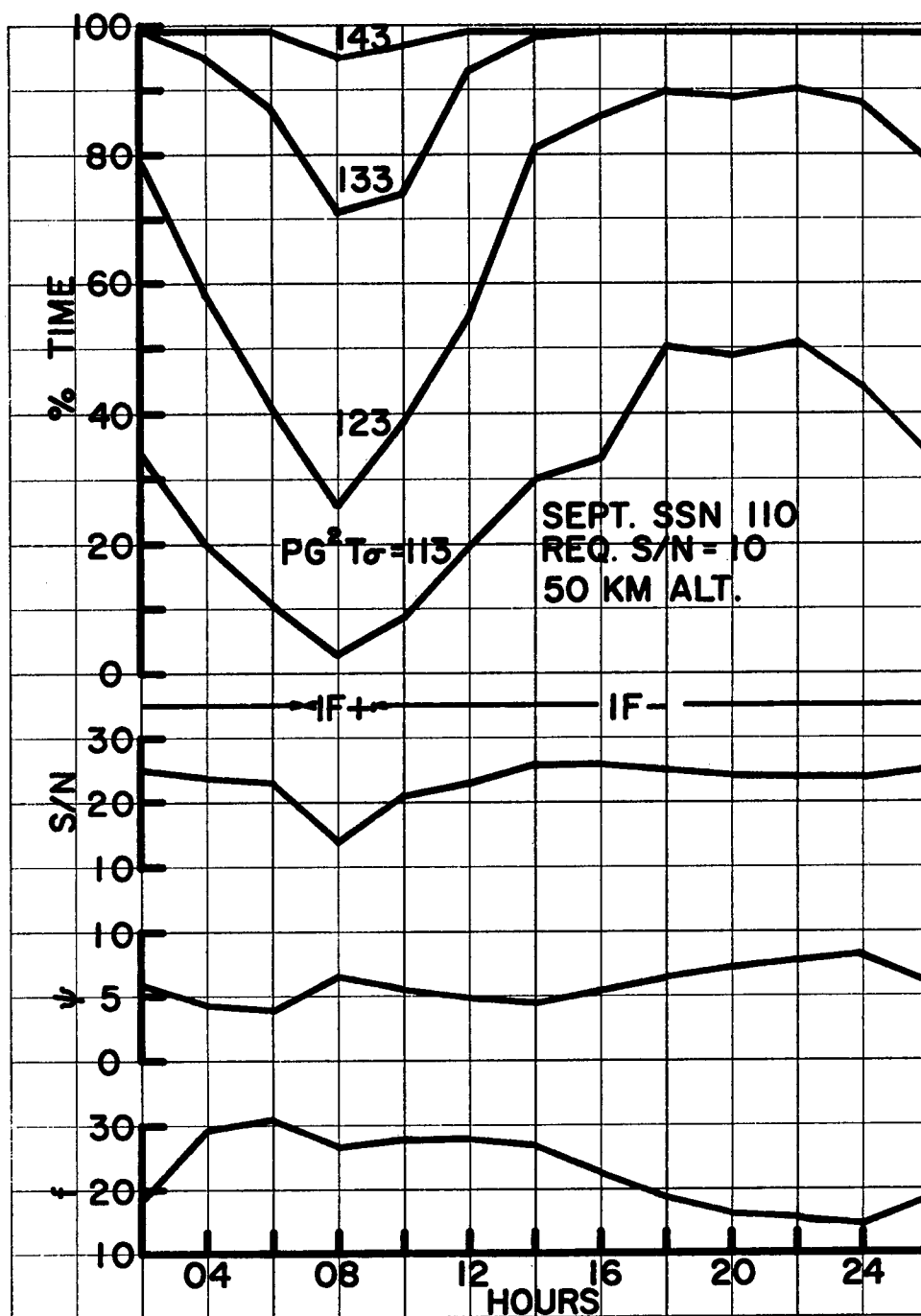


Fig. 7 - Percent of time of effective operation for four values of $PG^2T\sigma$, the median MUF (f) for the designated month in Mc/s, the signal-to-noise ratio (S/N) at the median MUF in db for $PG^2T\sigma = 133$, the vertical launch angle (ψ) in degrees for the median MUF path, and the transmission mode for the median MUF path are given versus GMT hours

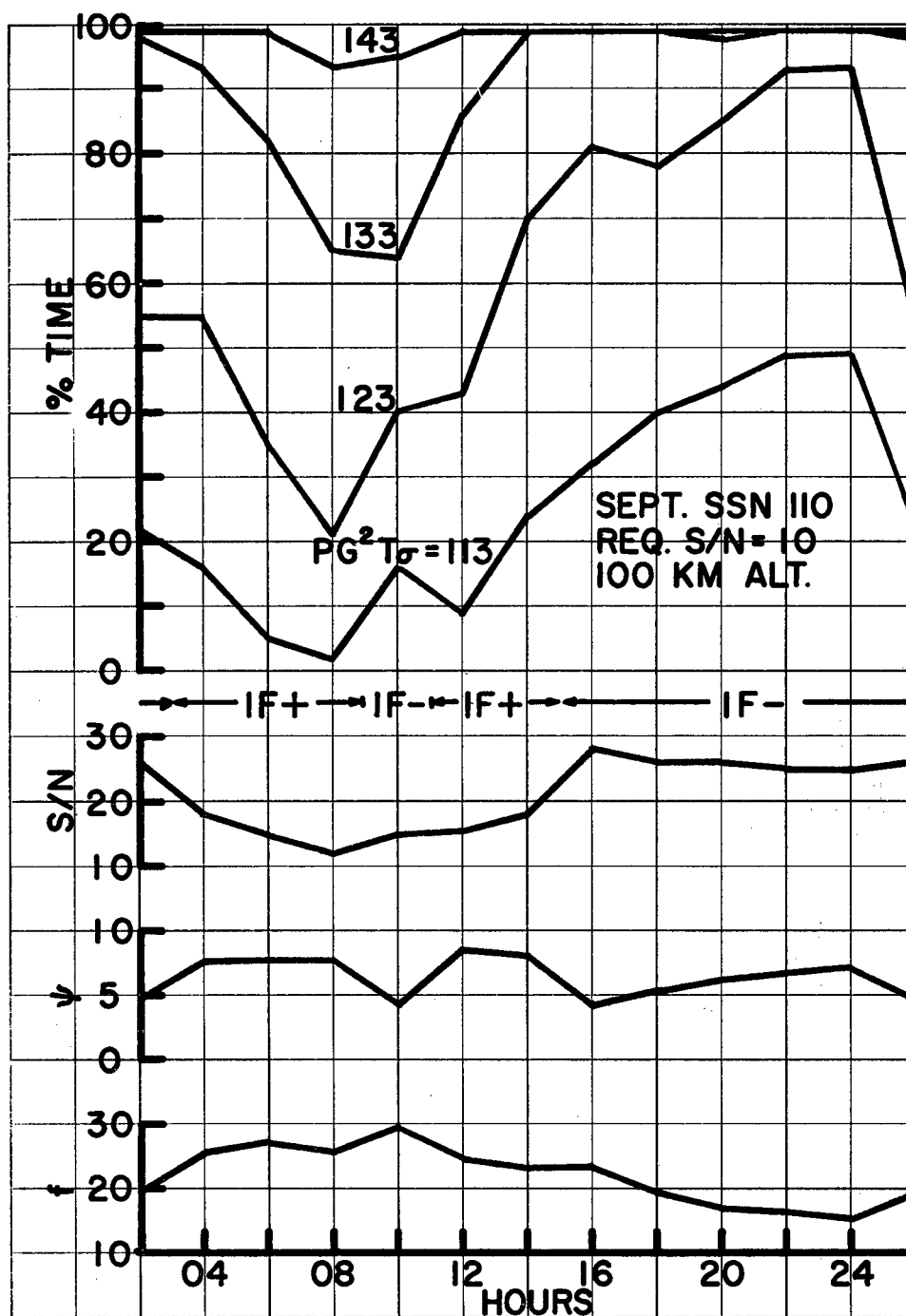


Fig. 8 - Percent of time of effective operation for four values of PG^2T_σ , the median MUF (f) for the designated month in Mc/s, the signal-to-noise ratio (S/N) at the median MUF in db for $PG^2T_\sigma = 133$, the vertical launch angle (ψ) in degrees for the median MUF path, and the transmission mode for the median MUF path are given versus GMT hours

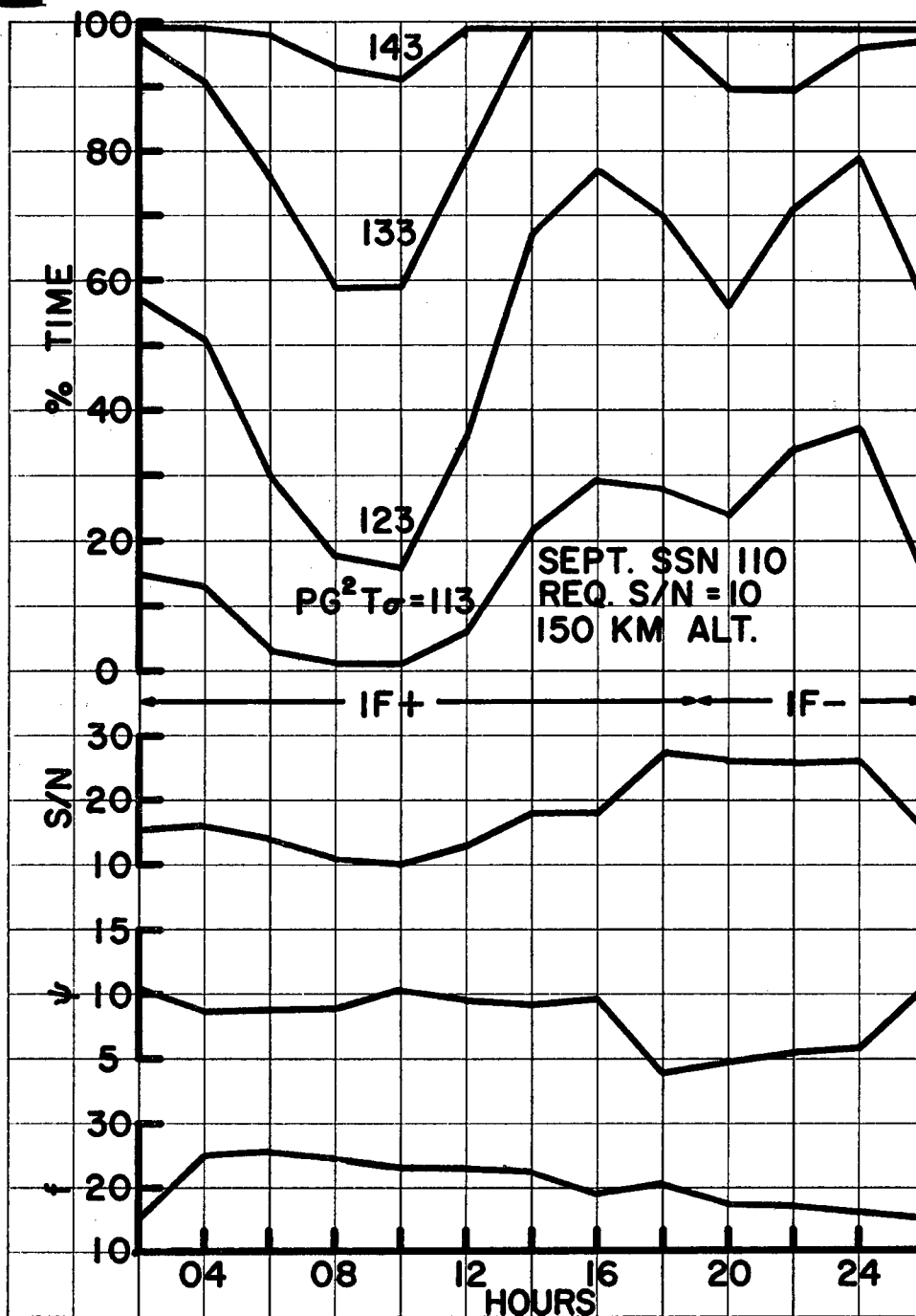


Fig. 9 - Percent of time of effective operation for four values of PG^2T_σ , the median MUF (f) for the designated month in Mc/s, the signal-to-noise ratio (S/N) at the median MUF in db for $PG^2T_\sigma = 133$, the vertical launch angle (ψ) in degrees for the median MUF path, and the transmission mode for the median MUF path are given versus GMT hours

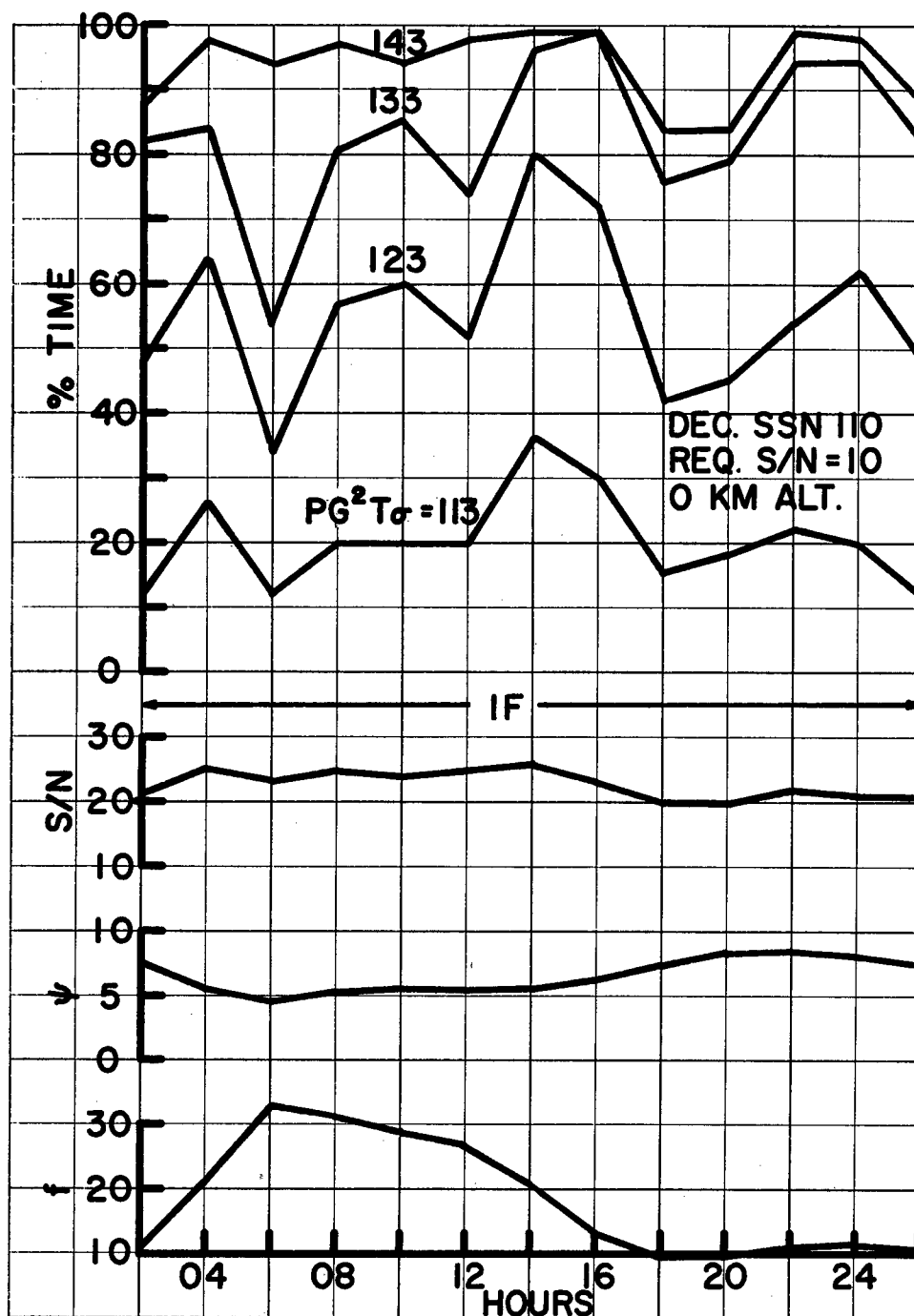


Fig. 10 - Percent of time of effective operation for four values of $PG^2T\sigma$, the median MUF (f) for the designated month in Mc/s, the signal-to-noise ratio (S/N) at the median MUF in db for $PG^2T\sigma = 133$, the vertical launch angle (ψ) in degrees for the median MUF path, and the transmission mode for the median MUF path are given versus GMT hours

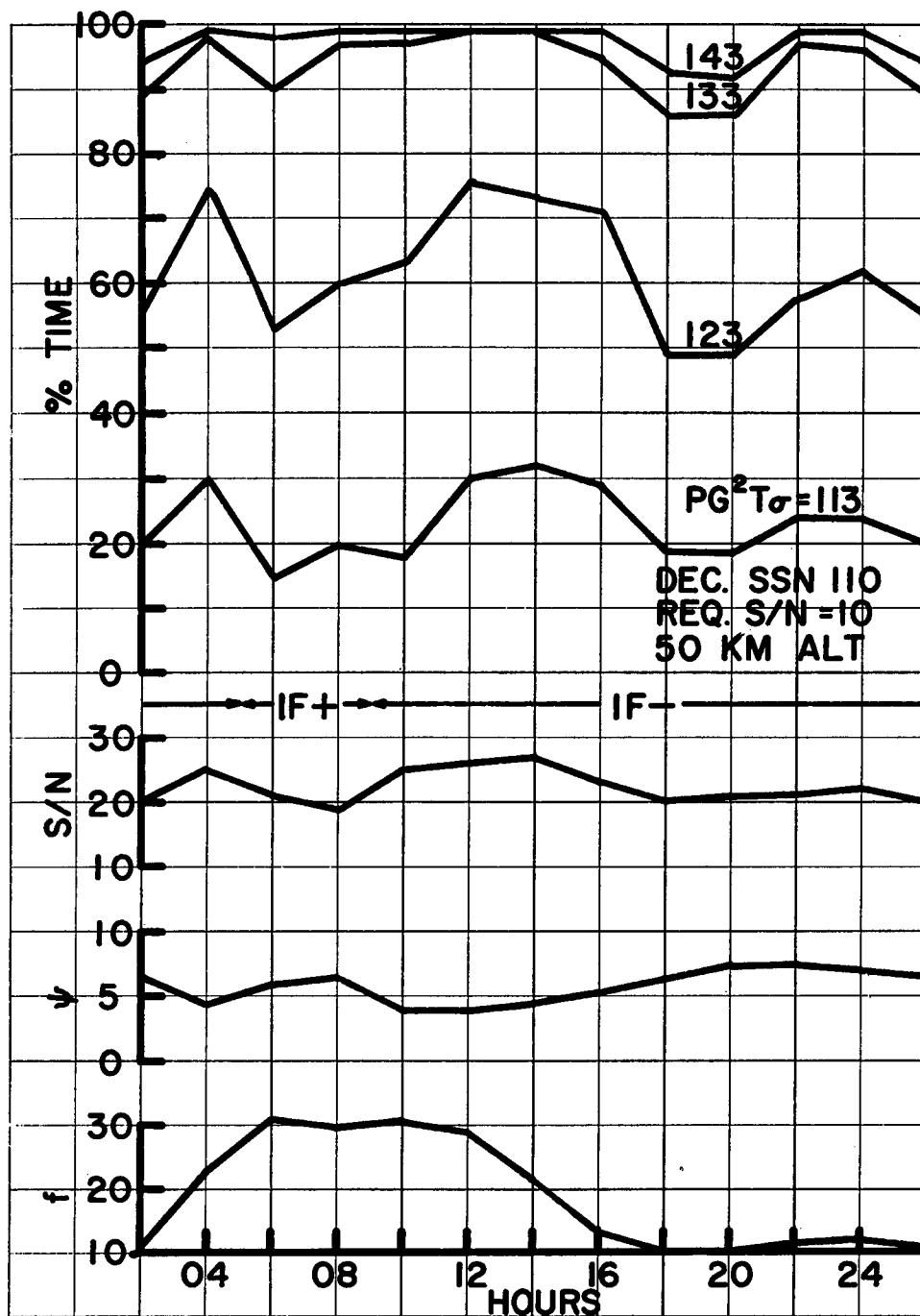


Fig. 11 - Percent of time of effective operation for four values of $PG^2T\sigma$, the median MUF (f) for the designated month in Mc/s, the signal-to-noise ratio (S/N) at the median MUF in db for $PG^2T\sigma = 133$, the vertical launch angle (ψ) in degrees for the median MUF path, and the transmission mode for the median MUF path are given versus GMT hours

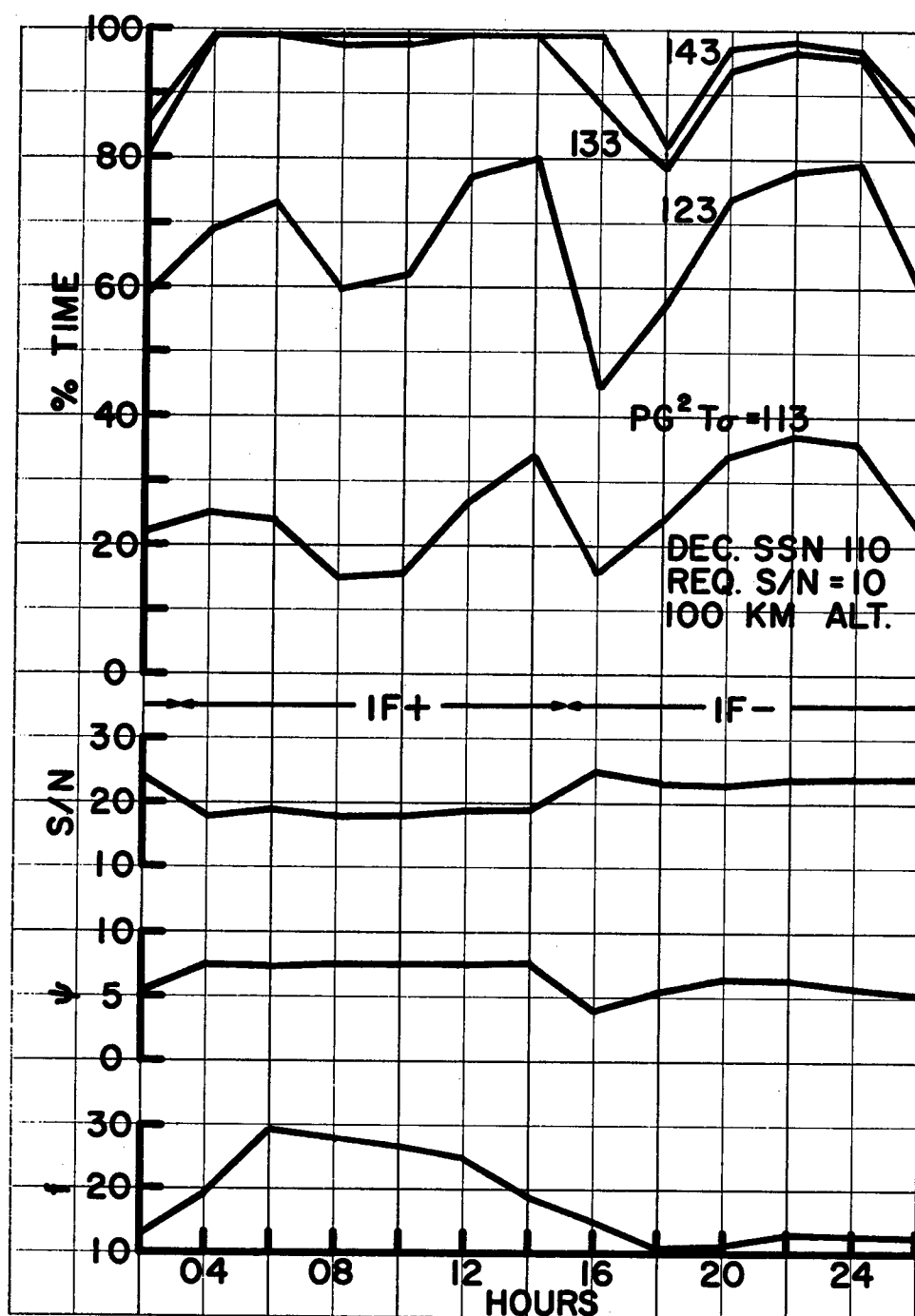


Fig. 12 - Percent of time of effective operation for four values of PG^2T_σ , the median MUF (f) for the designated month in Mc/s, the signal-to-noise ratio (S/N) at the median MUF in db for $PG^2T_\sigma = 133$, the vertical launch angle (ψ) in degrees for the median MUF path, and the transmission mode for the median MUF path are given versus GMT hours



Fig. 13 - Percent of time of effective operation for four values of $PG^2T\sigma$, the median MUF (f) for the designated month in Mc/s, the signal-to-noise ratio (S/N) at the median MUF in db for $PG^2T\sigma = 133$, the vertical launch angle (ψ) in degrees for the median MUF path, and the transmission mode for the median MUF path are given versus GMT hours

PERCENT TIME

$$PG^2 T_{\sigma} = 143$$

TARGET ALT.	JUNE	SEPT.	DEC.	YEAR
0 KM	94	96	94	95
50 KM	94	98	97	96
100 KM	89	98	96	94
150 KM	86	98	90	91

$$PG^2 T_{\sigma} = 133$$

0 KM	85	90	83	86
50 KM	84	93	94	90
100 KM	75	90	94	86
150 KM	66	86	84	79

$$PG^2 T_{\sigma} = 123$$

0 KM	61	68	56	62
50 KM	58	68	62	63
100 KM	51	62	68	60
150 KM	35	52	56	47

$$PG^2 T_{\sigma} = 113$$

0 KM	27	30	21	26
50 KM	26	29	23	26
100 KM	22	25	26	24
150 KM	11	18	19	16

Fig. 14 - Effective operating time is given by daily average

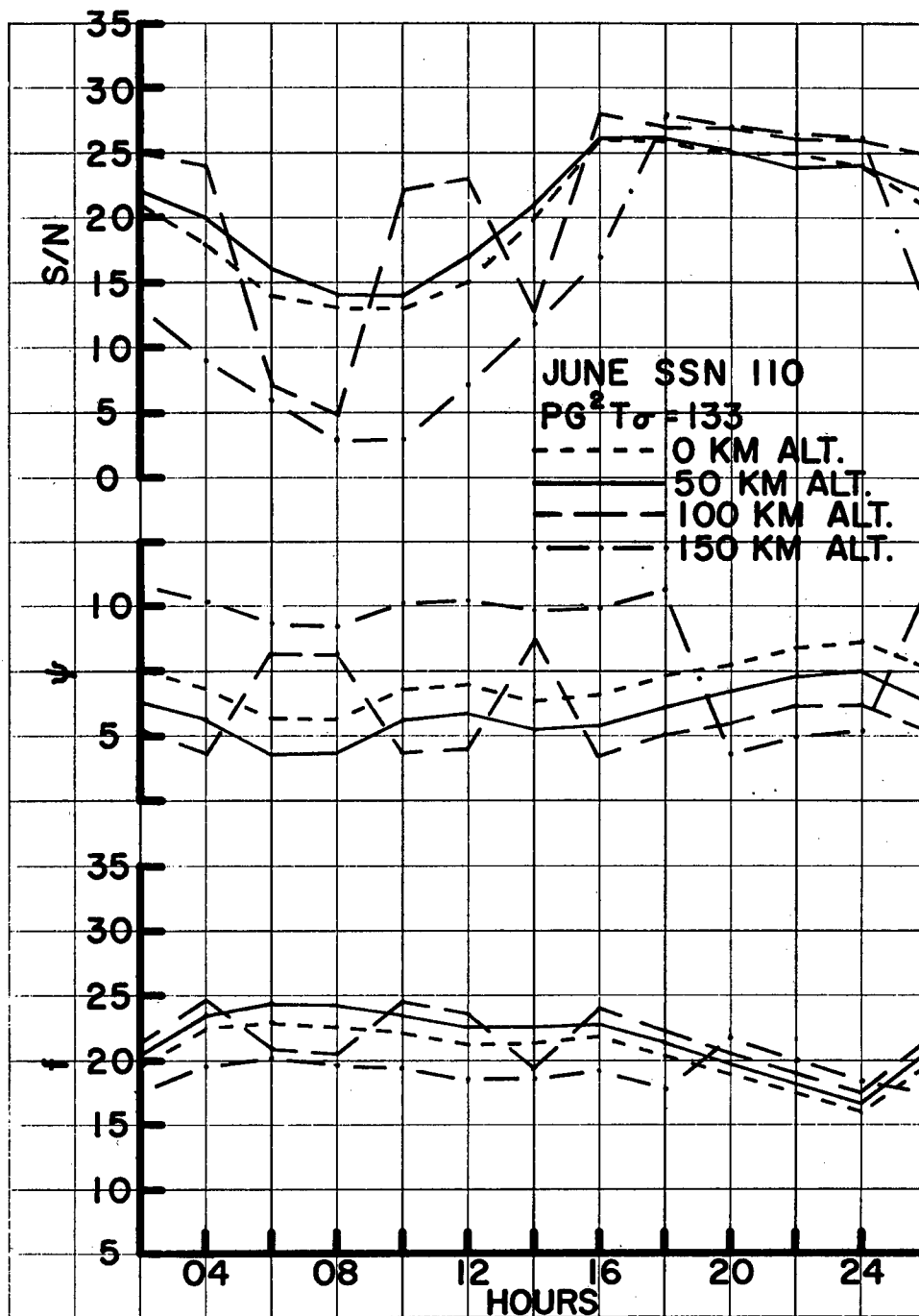


Fig. 15 - The median MUF, its launch angle and S/N versus GMT are shown for the month indicated as combined plots for the altitudes considered

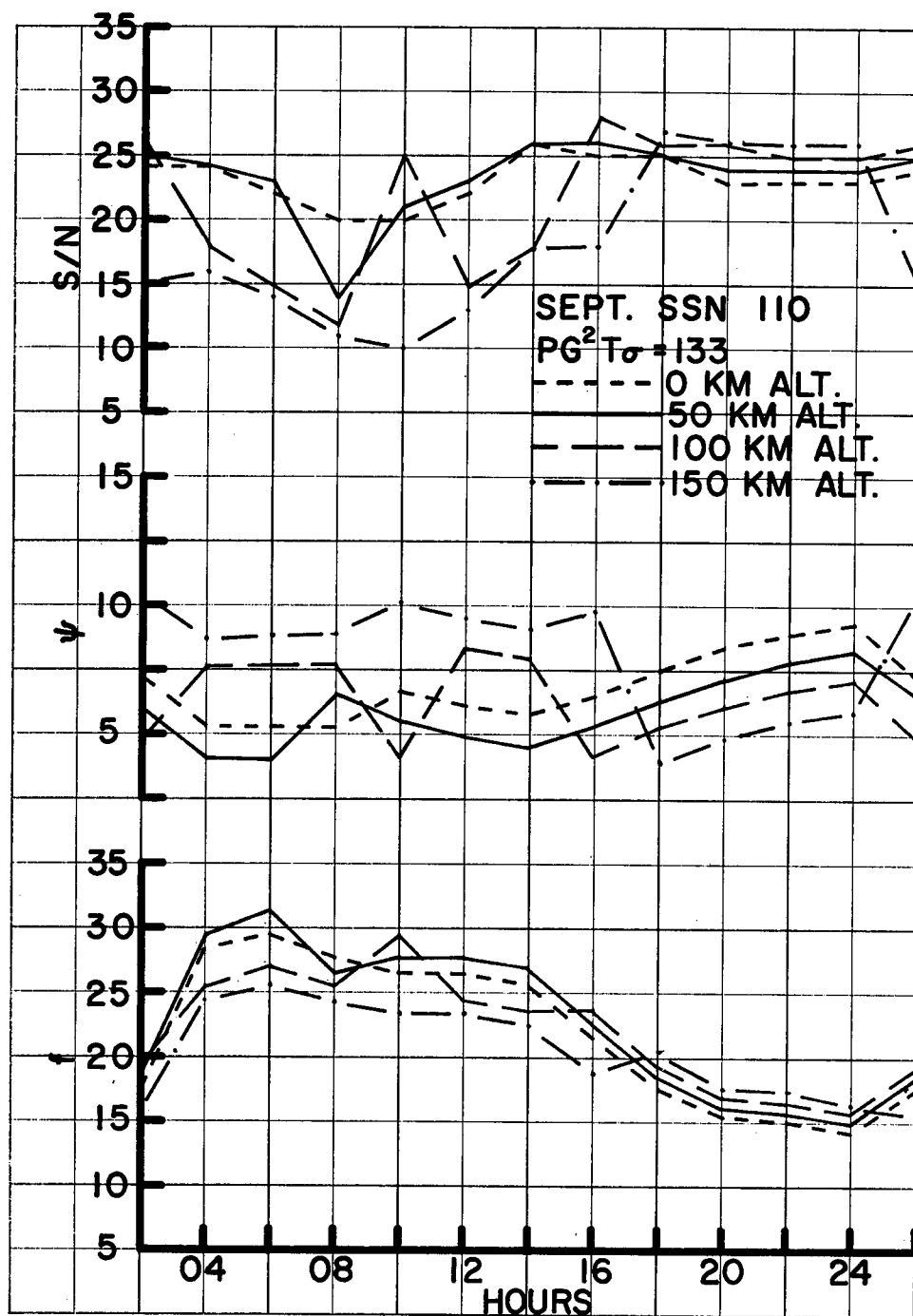


Fig. 16 - The median MUF, its launch angle and S/N versus GMT are shown for the month indicated as combined plots for the altitudes considered

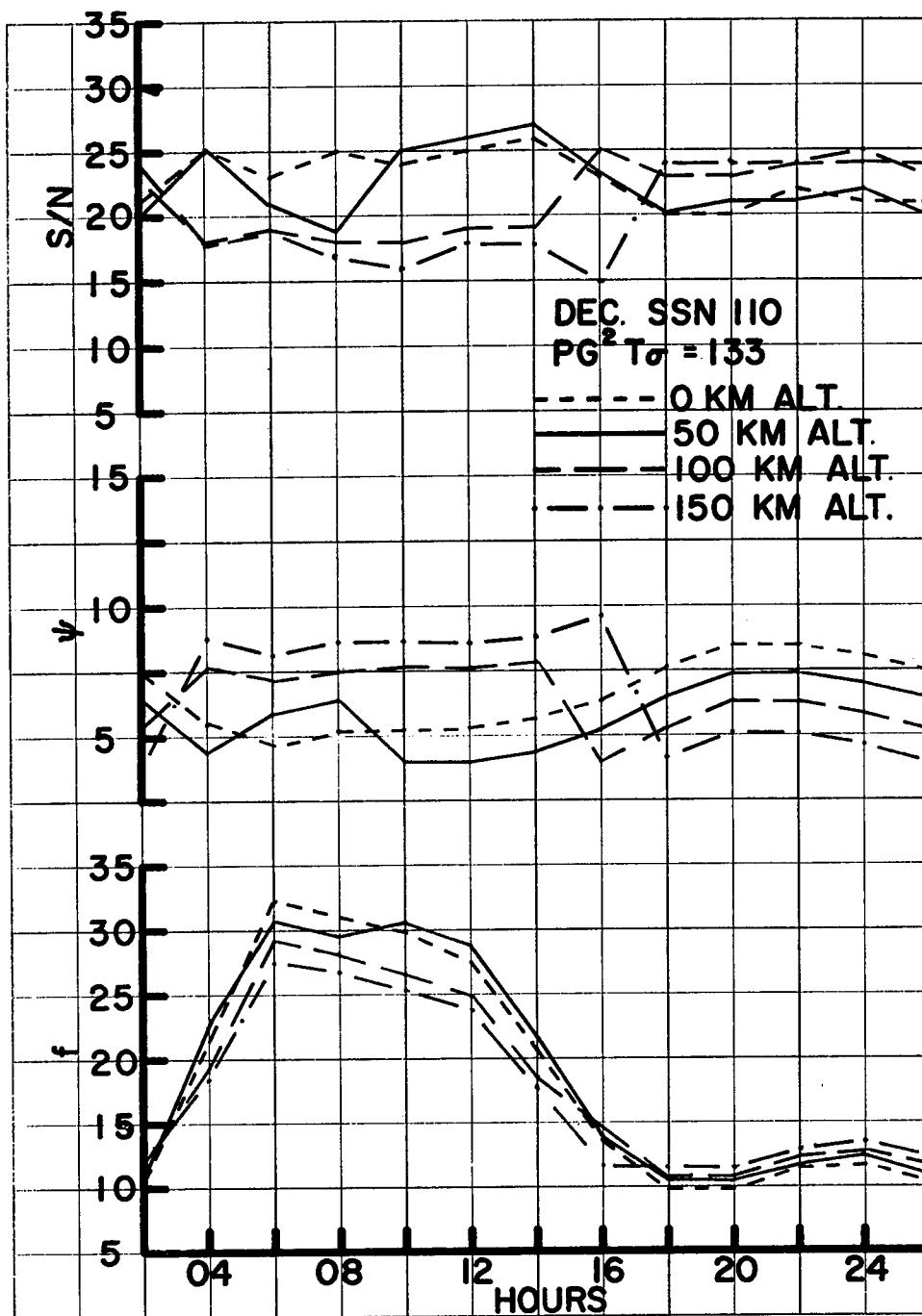


Fig. 17 - The median MUF, its launch angle and S/N versus GMT are shown for the month indicated as combined plots for the altitudes considered

1 JUN SSN= 110 26.015
 TRANSMITTER RECEIVER
 SITE C RCVR 0
 SIGMA= 1000 SQ. METERS
 OFF AZIMUTH 0 DEG. MIN. ANGLE= 4 DEG. OFF AZIMUTH 0 DEG.
 PWR=200.00KW 3 MC/S MAN.NOISE= -148 DBW REQ.S/N= 0, 10, 20, 30DB
 OPERATING FREQUENCIES
 GMT MUF 9 10 11 12 13 14 16 18 20 22 24 27 30
 2 19.6
 1 F 1 F 1 F 1 F 1 F 1 F 1 F 1 F 1 F 1 F 1 F - - - MODE
 76 62 52 49 48 49 50 55 63 75 75 - - - ANGLE
 50 99 99 99 98 96 94 84 67 42 13 - - - C.PROB.
 98 97 96 96 96 96 96 96 97 98 98 - - - DELAY
 170 161 162 163 164 165 166 168 169 171 172 - - - NOISE
 255 241 243 244 246 247 249 251 253 255 257 - - - FS.LOSS
 5 23 20 17 14 13 11 8 5 5 4 - - - P. LOSS
 21 2 5 8 11 13 15 18 20 22 23 - - - S/N..DB
 99 63 79 90 96 97 98 99 99 99 99 - - - S/N..PROB.A
 95 23 33 45 60 71 80 89 94 96 97 - - - S/N..PROB.B
 60 4 8 13 21 27 34 43 54 62 68 - - - S/N..PROB.C
 21 0 0 2 3 5 8 13 18 22 25 - - - S/N..PROB.D
 4 22.4
 1 F 2 F 2 F 2 F 2 F 2 F 1 F 1 F 1 F 1 F 1 F 1 F 1 F 1 F 1 F MODE
 68 179 173 172 175 182 60 49 50 55 65 65 65 65 65 ANGLE
 50 98 95 90 83 72 97 93 84 71 53 38 19 7 C.PROB.
 97 101 101 101 101 101 97 96 96 96 97 97 97 97 97 DELAY
 172 161 162 163 164 165 166 168 169 171 172 173 174 175 NOISE
 257 242 244 245 247 248 249 251 253 255 257 258 260 262 FS.LOSS
 9 66 58 51 45 40 22 18 14 12 9 8 6 5 P. LOSS
 18 -42 -33 -26 -20 -15 4 9 12 16 18 20 21 24 S/N..DB
 99 0 0 0 2 7 75 91 97 99 99 99 99 99 S/N..PROB.A
 89 0 0 0 0 0 30 47 66 81 88 93 95 98 S/N..PROB.B
 44 0 0 0 0 0 7 15 24 35 43 51 60 72 S/N..PROB.C
 13 0 0 0 0 0 0 2 4 8 12 17 21 28 S/N..PROB.D
 6 23.0
 1 F - - 2 F 2 F 2 F 2 F 2 F 1 F 1 F 1 F 1 F 1 F 1 F 1 F MODE
 57 - - 169 163 164 169 189 48 45 51 52 52 52 ANGLE
 50 - - 91 84 74 62 38 87 75 59 43 23 10 C.PROB.
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 13 - - 69 62 55 49 39 21 17 14 12 10 8 P. LOSS
 14 - - -44 -37 -29 -23 -13 6 10 13 16 18 21 S/N..DB
 98 - - 0 0 0 0 7 84 93 97 99 99 99 S/N..PROB.A
 76 - - 0 0 0 0 0 36 50 68 82 90 94 S/N..PROB.B
 29 - - 0 0 0 0 0 8 14 23 34 44 55 S/N..PROB.C
 5 - - 0 0 0 0 0 0 1 3 7 11 17 S/N..PROB.D
 8 22.8
 1 F - - 2 F 2 F 2 F 2 F 2 F 1 F 1 F 1 F 1 F 1 F 1 F 1 F MODE
 57 - - 179 170 168 172 188 55 49 53 51 51 51 ANGLE
 50 - - 90 82 72 59 33 86 74 57 40 19 7 C.PROB.
 97 - - 101 100 100 101 102 96 96 96 96 96 96 DELAY
 172 - - 163 164 165 166 168 169 171 172 173 174 175 NOISE
 257 - - 245 247 248 249 252 253 255 256 258 260 262 FS.LOSS
 15 - - 76 68 61 54 43 23 20 16 14 11 9 P. LOSS
 13 - - -51 -43 -35 -28 -17 3 8 12 14 17 20 S/N..DB
 97 - - 0 0 0 0 3 71 88 96 98 99 99 S/N..PROB.A
 70 - - 0 0 0 0 0 25 41 62 73 87 93 S/N..PROB.B
 25 - - 0 0 0 0 0 4 10 20 27 40 50 S/N..PROB.C
 4 - - 0 0 0 0 0 0 1 3 4 9 14 S/N..PROB.D

OPERATING FREQUENCIES

GMT	MUF	9	10	11	12	13	14	16	18	20	22	24	27	30	
10	22.1														
	1 F	-	2 F	2 F	2 F	2 F	2 F	2 F	1 F	1 F	1 F	1 F	1 F	-	MODE
	68	-	195	185	182	186	196	209	59	59	68	63	63	-	ANGLE
	50	-	94	88	79	68	54	28	83	68	51	34	14	-	C.PROB.
	97	-	102	102	101	102	102	104	97	97	97	97	97	-	DELAY
	172	-	162	163	164	165	166	168	169	171	172	173	174	-	NOISE
	257	-	244	245	247	248	250	252	253	255	257	258	260	-	FS.LOSS
	14	-	79	70	62	55	49	40	21	18	14	12	10	-	P. LOSS
	13	-	-54	-46	-37	-30	-23	-14	5	10	13	15	18	-	S/N..DB
	97	-	0	0	0	0	0	6	80	93	97	98	99	-	S/N..PROB.A
	68	-	0	0	0	0	0	0	32	50	68	78	90	-	S/N..PROB.B
	23	-	0	0	0	0	0	0	6	14	23	31	44	-	S/N..PROB.C
	3	-	0	0	0	0	0	0	0	1	3	6	11	-	S/N..PROB.D
12	21.2														
	1 F	2 F	2 F	2 F	2 F	2 F	2 F	1 F	1 F	1 F	1 F	1 F	-	-	MODE
	70	191	182	181	184	193	211	57	56	62	66	66	-	-	ANGLE
	50	98	95	89	79	64	47	93	82	63	40	19	-	-	C.PROB.
	97	102	101	101	102	104	97	96	97	97	97	97	-	-	DELAY
	171	161	162	163	164	165	166	168	169	171	172	173	-	-	NOISE
	256	242	244	245	247	248	250	251	253	255	257	258	-	-	FS.LOSS
	11	73	64	56	50	44	39	20	16	13	11	9	-	-	P. LOSS
	15	-49	-40	-32	-25	-19	-13	6	10	14	17	19	-	-	S/N..DB
	99	0	0	0	0	3	10	82	94	98	99	99	-	-	S/N..PROB.A
	80	0	0	0	0	0	1	36	54	72	85	91	-	-	S/N..PROB.B
	34	0	0	0	0	0	0	9	18	28	39	47	-	-	S/N..PROB.C
	8	0	0	0	0	0	0	1	3	6	10	15	-	-	S/N..PROB.D
14	21.2														
	1 F	2 F	2 F	2 F	1 F	1 F	1 F	1 F	1 F	1 F	1 F	1 F	-	-	MODE
	64	163	163	167	49	44	42	43	47	55	62	62	-	-	ANGLE
	50	99	96	91	99	99	98	93	82	64	40	19	-	-	C.PROB.
	97	100	100	100	96	96	96	96	96	96	97	97	-	-	DELAY
	171	159	160	161	163	165	166	168	169	171	172	173	-	-	NOISE
	256	242	243	245	246	247	249	251	253	255	257	258	-	-	FS.LOSS
	6	49	42	37	19	17	15	12	9	7	6	5	-	-	P. LOSS
	20	-26	-19	-14	4	8	11	15	17	20	21	23	-	-	S/N..DB
	99	0	2	7	76	90	95	98	99	99	99	99	-	-	S/N..PROB.A
	94	0	0	0	28	42	60	78	87	93	95	97	-	-	S/N..PROB.B
	54	0	0	0	5	10	21	32	41	50	57	68	-	-	S/N..PROB.C
	18	0	0	0	0	1	3	7	11	16	19	25	-	-	S/N..PROB.D
16	21.8														
	1 F	2 F	2 F	2 F	2 F	2 F	2 F	1 F	1 F	1 F	1 F	1 F	-	-	MODE
	66	156	160	165	172	182	196	40	46	53	65	65	-	-	ANGLE
	50	99	99	98	92	81	62	98	92	74	46	20	-	-	C.PROB.
	97	99	100	100	101	101	103	96	96	96	97	97	-	-	DELAY
	172	158	160	162	164	165	166	168	169	171	172	173	-	-	NOISE
	256	242	243	245	247	248	250	251	253	255	257	258	-	-	FS.LOSS
	2	21	19	18	17	17	16	3	3	2	2	1	-	-	P. LOSS
	26	0	3	5	7	8	8	23	24	25	26	26	-	-	S/N..DB
	99	54	73	83	91	90	90	99	99	99	99	99	-	-	S/N..PROB.A
	99	14	23	30	39	45	45	97	98	98	99	99	-	-	S/N..PROB.B
	81	1	3	5	8	14	13	69	76	77	82	82	-	-	S/N..PROB.C
	35	0	0	0	0	2	1	26	30	31	35	36	-	-	S/N..PROB.D

OPERATING FREQUENCIES															
GMT	MUF	9	10	11	12	13	14	16	18	20	22	24	27	30	
18	20.2	1 F	2 F	2 F	1 F	1 F	1 F	1 F	1 F	1 F	1 F	1 F	-	-	MODE
	74	173	178	41	42	44	46	51	58	71	74	74	-	-	ANGLE
	50	99	98	99	99	99	99	95	81	54	24	7	-	-	C.PROB.
	97	101	101	96	96	96	96	96	97	97	97	97	-	-	DELAY
	171	158	161	163	164	165	166	168	169	171	172	173	-	-	NOISE
	255	242	244	244	246	247	249	251	253	255	257	258	-	-	FS.LOSS
	1	18	17	5	4	3	3	2	2	1	1	1	-	-	P. LOSS
	26	3	6	20	21	22	23	24	25	26	26	27	-	-	S/N..DB
	99	74	87	99	99	99	99	99	99	99	99	99	-	-	S/N..PROB.A
	99	25	34	97	96	97	97	98	99	99	99	99	-	-	S/N..PROB.B
	82	4	7	54	60	66	70	74	80	81	82	85	-	-	S/N..PROB.C
	37	0	0	16	23	26	29	31	35	36	37	40	-	-	S/N..PROB.D
20	18.9	1 F	1 F	1 F	1 F	1 F	1 F	1 F	1 F	1 F	1 F	-	-	-	MODE
	78	43	44	46	48	50	52	59	70	78	78	-	-	-	ANGLE
	50	99	99	99	99	98	95	83	61	29	6	-	-	-	C.PROB.
	98	96	96	96	96	96	96	97	97	98	98	-	-	-	DELAY
	170	159	162	163	164	165	166	168	169	171	172	-	-	-	NOISE
	254	241	243	244	246	247	249	251	253	255	257	-	-	-	FS.LOSS
	1	6	5	4	4	3	3	2	2	1	1	-	-	-	P. LOSS
	25	16	19	20	21	22	23	24	25	26	26	-	-	-	S/N..DB
	99	99	99	99	99	99	99	99	99	99	99	-	-	-	S/N..PROB.A
	98	87	95	94	96	97	97	98	99	99	99	-	-	-	S/N..PROB.B
	78	35	46	54	60	66	70	74	80	81	82	-	-	-	S/N..PROB.C
	34	8	13	21	23	26	29	31	35	36	37	-	-	-	S/N..PROB.D
22	17.4	1 F	1 F	1 F	1 F	1 F	1 F	1 F	1 F	1 F	-	-	-	-	MODE
	84	50	51	53	55	58	61	71	84	84	-	-	-	-	ANGLE
	50	99	99	99	98	95	89	69	37	8	-	-	-	-	C.PROB.
	98	96	96	96	96	97	97	97	98	98	-	-	-	-	DELAY
	169	161	162	163	164	165	166	168	169	171	-	-	-	-	NOISE
	253	241	243	244	246	247	249	251	253	255	-	-	-	-	FS.LOSS
	2	6	5	4	4	3	3	2	2	1	-	-	-	-	P. LOSS
	25	18	19	20	21	22	23	24	24	26	-	-	-	-	S/N..DB
	99	99	99	99	99	99	99	99	99	99	-	-	-	-	S/N..PROB.A
	98	91	92	94	96	97	97	98	98	99	-	-	-	-	S/N..PROB.B
	78	42	48	54	60	66	70	74	76	81	-	-	-	-	S/N..PROB.C
	34	11	18	21	23	26	29	31	32	36	-	-	-	-	S/N..PROB.D
24	15.9	1 F	1 F	1 F	1 F	1 F	1 F	1 F	1 F	-	-	-	-	-	MODE
	86	52	54	56	59	63	68	86	86	-	-	-	-	-	ANGLE
	50	99	98	95	90	83	74	47	11	-	-	-	-	-	C.PROB.
	98	96	96	96	97	97	97	98	98	-	-	-	-	-	DELAY
	168	161	162	163	164	165	166	168	169	-	-	-	-	-	NOISE
	251	241	243	244	246	247	249	251	253	-	-	-	-	-	FS.LOSS
	2	6	5	4	4	3	3	2	2	-	-	-	-	-	P. LOSS
	24	18	19	20	21	22	23	24	24	-	-	-	-	-	S/N..DB
	99	99	99	99	99	99	99	99	99	-	-	-	-	-	S/N..PROB.A
	98	89	92	94	96	97	97	98	98	-	-	-	-	-	S/N..PROB.B
	73	43	48	54	60	66	70	74	76	-	-	-	-	-	S/N..PROB.C
	29	13	15	18	21	24	27	29	30	-	-	-	-	-	S/N..PROB.D

1
TRANSMITTER
SITE C

JUN

RECEIVER
RCVR 0

SSN= 110

AZIMUTHS
61.0 262.8

26.015
N.MILES
1493.7

TOTAL RELIABILITY(T.REL.)

REQ. S/N= 0DB(A), 10DB(B), 20DB(C), 30DB(D)

GMT	A	B	C	D	GMT	A	B	C	D	GMT	A	B	C	D
2	99	96	66	22	10	83	52	22	3	18	99	99	96	59
4	96	86	49	14	12	92	71	32	6	20	99	99	93	56
6	89	69	29	5	14	99	94	60	21	22	99	99	92	49
8	80	60	22	3	16	99	99	84	41	24	99	99	89	44

2		JUN		SSN= 110		26.015									
TRANSMITTER		RECEIVER		AZIMUTHS		N.MILES									
SITE C		RCVR 50		61.0 262.8		1493.7									
SIGMA= 1000 SQ. METERS						ANT= 250B									
OFF AZIMUTH 0 DEG.		MIN. ANGLE= 4 DEG.		OFF AZIMUTH 0 DEG.											
PWR=200.00KW		3 MC/S MAN.NOISE= -148 DBW		REQ.S/N= 0, 10, 20, 30DB											
OPERATING FREQUENCIES															
GMT	MUF	9	10	11	12	13	14	16	18	20	22	24	27	30	
2	20.5	1F-	1F-	1F+	1F+	1F+	1F+	1F-	1F-	1F-	1F-	1F-	-	-	MODE
	64	53	44	59	59	60	62	42	49	60	63	63	-	-	ANGLE
	50	99	99	99	97	95	91	88	74	55	25	6	-	-	C.PROB.
	97	96	96	97	97	97	97	96	96	97	97	97	-	-	DELAY
	171	161	162	163	164	165	166	168	169	171	172	173	-	-	NOISE
	255	241	243	244	246	247	249	251	253	255	257	258	-	-	FS.LOSS
	5	24	20	21	18	17	15	9	7	5	4	4	-	-	P. LOSS
	22	1	4	4	6	9	10	18	20	22	23	24	-	-	S/N..DB
	99	58	75	76	84	92	94	99	99	99	99	99	-	-	S/N..PROB.A
	96	20	30	30	38	49	54	89	94	96	97	98	-	-	S/N..PROB.B
	63	3	6	7	10	16	18	43	54	62	68	73	-	-	S/N..PROB.C
	23	0	0	0	1	2	3	13	18	22	25	29	-	-	S/N..PROB.D
4	23.5	1F-	2F-	2F-	2F-	2F-	1F+	1F+	1F+	1F-	1F-	1F-	1F-	1F-	MODE
	56	174	165	163	165	170	66	60	62	40	47	53	53	53	ANGLE
	50	98	96	92	85	76	96	90	79	78	63	46	26	12	C.PROB.
	96	101	100	100	100	100	97	97	97	96	96	96	96	96	DELAY
	173	161	162	163	164	165	166	168	169	171	172	173	174	175	NOISE
	258	242	243	245	247	248	249	251	253	255	256	258	260	262	FS.LOSS
	8	67	59	52	46	41	26	22	18	12	10	8	7	5	P. LOSS
	20	-43	-35	-27	-21	-15	0	5	8	15	18	20	21	23	S/N..DB
	99	0	0	0	2	7	49	78	90	98	99	99	99	99	S/N..PROB.A
	93	0	0	0	0	0	16	32	45	77	88	93	95	97	S/N..PROB.B
	50	0	0	0	0	0	2	7	13	31	43	51	60	67	S/N..PROB.C
	16	0	0	0	0	0	0	0	2	7	12	17	21	24	S/N..PROB.D
6	24.3	1F-	2F+	2F-	2F-	2F-	2F-	1F+	1F+	1F+	1F-	1F+	1F+	1F+	MODE
	43	-	184	165	156	153	157	177	58	59	70	42	65	65	ANGLE
	5	-	94	93	87	78	67	42	82	68	50	52	16	6</	

OPERATING FREQUENCIES

GMT	MUF	9	10	11	12	13	14	16	18	20	22	24	27	30	
10	23.2	1F-	2F+	2F-	2F-	2F-	2F-	1F+	1F-	1F-	1F-	1F-	1F-	1F-	MODE
	56	-	199	178	173	175	181	76	50	45	49	50	50	50	ANGLE
	59	-	93	90	82	72	59	89	88	76	61	44	22	8	C.PROB.
	96	-	103	101	101	101	101	98	96	96	96	96	96	96	DELAY
	172	-	162	163	164	165	166	168	169	171	172	173	174	175	NOISE
	257	-	244	245	247	248	249	251	253	255	256	258	260	262	FS.LOSS
	13	-	90	72	64	57	50	30	22	19	15	13	10	8	P. LOSS
	14	-	-65	-47	-39	-31	-24	-3	4	9	12	15	18	20	S/N..DB
	98	-	0	0	0	0	0	35	76	90	96	98	99	99	S/N..PROB.A
	76	-	0	0	0	0	0	7	29	46	62	78	90	93	S/N..PROB.B
	29	-	0	0	0	0	0	0	5	12	20	31	44	50	S/N..PROB.C
	5	-	0	0	0	0	0	0	0	1	3	6	11	14	S/N..PROB.D
12	22.3	1F-	2F-	2F-	2F-	2F-	1F+	1F-	1F-	1F-	1F-	1F-	1F-	1F-	MODE
	58	187	175	171	173	179	75	49	44	47	56	54	54	54	ANGLE
	50	99	96	91	83	69	97	96	88	73	53	30	8	8	C.PROB.
	97	102	101	100	101	101	98	96	96	96	96	96	96	96	DELAY
	172	161	162	163	164	165	166	168	169	171	172	173	174	174	NOISE
	257	242	244	245	247	248	249	251	253	255	257	258	260	260	FS.LOSS
	11	74	66	58	51	45	29	21	17	14	11	10	8	8	P. LOSS
	17	-50	-41	-33	-26	-20	-3	6	9	14	16	18	20	20	S/N..DB
	99	0	0	0	0	0	2	37	82	92	98	99	99	99	S/N..PROB.A
	86	0	0	0	0	0	10	36	49	72	82	88	94	94	S/N..PROB.B
	40	0	0	0	0	0	1	9	16	28	35	43	54	54	S/N..PROB.C
	11	0	0	0	0	0	0	1	2	6	9	12	18	18	S/N..PROB.D
14	22.3	1F-	2F-	2F-	1F+	1F-	1F+	1F+	1F+	1F+	1F-	1F-	1F-	1F-	MODE
	52	154	153	65	42	53	53	55	61	73	50	50	50	50	ANGLE
	50	99	97	99	99	99	97	90	75	53	53	30	8	8	C.PROB.
	96	99	99	97	96	96	96	96	97	97	96	96	96	96	DELAY
	172	159	160	161	163	165	166	168	169	171	172	173	174	174	NOISE
	257	241	243	245	246	247	249	251	253	255	256	258	260	260	FS.LOSS
	6	50	43	26	20	21	19	16	14	13	6	5	4	4	P. LOSS
	21	-27	-20	-3	4	4	7	11	13	15	21	22	24	24	S/N..DB
	99	0	2	37	76	75	87	95	97	98	99	99	99	99	S/N..PROB.A
	95	0	0	9	28	27	41	57	71	77	95	96	98	98	S/N..PROB.B
	58	0	0	0	5	4	11	20	27	31	57	63	75	75	S/N..PROB.C
	20	0	0	0	0	0	1	3	5	7	19	22	30	30	S/N..PROB.D
16	22.8	1F-	1F+	1F+	1F+	1F+	1F+	1F+	1F+	1F+	1F-	1F-	1F-	1F-	MODE
	54	42	43	44	45	46	48	52	59	70	48	54	54	54	ANGLE
	50	99	99	99	99	99	99	97	86	62	62	34	7	7	C.PROB.
	96	96	96	96	96	96	96	96	97	97	96	96	96	96	DELAY
	172	158	160	162	164	165	166	168	169	171	172	173	174	174	NOISE
	257	241	243	244	246	247	249	251	253	255	256	258	260	260	FS.LOSS
	2	13	11	10	9	8	8	7	7	7	2	2	1	1	P. LOSS
	26	9	11	14	16	17	18	19	19	20	26	26	27	27	S/N..DB
	99	94	97	99	99	99	99	99	99	99	99	99	99	99	S/N..PROB.A
	99	48	60	79	88	87	90	91	92	93	99	99	99	99	S/N..PROB.B
	83	12	17	27	35	41	45	47	49	50	82	82	87	87	S/N..PROB.C
	37	1	1	4	6	12	13	15	16	16	35	36	41	41	S/N..PROB.D

		OPERATING FREQUENCIES																	
GMT	MUF	9	10	11	12	13	14	16	18	20	22	24	27	30					
18	21.2	1F-	1F+	1F+	1F+	1F+	1F+	1F+	1F+	1F-	1F-	1F-	1F-	-	-	MODE			
		62	49	50	51	53	55	57	63	44	53	62	62	-	-	ANGLE			
		50	99	99	99	99	99	99	92	89	67	38	14	-	-	C.PROB.			
		97	96	96	96	96	96	96	97	96	96	97	97	-	-	DELAY			
		171	158	161	163	164	165	166	168	169	171	172	173	-	-	NOISE			
		256	241	243	244	246	247	249	251	253	255	257	258	-	-	FS.LOSS			
		1	10	9	8	8	7	7	7	2	1	1	1	-	-	P. LOSS			
		26	11	14	16	17	18	18	19	25	26	26	27	-	-	S/N..DB			
		99	98	99	99	99	99	99	99	99	99	99	99	-	-	S/N..PROB.A			
		99	61	77	89	87	90	90	91	99	99	99	99	-	-	S/N..PROB.B			
		84	19	26	36	42	45	45	47	80	81	82	85	-	-	S/N..PROB.C			
		38	2	4	8	14	16	16	17	35	36	37	40	-	-	S/N..PROB.D			
20	19.7	1F-	1F+	1F+	1F+	1F+	1F-	1F-	1F-	1F-	1F-	-	-	-	-	MODE			
		67	53	55	56	58	61	41	46	54	67	67	-	-	-	ANGLE			
		50	99	99	99	98	96	97	89	71	45	15	-	-	-	C.PROB.			
		97	96	96	96	97	97	96	96	96	97	97	-	-	-	DELAY			
		170	159	162	163	164	165	166	168	169	171	172	-	-	-	NOISE			
		255	241	243	244	246	247	249	251	253	255	257	-	-	-	FS.LOSS			
		1	10	9	9	8	8	3	2	2	1	1	-	-	-	P. LOSS			
		25	12	15	16	17	17	23	24	25	26	26	-	-	-	S/N..DB			
		99	98	99	99	99	99	99	99	99	99	99	-	-	-	S/N..PROB.A			
		99	66	83	84	87	87	97	98	99	99	99	-	-	-	S/N..PROB.B			
		80	21	31	38	42	42	70	74	80	81	82	-	-	-	S/N..PROB.C			
		36	3	6	12	14	14	29	31	35	36	37	-	-	-	S/N..PROB.D			
22	18.1	1F-	1F+	1F-	1F-	1F-	1F-	1F-	1F-	1F-	-	-	-	-	-	MODE			
		73	60	41	42	44	47	49	57	72	73	-	-	-	-	ANGLE			
		50	99	99	99	98	97	93	77	52	17	-	-	-	-	C.PROB.			
		97	97	96	96	96	96	96	96	97	97	-	-	-	-	DELAY			
		169	161	162	163	164	165	166	168	169	171	-	-	-	-	NOISE			
		253	241	243	244	246	247	249	251	253	255	-	-	-	-	FS.LOSS			
		2	11	5	5	4	3	3	2	2	1	-	-	-	-	P. LOSS			
		24	14	19	20	21	22	23	24	25	26	-	-	-	-	S/N..DB			
		99	99	99	99	99	99	99	99	99	99	-	-	-	-	S/N..PROB.A			
		98	75	92	94	96	97	97	98	99	99	-	-	-	-	S/N..PROB.B			
		76	28	48	54	60	66	70	74	80	81	-	-	-	-	S/N..PROB.C			
		32	5	18	21	23	26	29	31	35	36	-	-	-	-	S/N..PROB.D			
24	16.6	1F-	1F-	1F-	1F-	1F-	1F-	1F-	1F-	-	-	-	-	-	-	MODE			
		75	41	43	45	48	51	55	68	75	-	-	-	-	-	ANGLE			
		50	99	98	96	93	88	80	58	22	-	-	-	-	-	C.PROB.			
		98	96	96	96	96	96	96	97	98	-	-	-	-	-	DELAY			
		168	161	162	163	164	165	166	168	169	-	-	-	-	-	NOISE			
		252	241	243	244	246	247	249	251	253	-	-	-	-	-	FS.LOSS			
		2	7	5	5	4	3	3	2	2	-	-	-	-	-	P. LOSS			
		24	18	19	20	21	22	23	24	25	-	-	-	-	-	S/N..DB			
		99	99	99	99	99	99	99	99	99	-	-	-	-	-	S/N..PROB.A			
		98	89	92	94	96	97	97	98	99	-	-	-	-	-	S/N..PROB.B			
		76	44	48	54	60	66	70	74	80	-	-	-	-	-	S/N..PROB.C			
		30	13	15	18	21	24	27	29	34	-	-	-	-	-	S/N..PROB.D			

2
TRANSMITTER
SITE C

JUN

RECEIVER
RCVR 50

SSN= 110

AZIMUTHS
61.0 262.8

26.815
N.MILES
1493.7

TOTAL RELIABILITY(T.REL.)

REQ. S/N= 0DB(A), 10DB(B), 20DB(C), 30DB(D)

GMT	A	B	C	D	GMT	A	B	C	D	GMT	A	B	C	D
2	99	95	60	21	10	89	64	25	4	18	99	99	90	51
4	97	85	47	14	12	95	78	38	8	20	99	99	92	53
6	79	60	24	3	14	99	87	48	16	22	99	99	92	54
8	74	48	17	2	16	99	99	76	36	24	99	99	89	47

3 JUN SSN= 110 26.015
 TRANSMITTER RECEIVER AZIMUTHS N.MILES
 SITE C RCVR 100 61.0 262.8 1493.7
 SIGMA= 1000 SQ. METERS ANT= 250B
 OFF AZIMUTH 0 DEG. MIN. ANGLE= 4 DEG. OFF AZIMUTH 0 DEG.
 PWR=200.00KW 3 MC/S MAN.NOISE= -148 DBW REQ.S/N= 0, 10, 20, 30DB
 OPERATING FREQUENCIES
 GMT MUF 9 10 11 12 13 14 16 18 20 22 24 27 30
 2 21.5
 1F- 1F+ 1F+ 1F+ 1F+ 1F+ 1F+ 1F+ 1F+ 1F- 1F- 1F- - - - MODE
 52 75 70 69 69 70 73 81 98 42 51 51 - - - ANGLE
 50 99 99 98 96 93 88 72 50 65 42 15 - - - C.PROB.
 94 98 97 97 97 97 97 98 99 93 94 94 - - - DELAY
 171 161 162 163 164 165 166 168 169 171 172 173 - - - NOISE
 256 241 243 245 246 248 249 251 253 254 256 258 - - - FS.LOSS
 2 27 24 21 18 17 15 14 13 3 2 2 - - - P. LOSS
 25 -2 1 4 6 8 10 13 13 25 26 26 - - - S/N..DB
 99 39 59 76 84 90 94 97 97 99 99 99 - - - S/N..PROB.A
 99 11 20 30 38 45 54 69 71 98 99 99 - - - S/N..PROB.B
 81 1 3 7 10 14 18 26 27 77 82 82 - - - S/N..PROB.C
 34 0 0 0 1 2 3 5 5 31 35 36 - - - S/N..PROB.D
 4 24.7
 1F- 2F- 2F- 2F- 2F- 1F+ 1F+ 1F+ 1F+ 1F+ 1F+ 1F+ 1F- 1F- - MODE
 43 170 158 154 154 80 73 71 75 86 89 89 40 40 - ANGLE
 50 98 97 93 88 97 95 87 73 55 38 23 35 18 - C.PROB.
 94 100 99 99 99 98 97 97 98 98 98 98 93 93 - DELAY
 173 161 162 163 164 165 166 168 169 171 172 173 174 175 - NOISE
 258 242 243 245 246 248 249 251 253 255 257 258 260 261 - FS.LOSS
 4 54 48 43 38 29 26 22 19 16 15 14 3 3 - P. LOSS
 24 -29 -23 -17 -12 -3 0 5 8 11 12 14 25 27 - S/N..DB
 99 0 1 4 12 38 49 78 90 94 96 98 99 99 - S/N..PROB.A
 98 0 0 0 1 10 16 32 45 56 62 73 98 99 - S/N..PROB.B
 75 0 0 0 0 1 2 7 13 19 22 29 80 84 - S/N..PROB.C
 30 0 0 0 0 0 0 0 2 3 4 6 33 38 - S/N..PROB.D
 6 21.0
 1F+ - 2F+ 2F+ 2F- 2F- 2F- 1F+ 1F+ 1F+ 1F+ 1F+ 1F+ - - MODE
 81 - 191 182 149 143 144 75 69 75 78 78 78 - - ANGLE
 5 - 93 88 89 82 72 89 77 59 42 27 11 - - C.PROB.
 98 - 102 101 99 98 98 98 97 98 98 98 98 - - DELAY
 171 - 162 163 164 165 166 168 169 171 172 173 174 - - NOISE
 256 - 244 245 246 248 249 251 253 255 257 258 260 - - FS.LOSS
 2 - 87 78 51 46 41 29 24 21 19 17 14 - - P. LOSS
 7 - -62 -53 -25 -20 -15 -2 2 6 9 11 13 - - S/N..DB
 87 - 0 0 0 1 5 39 66 81 91 95 97 - - S/N..PROB.A
 40 - 0 0 0 0 0 9 22 34 46 57 70 - - S/N..PROB.B
 9 - 0 0 0 0 0 0 3 7 12 17 25 - - S/N..PROB.C
 0 - 0 0 0 0 0 0 0 0 1 2 4 - - S/N..PROB.D
 8 20.7
 1F+ - - 2F+ 2F- 2F- 2F- 2F- 1F+ 1F+ 1F+ 1F+ 1F+ - - MODE
 81 - - 190 160 150 148 164 73 77 77 77 77 - - ANGLE
 50 - - 86 88 80 69 44 75 57 38 23 8 - - C.PROB.
 98 - - 102 99 99 99 100 97 98 98 98 98 - - DELAY
 171 - - 163 164 165 166 168 169 171 172 173 174 - - NOISE
 256 - - 245 247 248 249 252 253 255 257 258 260 - - FS.LOSS
 22 - - 85 55 50 46 37 27 23 20 18 16 - - P. LOSS
 5 - - -60 -30 -25 -19 -10 0 4 7 9 12 - - S/N..DB
 79 - - 0 0 0 2 13 49 72 85 91 96 - - S/N..PROB.A
 31 - - 0 0 0 0 1 14 26 38 47 65 - - S/N..PROB.B
 6 - - 0 0 0 0 0 1 4 8 13 22 - - S/N..PROB.C
 0 - - 0 0 0 0 0 0 0 0 1 3 - - S/N..PROB.D

		OPERATING FREQUENCIES														
GMT	MUF	9	10	11	12	13	14	16	18	20	22	24	27	30		
10	24.5															
	1F-	-	2F+	2F-	2F-	2F-	2F-	1F+	1F+	1F+	1F+	1F+	1F+	-	MODE	
	43	-	205	172	164	164	168	83	80	90	87	87	87	-	ANGLE	
	50	-	92	91	85	75	64	85	70	51	33	18	5	-	C.PROB.	
	93	-	103	100	100	100	100	98	98	98	98	98	98	-	DELAY	
	173	-	162	163	164	165	166	168	169	171	172	173	174	-	NOISE	
	258	-	244	245	247	248	249	251	253	255	257	258	260	-	FS.LOSS	
	6	-	89	57	52	46	41	30	25	22	19	17	15	-	P. LOSS	
	22	-	-64	-32	-26	-21	-16	-3	1	5	8	10	12	-	S/N..DB	
	99	-	0	0	0	1	4	35	60	77	88	93	96	-	S/N..PROB.A	
	96	-	0	0	0	0	0	7	19	30	42	51	65	-	S/N..PROB.B	
	64	-	0	0	0	0	0	0	2	5	10	15	22	-	S/N..PROB.C	
	21	-	0	0	0	0	0	0	0	0	1	1	3	-	S/N..PROB.D	
12	23.5															
	1F-	2F+	2F-	2F-	2F-	2F-	1F+	1F-	1F+	1F+	1F+	1F-	1F-	-	MODE	
	45	202	169	163	163	167	83	41	82	89	89	41	41	-	ANGLE	
	50	97	97	93	86	75	95	97	67	41	18	44	16	-	C.PROB.	
	94	103	100	100	100	100	98	93	98	98	98	93	93	-	DELAY	
	173	161	162	163	164	165	166	168	169	171	172	173	174	-	NOISE	
	257	242	243	245	247	248	249	250	253	255	257	257	260	-	FS.LOSS	
	5	83	53	47	42	37	29	11	21	18	16	5	4	-	P. LOSS	
	23	-58	-28	-22	-16	-12	-3	16	5	9	11	23	24	-	S/N..DB	
	99	0	0	1	5	12	37	99	80	90	95	99	99	-	S/N..PROB.A	
	97	0	0	0	0	1	10	82	34	46	57	97	98	-	S/N..PROB.B	
	67	0	0	0	0	0	1	36	8	14	19	68	75	-	S/N..PROB.C	
	25	0	0	0	0	0	0	9	0	2	3	25	30	-	S/N..PROB.D	
14	19.4															
	1F+	2F-	2F-	1F+	1F+	1F+	1F+	1F+	1F+	1F+	1F+	1F+	-	-	MODE	
	87	146	144	72	65	63	63	67	75	86	86	86	-	-	ANGLE	
	50	99	98	99	99	98	95	86	67	41	18	5	-	-	C.PROB.	
	98	99	98	97	97	97	97	97	98	98	98	98	-	-	DELAY	
	170	159	160	161	163	165	166	168	169	171	172	173	-	-	NOISE	
	255	241	243	245	246	247	249	251	253	255	257	258	-	-	FS.LOSS	
	13	41	36	26	23	21	19	16	14	13	12	11	-	-	P. LOSS	
	13	-17	-12	-3	1	4	7	10	12	14	15	16	-	-	S/N..DB	
	97	4	10	37	59	75	87	93	97	98	98	99	-	-	S/N..PROB.A	
	70	0	1	9	18	27	41	52	66	72	78	82	-	-	S/N..PROB.B	
	27	0	0	0	2	4	11	17	24	28	32	36	-	-	S/N..PROB.C	
	5	0	0	0	0	0	1	2	4	6	7	9	-	-	S/N..PROB.D	
16	24.0															
	1F-	1F+	1F+	1F+	1F+	1F+	1F+	1F+	1F+	1F+	1F+	1F-	1F-	-	MODE	
	42	52	53	54	55	57	59	64	73	88	88	41	41	-	ANGLE	
	50	99	99	99	99	99	99	94	78	49	20	51	16	-	C.PROB.	
	93	96	96	96	96	96	97	97	97	98	98	93	93	-	DELAY	
	173	158	160	162	164	165	166	168	169	171	172	173	174	-	NOISE	
	258	241	243	244	246	247	249	251	253	255	257	257	260	-	FS.LOSS	
	1	13	12	11	10	9	9	8	8	8	8	1	1	-	P. LOSS	
	28	8	11	13	15	16	17	18	18	19	19	28	28	-	S/N..DB	
	99	92	97	99	99	99	99	99	99	99	99	99	99	-	S/N..PROB.A	
	99	44	60	73	84	84	87	89	90	90	91	99	99	-	S/N..PROB.B	
	89	10	17	23	31	38	41	43	45	46	47	88	90	-	S/N..PROB.C	
	43	0	1	3	5	10	11	13	13	14	14	43	45	-	S/N..PROB.D	

		OPERATING FREQUENCIES																	
GMT	MUF	9	10	11	12	13	14	16	18	20	22	24	27	30					
18	22.3	1F-	1F+	1F+	1F+	1F+	1F+	1F+	1F+	1F+	1F+	1F-	1F-	-	-	MODE			
	51	59	60	61	63	66	68	76	89	96	48	50	-	-	ANGLE				
	50	99	99	99	99	99	98	87	60	27	54	27	-	-	C.PROB.				
	94	97	97	97	97	97	97	98	98	99	94	94	-	-	DELAY				
	172	158	161	163	164	165	166	168	169	171	172	173	-	-	NOISE				
	256	241	243	245	246	247	249	251	253	255	256	258	-	-	FS.LOSS				
	1	11	10	9	8	8	8	8	8	8	1	1	-	-	P. LOSS				
	27	11	14	16	16	17	18	18	18	19	27	28	-	-	S/N..DB				
	99	98	99	99	99	99	99	99	99	99	99	99	-	-	S/N..PROB.A				
	99	61	77	89	84	87	90	89	90	90	99	99	-	-	S/N..PROB.B				
20	86	19	26	36	39	42	45	44	45	46	85	88	-	-	S/N..PROB.C				
	40	2	4	8	12	14	16	15	16	16	40	44	-	-	S/N..PROB.D				
	20.7	1F-	1F+	1F+	1F+	1F+	1F+	1F+	1F+	1F-	1F-	1F-	-	-	MODE				
	55	64	65	67	69	72	76	86	100	50	55	55	-	-	ANGLE				
	50	99	99	99	98	95	89	69	37	59	28	7	-	-	C.PROB.				
	94	97	97	97	97	97	98	98	99	94	94	94	-	-	DELAY				
	171	159	162	163	164	165	166	168	169	171	172	173	-	-	NOISE				
	255	241	243	245	246	248	249	251	254	254	256	258	-	-	FS.LOSS				
	1	11	10	9	9	8	8	8	9	1	1	1	-	-	P. LOSS				
	27	12	15	15	16	17	17	18	17	27	27	28	-	-	S/N..DB				
22	99	98	99	99	99	99	99	99	99	99	99	99	-	-	S/N..PROB.A				
	99	66	83	80	84	87	87	89	87	99	99	99	-	-	S/N..PROB.B				
	86	21	31	35	39	42	42	44	42	85	85	88	-	-	S/N..PROB.C				
	41	3	6	10	12	14	14	15	14	39	40	44	-	-	S/N..PROB.D				
	19.0	1F-	1F+	1F+	1F+	1F+	1F+	1F-	1F-	1F-	1F-	-	-	-	MODE				
	62	70	72	75	78	81	86	43	53	62	62	-	-	-	ANGLE				
	50	99	99	98	95	89	79	84	63	32	7	-	-	-	C.PROB.				
	94	97	97	98	98	98	98	94	94	94	94	-	-	-	DELAY				
	170	161	162	163	164	165	166	168	169	171	172	-	-	-	NOISE				
	254	241	243	245	246	248	249	250	253	254	256	-	-	-	FS.LOSS				
24	1	11	10	10	9	9	9	1	1	1	1	-	-	-	P. LOSS				
	26	13	14	15	16	16	16	26	26	27	27	-	-	-	S/N..DB				
	99	98	98	99	99	99	99	99	99	99	99	-	-	-	S/N..PROB.A				
	99	70	75	80	84	84	84	99	99	99	99	-	-	-	S/N..PROB.B				
	82	24	31	35	39	39	38	82	84	85	85	-	-	-	S/N..PROB.C				
	37	4	8	10	12	12	12	37	38	39	40	-	-	-	S/N..PROB.D				
	17.4	1F-	1F+	1F+	1F+	1F+	1F-	1F-	1F-	1F-	-	-	-	-	MODE				
	63	72	75	79	83	89	42	52	63	63	-	-	-	-	ANGLE				
	50	98	96	91	84	73	85	66	37	8	-	-	-	-	C.PROB.				
	95	97	98	98	98	98	93	94	95	95	-	-	-	-	DELAY				
169	161	162	163	164	165	166	168	169	171	-	-	-	-	NOISE					
252	241	243	245	246	248	248	251	253	255	-	-	-	-	FS.LOSS					
	1	11	10	10	9	9	1	1	1	1	-	-	-	-	P. LOSS				
	26	13	14	15	15	16	25	26	26	27	-	-	-	-	S/N..DB				
	99	97	98	99	99	99	99	99	99	99	-	-	-	-	S/N..PROB.A				
	99	69	75	80	80	84	98	99	99	99	-	-	-	-	S/N..PROB.B				
	82	26	30	34	34	38	80	82	84	85	-	-	-	-	S/N..PROB.C				
	36	5	6	8	8	10	34	36	37	38	-	-	-	-	S/N..PROB.D				

3
TRANSMITTER
SITE C

JUN

RECEIVER
RCVR 100

SSN= 110

AZIMUTHS
61.0 262.8

26.015
N.MILES
1493.7

TOTAL RELIABILITY(T.REL.)

REQ. S/N= 0DB(A), 10DB(B), 20DB(C), 30DB(D)

GMT	A	B	C	D	GMT	A	B	C	D	GMT	A	B	C	D
2	99	85	64	27	10	61	48	32	10	18	99	99	70	34
4	91	56	38	15	12	99	90	55	20	20	99	98	72	36
6	71	38	9	0	14	97	72	31	5	22	99	98	87	47
8	56	24	5	0	16	99	99	68	32	24	99	98	85	44

4 JUN SSN= 110 26.015
 TRANSMITTER RECEIVER
 SITE C RCVR 150
 SIGMA= 1000 SQ. METERS
 OFF AZIMUTH 0 DEG. MIN. ANGLE= 4 DEG. OFF AZIMUTH 0 DEG.
 PWR=200.00KW 3 MC/S MAN.NOISE= -148 DBW REQ.S/N= 0, 10, 20, 30DB
 AZIMUTHS N.MILES
 61.0 262.8 1493.7
 ANT= 25DB
 OPERATING FREQUENCIES
 GMT MUF 9 10 11 12 13 14 16 18 20 22 24 27 30
 2 17.3
 1F+ 1F+ 1F+ 1F+ 1F+ 1F+ 1F+ 1F+ 1F+ 1F+ - - - - MODE
 108 82 79 78 79 81 84 94 107 107 - - - - ANGLE
 50 99 99 97 95 91 85 66 36 8 - - - - C.PROB.
 100 98 98 98 98 98 98 99 100 100 - - - - DELAY
 169 161 162 163 164 165 166 168 169 171 - - - - NOISE
 253 241 243 245 246 248 249 251 254 255 - - - - FS.LOSS
 13 27 23 21 19 17 16 14 13 12 - - - - P. LOSS
 13 -2 1 4 6 8 10 12 13 15 - - - - S/N..DB
 97 39 59 76 84 90 94 96 97 98 - - - - S/N..PROB.A
 68 11 20 30 38 45 54 63 71 77 - - - - S/N..PROB.B
 25 1 3 7 10 14 18 23 27 31 - - - - S/N..PROB.C
 5 0 0 0 1 2 3 4 5 7 - - - - S/N..PROB.D
 4 19.7
 1F+ 2F+ 2F+ 2F+ 2F+ 1F+ 1F+ 1F+ 1F+ 1F+ 1F+ 1F+ 1F+ - MODE
 102 199 152 145 144 86 81 82 88 100 100 100 100 - ANGLE
 50 96 97 94 90 96 93 83 67 47 31 17 6 - C.PROB.
 99 103 99 98 98 98 98 98 98 99 99 99 99 - DELAY
 170 161 162 163 164 165 166 168 169 171 172 173 174 - NOISE
 255 242 243 245 246 248 249 251 253 255 257 259 261 - FS.LOSS
 17 75 49 43 39 28 26 22 19 17 15 14 13 - P. LOSS
 9 -50 -24 -18 -13 -3 0 5 7 10 12 13 15 - S/N..DB
 92 0 0 3 10 38 49 78 87 93 96 97 98 - S/N..PROB.A
 49 0 0 0 1 10 16 32 41 50 62 68 80 - S/N..PROB.B
 16 0 0 0 0 1 2 7 11 16 22 25 33 - S/N..PROB.C
 2 0 0 0 0 0 0 0 1 2 4 5 8 - S/N..PROB.D
 6 20.1
 1F+ - 2F+ 2F+ 2F+ 2F+ 2F+ 1F+ 1F+ 1F+ 1F+ 1F+ 1F+ - MODE
 93 - 196 190 145 136 133 81 81 92 90 90 90 - ANGLE
 50 - 92 86 91 85 77 85 70 51 34 20 7 - C.PROB.
 99 - 102 102 98 98 98 98 98 99 99 99 99 - DELAY
 171 - 162 163 164 165 166 168 169 171 172 173 174 - NOISE
 255 - 244 245 246 248 249 251 253 255 257 258 260 - FS.LOSS
 21 - 86 77 51 47 43 28 24 21 19 17 15 - P. LOSS
 6 - -61 -52 -26 -21 -16 -1 2 6 9 11 13 - S/N..DB
 81 - 0 0 0 1 4 43 66 81 91 95 97 - S/N..PROB.A
 34 - 0 0 0 0 0 11 22 34 46 57 70 - S/N..PROB.B
 7 - 0 0 0 0 0 0 1 3 7 12 17 25 - S/N..PROB.C
 0 - 0 0 0 0 0 0 0 0 1 2 4 - S/N..PROB.D
 8 19.8
 1F+ - 2F+ 2F+ 2F+ 2F+ 2F+ 1F+ 1F+ 1F+ 1F+ 1F+ - MODE
 93 - 206 196 196 143 138 90 84 94 89 89 - ANGLE
 50 - 91 84 73 83 74 84 68 48 30 16 - C.PROB.
 99 - 103 102 102 98 98 99 98 99 98 98 - DELAY
 170 - 162 163 164 165 166 168 169 171 172 173 - NOISE
 255 - 244 246 247 248 249 251 253 255 257 258 - FS.LOSS
 23 - 93 84 75 51 47 31 27 23 20 18 - P. LOSS
 3 - -68 -59 -50 -26 -20 -4 0 4 7 9 - S/N..DB
 72 - 0 0 0 0 1 31 49 72 85 91 - S/N..PROB.A
 26 - 0 0 0 0 0 6 14 26 38 47 - S/N..PROB.B
 4 - 0 0 0 0 0 0 1 4 8 13 - S/N..PROB.C
 0 - 0 0 0 0 0 0 0 0 0 1 - S/N..PROB.D

		OPERATING FREQUENCIES															
GMT	MUF	9	10	11	12	13	14	16	18	20	22	24	27	30			
1	19.3																
	1F+	-	2F+	2F-	2F-	2F-	2F-	1F+	1F+	1F+	1F+	1F+	-	-	-	-	MODE
	101	-	210	167	158	154	156	91	93	99	99	99	-	-	-	-	ANGLE
	50	-	90	93	87	79	69	81	63	43	25	12	-	-	-	-	C.PROB.
	99	-	104	100	99	99	99	99	99	99	99	99	-	-	-	-	DELAY
	170	-	162	163	164	165	166	168	169	171	172	173	-	-	-	-	NOISE
	255	-	244	245	246	248	249	251	253	255	257	258	-	-	-	-	FS.LOSS
	23	-	88	58	53	47	43	30	25	22	19	18	-	-	-	-	P. LOSS
	3	-	-63	-33	-27	-22	-17	-3	1	5	8	10	-	-	-	-	S/N..DB
	70	-	0	0	0	0	3	35	60	77	88	93	-	-	-	-	S/N..PROB.A
	25	-	0	0	0	0	0	7	19	30	42	51	-	-	-	-	S/N..PROB.B
	4	-	0	0	0	0	0	0	2	5	10	15	-	-	-	-	S/N..PROB.C
	0	-	0	0	0	0	0	0	0	0	1	1	-	-	-	-	S/N..PROB.D
12	18.6																
	1F+	2F+	2F-	2F-	2F-	1F+	1F+	1F+	1F+	1F+	1F+	-	-	-	-	-	MODE
	102	209	163	155	152	95	89	88	97	100	100	-	-	-	-	-	ANGLE
	50	97	98	95	89	97	93	80	58	30	11	-	-	-	-	-	C.PROB.
	99	104	100	99	99	99	98	98	99	99	99	-	-	-	-	-	DELAY
	170	161	162	163	164	165	166	168	169	171	172	-	-	-	-	-	NOISE
	254	242	243	245	246	248	249	251	253	255	257	-	-	-	-	-	FS.LOSS
	20	82	53	48	43	32	29	24	21	18	16	-	-	-	-	-	P. LOSS
	7	-58	-29	-23	-17	-6	-3	2	5	9	11	-	-	-	-	-	S/N..DB
	85	0	0	1	4	27	37	63	80	90	95	-	-	-	-	-	S/N..PROB.A
	39	0	0	0	0	5	10	23	34	46	57	-	-	-	-	-	S/N..PROB.B
	10	0	0	0	0	0	1	4	8	14	19	-	-	-	-	-	S/N..PROB.C
	1	0	0	0	0	0	0	0	2	3	-	-	-	-	-	-	S/N..PROB.D
14	18.6																
	1F+	2F-	1F+	1F+	1F+	1F+	1F+	1F+	1F+	1F+	1F+	-	-	-	-	-	MODE
	98	138	85	78	74	73	74	79	91	97	97	-	-	-	-	-	ANGLE
	50	99	99	99	98	97	93	80	58	31	11	-	-	-	-	-	C.PROB.
	99	98	98	98	97	97	97	98	99	99	99	-	-	-	-	-	DELAY
	170	159	160	161	163	165	166	168	169	171	172	-	-	-	-	-	NOISE
	254	241	243	245	246	248	249	251	253	255	257	-	-	-	-	-	FS.LOSS
	14	41	29	26	23	21	19	16	14	13	12	-	-	-	-	-	P. LOSS
	12	-18	-6	-2	1	4	7	10	12	14	15	-	-	-	-	-	S/N..DB
	96	3	26	41	59	75	87	93	97	98	98	-	-	-	-	-	S/N..PROB.A
	62	0	4	10	18	27	41	52	66	72	78	-	-	-	-	-	S/N..PROB.B
	22	0	0	1	2	4	11	17	24	28	32	-	-	-	-	-	S/N..PROB.C
	4	0	0	0	0	0	1	2	4	6	7	-	-	-	-	-	S/N..PROB.D
16	19.1																
	1F+	1F+	1F+	1F+	1F+	1F+	1F+	1F+	1F+	1F+	1F+	-	-	-	-	-	MODE
	99	62	63	64	66	68	70	77	87	99	99	-	-	-	-	-	ANGLE
	50	99	99	99	99	99	98	91	68	36	12	-	-	-	-	-	C.PROB.
	99	97	97	97	97	97	97	98	98	99	99	-	-	-	-	-	DELAY
	170	158	160	162	164	165	166	168	169	171	172	-	-	-	-	-	NOISE
	255	241	243	245	246	247	249	251	253	255	257	-	-	-	-	-	FS.LOSS
	9	13	12	11	10	10	9	9	9	9	9	-	-	-	-	-	P. LOSS
	17	8	10	13	15	16	16	17	17	18	18	-	-	-	-	-	S/N..DB
	99	92	96	99	99	99	99	99	99	99	99	-	-	-	-	-	S/N..PROB.A
	86	44	54	73	84	84	84	86	87	88	88	-	-	-	-	-	S/N..PROB.B
	40	10	14	23	31	38	37	39	41	42	43	-	-	-	-	-	S/N..PROB.C
	11	0	1	3	5	10	10	11	11	12	12	-	-	-	-	-	S/N..PROB.D

		OPERATING FREQUENCIES														
GMT	MUF	9	10	11	12	13	14	16	18	20	22	24	27	30		
18	17.9	1F+	1F+	1F+	1F+	1F+	1F+	1F+	1F+	1F+	-	-	-	-	MODE	
		106	69	70	72	74	77	80	89	106	106	-	-	-	ANGLE	
		50	99	99	99	99	99	96	80	48	17	-	-	-	C.PROB.	
		100	97	97	97	97	98	98	98	100	100	-	-	-	DELAY	
		169	158	161	163	164	165	166	168	169	171	-	-	-	NOISE	
		253	241	243	245	246	248	249	251	254	255	-	-	-	FS.LOSS	
		9	11	10	9	9	9	8	8	9	9	-	-	-	P. LOSS	
		17	10	13	15	16	16	17	18	17	18	-	-	-	S/N..DB	
		99	97	99	99	99	99	99	99	99	99	-	-	-	S/N..PROB.A	
		87	54	71	85	84	84	87	89	87	88	-	-	-	S/N..PROB.B	
		42	16	23	32	39	39	42	44	42	43	-	-	-	S/N..PROB.C	
		14	2	3	6	12	12	14	15	14	14	-	-	-	S/N..PROB.D	
20	21.8	1F-	1F+	1F+	1F+	1F+	1F+	1F+	1F+	-	1F-	1F-	-	-	MODE	
		43	74	75	77	80	83	87	101	110	-	43	43	-	ANGLE	
		50	99	99	99	96	92	85	61	24	-	47	18	-	C.PROB.	
		94	97	98	98	98	98	98	99	100	-	94	94	-	DELAY	
		172	159	162	163	164	165	166	168	169	-	172	173	-	NOISE	
		256	241	243	245	246	248	249	251	254	-	256	257	-	FS.LOSS	
		1	11	10	10	9	9	9	9	9	-	1	1	-	P. LOSS	
		28	11	14	15	15	16	16	17	16	-	27	28	-	S/N..DB	
		99	98	99	99	99	99	99	99	99	-	99	99	-	S/N..PROB.A	
		99	59	78	80	80	84	84	86	84	-	99	99	-	S/N..PROB.B	
		88	19	27	35	35	39	38	40	38	-	85	88	-	S/N..PROB.C	
		43	2	5	10	10	12	12	13	12	-	40	44	-	S/N..PROB.D	
22	20.0	1F-	1F+	1F+	1F+	1F+	1F+	1F+	1F+	1F-	1F-	-	-	-	MODE	
		50	80	82	85	89	93	99	116	116	50	50	-	-	ANGLE	
		50	99	99	97	92	85	73	37	7	50	18	-	-	C.PROB.	
		94	98	98	98	98	99	99	100	100	94	94	-	-	DELAY	
		171	161	162	163	164	165	166	168	169	171	172	-	-	NOISE	
		254	241	243	245	246	248	249	252	254	254	256	-	-	FS.LOSS	
		1	11	11	10	10	9	9	10	10	1	1	-	-	P. LOSS	
		27	13	14	14	15	15	16	16	16	27	27	-	-	S/N..DB	
		99	98	98	98	99	99	99	99	99	99	99	-	-	S/N..PROB.A	
		99	70	75	76	80	80	84	82	84	99	99	-	-	S/N..PROB.B	
		85	24	31	32	35	35	38	37	38	85	85	-	-	S/N..PROB.C	
		39	4	8	9	10	10	12	11	12	39	40	-	-	S/N..PROB.D	
24	18.2	1F-	1F+	1F+	1F+	1F+	1F+	1F+	1F+	1F-	1F-	-	-	-	MODE	
		50	83	86	90	95	102	114	118	49	51	-	-	-	ANGLE	
		50	97	94	88	79	67	53	12	53	19	-	-	-	C.PROB.	
		94	98	98	99	99	99	100	101	94	94	-	-	-	DELAY	
		169	161	162	163	164	165	166	168	169	171	-	-	-	NOISE	
		253	241	243	245	246	248	249	252	253	254	-	-	-	FS.LOSS	
		1	11	11	10	10	10	10	10	1	1	-	-	-	P. LOSS	
		26	13	13	14	15	15	15	16	26	27	-	-	-	S/N..DB	
		99	97	97	98	99	99	98	99	99	99	-	-	-	S/N..PROB.A	
		99	69	70	76	80	80	80	82	99	99	-	-	-	S/N..PROB.B	
		84	26	26	30	34	34	34	36	84	85	-	-	-	S/N..PROB.C	
		38	5	5	7	8	8	8	9	37	38	-	-	-	S/N..PROB.D	

4 JUN SSN= 110 26.015
TRANSMITTER RECEIVER AZIMUTHS N.MILES
SITE C RCVR 150 61.0 262.8 1493.7

TOTAL RELIABILITY(T.REL.)

REQ. S/N= 00B(A), 10DB(B), 20DB(C), 30DB(D)

GMT	A	B	C	D	GMT	A	B	C	D	GMT	A	B	C	D
2	99	73	29	4	10	54	24	3	0	18	99	99	68	24
4	88	51	17	2	12	75	32	7	0	20	99	99	62	28
6	65	34	7	0	14	96	68	25	3	22	99	94	62	28
8	59	24	4	0	16	99	99	70	22	24	99	90	60	25

1 SEP SSN= 110 26.014
 TRANSMITTER RECEIVER
 SITE C RCVR 0
 SIGMA= 1000 SQ. METERS
 OFF AZIMUTH 0 DEG. MIN. ANGLE= 4 DEG. OFF AZIMUTH 0 DEG.
 PWR=200.00KW 3 MC/S MAN.NOISE= -148 DBW REQ.S/N= 0, 10, 20, 30DB
 ANT= 250B
 OPERATING FREQUENCIES
 GMT MUF 9 10 11 12 13 14 16 18 20 22 24 27 30
 2 17.6
 1 F 2 F 1 F 1 F 1 F 1 F 1 F 1 F 1 F 1 F - - - - - MODE
 72 178 41 42 44 47 50 58 71 71 - - - - - ANGLE
 50 95 99 99 99 97 93 74 42 13 - - - - - C.PROB.
 97 101 96 96 96 96 96 97 97 97 - - - - - DELAY
 169 161 162 163 164 165 166 168 169 171 - - - - - NOISE
 253 242 243 244 246 247 249 251 253 255 - - - - - FS.LOSS
 3 21 8 7 6 5 4 3 2 2 - - - - - P. LOSS
 24 2 16 18 19 20 21 23 24 25 - - - - - S/N..DB
 99 63 99 99 99 99 99 99 99 99 - - - - - S/N..PROB.A
 98 23 83 90 92 94 95 97 98 98 - - - - - S/N..PROB.B
 74 4 37 45 49 54 60 69 76 77 - - - - - S/N..PROB.C
 29 0 9 13 16 18 21 26 30 31 - - - - - S/N..PROB.D
 4 28.2
 1 F 2 F 2 F 2 F 2 F 2 F 2 F 2 F 2 F 2 F - 1 F 1 F MODE
 53 149 144 142 142 144 146 155 170 189 189 - 46 52 ANGLE
 50 99 99 98 97 95 91 79 60 34 11 - 59 32 C.PROB.
 98 99 99 98 98 99 99 99 100 102 102 - 96 96 DELAY
 175 161 162 163 164 165 166 168 169 171 172 - 174 175 NOISE
 261 241 243 245 246 248 249 251 254 256 257 - 260 262 FS.LOSS
 4 53 46 41 36 33 30 25 22 21 19 - 5 4 P. LOSS
 24 -28 -21 -16 -11 -7 -4 1 3 6 7 - 23 25 S/N..DB
 99 0 1 5 14 24 34 57 71 81 85 - 99 99 S/N..PROB.A
 98 0 0 0 2 4 8 20 27 35 39 - 97 98 S/N..PROB.B
 73 0 0 0 0 0 0 3 5 8 10 - 70 77 S/N..PROB.C
 28 0 0 0 0 0 0 0 0 1 1 - 27 31 S/N..PROB.D
 6 29.5
 1 F - 2 F 2 F 2 F 2 F 2 F 1 F 2 F 2 F 2 F - 1 F 1 F MODE
 53 - 165 154 148 145 145 44 162 188 188 - 42 51 ANGLE
 50 - 99 99 98 96 93 99 67 45 18 - 67 45 C.PROB.
 96 - 100 99 99 99 99 96 100 102 102 - 96 96 DELAY
 175 - 162 163 164 165 166 168 169 171 172 - 174 175 NOISE
 262 - 243 245 246 248 249 251 254 256 257 - 260 262 FS.LOSS
 6 - 67 60 54 48 43 21 30 26 24 - 8 6 P. LOSS
 22 - -42 -35 -28 -22 -17 6 -4 0 3 - 20 23 S/N..DB
 99 - 0 0 0 0 3 82 32 50 68 - 99 99 S/N..PROB.A
 97 - 0 0 0 0 0 35 6 14 23 - 94 97 S/N..PROB.B
 66 - 0 0 0 0 0 7 0 1 3 - 54 67 S/N..PROB.C
 22 - 0 0 0 0 0 0 0 0 0 - 16 23 S/N..PROB.D
 8 27.8
 1 F - - 2 F 2 F 2 F 2 F 2 F 1 F 2 F 2 F - 1 F 1 F MODE
 53 - - 165 154 149 148 154 42 185 185 - 48 50 ANGLE
 50 - - 99 98 95 91 77 98 23 5 - 56 26 C.PROB.
 96 - - 100 99 99 99 99 96 102 102 - 96 96 DELAY
 175 - - 163 164 165 166 168 169 171 172 - 174 175 NOISE
 261 - - 245 246 248 249 251 253 256 257 - 260 262 FS.LOSS
 9 - - 67 61 55 49 40 20 29 26 - 9 8 P. LOSS
 20 - - -42 -35 -29 -23 -13 6 -2 0 - 19 21 S/N..DB
 99 - - 0 0 0 0 7 84 37 51 - 99 99 S/N..PROB.A
 93 - - 0 0 0 0 0 36 8 15 - 92 94 S/N..PROB.B
 50 - - 0 0 0 0 0 8 0 1 - 48 55 S/N..PROB.C
 14 - - 0 0 0 0 0 0 0 0 - 13 17 S/N..PROB.D

		OPERATING FREQUENCIES														
GMT	MUF	9	10	11	12	13	14	16	18	20	22	24	27	30		
10	26.6	1 F	- 2 F	2 F	2 F	2 F	2 F	1 F	1 F	1 F	1 F	1 F	1 F	1 F	MODE	
	67	- 180	171	169	169	172	57	47	47	49	54	65	65	65	ANGLE	
	50	- 99	98	97	93	88	99	97	92	84	71	45	15	15	C.PROB.	
	97	- 101	100	100	100	101	97	96	96	96	96	97	97	97	DELAY	
	174	- 162	163	164	165	166	168	169	171	172	173	174	175	175	NOISE	
	26	- 244	245	247	248	249	251	253	255	256	258	260	262	262	FS.LOSS	
	8	- 69	61	55	49	44	22	18	15	12	10	8	6	6	P. LOSS	
	20	- -44	-36	-29	-23	-18	5	8	13	15	17	20	22	22	S/N..DB	
	99	- 0	0	0	0	0	2	78	90	97	98	99	99	99	S/N..PROB.A	
	93	- 0	0	0	0	0	0	31	44	67	78	85	94	96	S/N..PROB.B	
	53	- 0	0	0	0	0	0	6	11	23	30	38	54	61	S/N..PROB.C	
	15	- 0	0	0	0	0	0	0	1	3	6	9	16	20	S/N..PROB.D	
12	26.6	1 F	2 F	2 F	2 F	2 F	1 F	1 F	2 F	2 F	2 F	1 F	1 F	1 F	MODE	
	61	163	157	155	156	51	44	175	203	203	43	48	60	60	ANGLE	
	50	99	99	99	98	99	99	73	42	8	87	73	43	8	C.PROB.	
	97	100	99	99	99	96	96	101	103	103	96	96	97	97	DELAY	
	174	161	162	163	164	165	166	168	169	171	172	173	174	175	NOISE	
	260	242	243	245	246	247	249	252	254	256	256	258	260	262	FS.LOSS	
	6	61	54	47	42	22	20	29	25	23	9	7	6	5	P. LOSS	
	22	-37	-29	-22	-17	3	6	-2	0	4	19	21	22	24	S/N..DB	
	99	0	0	1	4	71	84	39	54	72	99	99	99	99	S/N..PROB.A	
	96	0	0	0	0	27	37	11	18	28	91	95	96	98	S/N..PROB.B	
	64	0	0	0	0	5	10	1	3	6	47	57	65	72	S/N..PROB.C	
	23	0	0	0	0	0	1	0	0	0	14	20	24	28	S/N..PROB.D	
14	25.7	1 F	2 F	2 F	2 F	2 F	2 F	2 F	2 F	- 1 F	1 F	1 F	-	-	MODE	
	57	141	142	144	148	151	157	173	198	- 40	47	57	-	-	ANGLE	
	50	99	99	99	97	94	89	68	32	- 82	66	29	-	-	C.PROB.	
	97	98	98	99	99	99	99	101	103	- 96	96	96	-	-	DELAY	
	174	161	162	163	164	165	166	168	169	- 172	173	174	-	-	NOISE	
	259	241	243	245	246	248	249	252	254	- 256	258	260	-	-	FS.LOSS	
	2	32	28	25	23	21	20	18	17	- 4	3	2	-	-	P. LOSS	
	26	-7	-3	0	2	4	5	8	8	- 24	25	26	-	-	S/N..DB	
	99	23	37	49	66	76	80	89	90	- 99	99	99	-	-	S/N..PROB.A	
	99	4	9	16	24	30	34	43	45	- 98	98	99	-	-	S/N..PROB.B	
	81	0	1	2	4	7	8	13	13	- 73	78	83	-	-	S/N..PROB.C	
	35	0	0	0	0	0	0	1	2	- 28	32	37	-	-	S/N..PROB.D	
16	21.5	1 F	2 F	2 F	2 F	2 F	2 F	1 F	1 F	1 F	1 F	1 F	-	-	MODE	
	65	158	162	167	174	184	200	41	47	55	65	65	-	-	ANGLE	
	5	99	99	95	88	76	58	97	87	69	41	14	-	-	C.PROB.	
	97	100	100	100	101	101	103	96	96	96	97	97	-	-	DELAY	
	171	161	162	163	164	165	166	168	169	171	172	173	-	-	NOISE	
	256	242	243	245	247	248	250	251	253	255	257	258	-	-	FS.LOSS	
	1	18	16	16	15	15	15	2	2	1	1	1	-	-	P. LOSS	
	25	6	7	8	9	9	9	24	25	26	26	27	-	-	S/N..DB	
	99	82	87	90	92	92	92	99	99	99	99	99	-	-	S/N..PROB.A	
	99	36	41	45	49	49	49	98	99	99	99	99	-	-	S/N..PROB.B	
	80	9	11	13	16	16	16	74	80	81	82	85	-	-	S/N..PROB.C	
	34	1	1	2	2	2	2	29	34	35	35	39	-	-	S/N..PROB.D	

		OPERATING FREQUENCIES														
GMT	MUF	9	10	11	12	13	14	16	18	20	22	24	27	30		
18	17.6	1 F	1 F	1 F	1 F	1 F	1 F	1 F	1 F	1 F	-	-	-	-	MODE	
	75	43	44	46	48	50	53	62	75	75	-	-	-	-	ANGLE	
	50	99	99	99	99	97	93	74	41	10	-	-	-	-	C.PROB.	
	98	96	96	96	96	96	96	97	98	98	-	-	-	-	DELAY	
	169	161	162	163	164	165	166	168	169	171	-	-	-	-	NOISE	
	253	241	243	244	246	247	249	251	253	255	-	-	-	-	FS.LOSS	
	2	6	5	4	4	3	3	2	2	1	-	-	-	-	P. LOSS	
	25	18	19	20	21	22	23	24	25	26	-	-	-	-	S/N..DB	
	99	99	99	99	99	99	99	99	99	99	-	-	-	-	S/N..PROB.A	
	98	89	92	94	96	97	97	98	99	99	-	-	-	-	S/N..PROB.B	
	79	44	48	54	60	66	70	74	80	81	-	-	-	-	S/N..PROB.C	
	34	15	18	21	23	26	29	31	35	36	-	-	-	-	S/N..PROB.D	
20	15.4	1 F	1 F	1 F	1 F	1 F	1 F	1 F	1 F	-	-	-	-	-	MODE	
	84	52	54	56	59	64	69	83	83	-	-	-	-	-	ANGLE	
	50	99	98	96	91	83	71	37	8	-	-	-	-	-	C.PROB.	
	98	96	96	96	97	97	97	98	98	-	-	-	-	-	DELAY	
	167	161	162	163	164	165	166	168	169	-	-	-	-	-	NOISE	
	251	241	243	244	246	247	249	251	253	-	-	-	-	-	FS.LOSS	
	2	6	5	4	4	3	3	2	2	-	-	-	-	-	P. LOSS	
	23	18	19	20	21	22	23	24	24	-	-	-	-	-	S/N..DB	
	99	99	99	99	99	99	99	99	99	-	-	-	-	-	S/N..PROB.A	
	97	89	92	94	96	97	97	98	98	-	-	-	-	-	S/N..PROB.B	
	71	44	48	54	60	66	70	74	76	-	-	-	-	-	S/N..PROB.C	
	29	15	18	21	23	26	29	31	32	-	-	-	-	-	S/N..PROB.D	
22	15.0	1 F	1 F	1 F	1 F	1 F	1 F	1 F	-	-	-	-	-	-	MODE	
	89	57	59	62	65	70	77	89	-	-	-	-	-	-	ANGLE	
	50	99	98	95	89	80	66	29	-	-	-	-	-	-	C.PROB.	
	98	96	97	97	97	97	98	98	-	-	-	-	-	-	DELAY	
	167	161	162	163	164	165	166	168	-	-	-	-	-	-	NOISE	
	250	241	243	245	246	248	249	251	-	-	-	-	-	-	FS.LOSS	
	2	6	5	4	4	3	3	2	-	-	-	-	-	-	P. LOSS	
	23	18	19	20	21	22	23	24	-	-	-	-	-	-	S/N..DB	
	99	99	99	99	99	99	99	99	-	-	-	-	-	-	S/N..PROB.A	
	97	89	92	94	96	97	97	98	-	-	-	-	-	-	S/N..PROB.B	
	70	44	48	54	60	66	70	74	-	-	-	-	-	-	S/N..PROB.C	
	28	15	18	21	23	26	29	31	-	-	-	-	-	-	S/N..PROB.D	
24	14.1	1 F	1 F	1 F	1 F	1 F	1 F	1 F	-	-	-	-	-	-	MODE	
	93	61	63	67	72	79	91	93	-	-	-	-	-	-	ANGLE	
	50	99	98	94	85	71	52	14	-	-	-	-	-	-	C.PROB.	
	99	97	97	97	97	98	99	99	-	-	-	-	-	-	DELAY	
	166	161	162	163	164	165	166	168	-	-	-	-	-	-	NOISE	
	249	241	243	245	246	248	249	251	-	-	-	-	-	-	FS.LOSS	
	2	6	5	4	3	3	2	2	-	-	-	-	-	-	P. LOSS	
	23	18	19	20	21	22	23	24	-	-	-	-	-	-	S/N..DB	
	99	99	99	99	99	99	99	99	-	-	-	-	-	-	S/N..PROB.A	
	97	89	92	94	96	97	97	98	-	-	-	-	-	-	S/N..PROB.B	
	71	43	48	54	60	66	70	74	-	-	-	-	-	-	S/N..PROB.C	
	27	13	15	18	21	24	27	29	-	-	-	-	-	-	S/N..PROB.D	

~~SECRET~~
1
TRANSMITTER
SITE C

SEP

RECEIVER
RCVR 0

SSN= 110

AZIMUTHS
61.0 262.8

26.015
N.MILES
1493.7

TOTAL RELIABILITY(T.REL.)

REQ. S/N= 00B(A), 10DB(B), 20DB(C), 30DB(D)

GMT	A	B	C	D	GMT	A	B	C	D	GMT	A	B	C	D
2	99	99	84	40	10	99	89	49	12	18	99	99	90	51
4	78	64	43	16	12	99	93	52	17	20	99	99	89	45
6	95	76	41	11	14	97	91	73	32	22	99	99	88	48
8	93	70	33	7	16	99	99	90	42	24	99	99	84	41

2 SEP SSN= 110 26.015
 TRANSMITTER RECEIVER
 SITE C RCVR 50 AZIMUTHS N.MILES
 61.0 262.8 1493.7
 SIGMA= 1000 SQ. METERS ANT= 25DB
 OFF AZIMUTH 0 DEG. MIN. ANGLE= 4 DEG. OFF AZIMUTH 0 DEG.
 PWR=200.00KW 3 MC/S MAN.NOISE= -148 DBW REQ.S/N= 0, 10, 20, 30DB
 OPERATING FREQUENCIES
 GMT MUF 9 10 11 12 13 14 16 18 20 22 24 27 30
 2 18.4
 1F- 1F+ 1F+ 1F+ 1F+ 1F+ 1F+ 1F- 1F- 1F- 1F- - - - MODE
 60 50 51 53 55 58 62 44 56 60 60 - - - ANGLE
 50 99 99 99 98 95 88 82 56 24 6 - - - C.PROB.
 97 96 96 96 96 97 97 96 96 97 97 - - - DELAY
 170 161 162 163 164 165 166 168 169 171 172 - - - NOISE
 253 241 243 244 246 247 249 251 253 255 257 - - - FS.LOSS
 3 13 12 11 10 9 9 3 3 2 2 - - - P. LOSS
 25 11 13 14 15 16 17 23 24 25 26 - - - S/N..DB
 99 95 97 98 99 99 99 99 99 99 99 - - - S/N..PROB.A
 98 58 70 76 80 84 87 97 98 98 99 - - - S/N..PROB.B
 77 20 26 30 34 38 41 69 76 77 82 - - - S/N..PROB.C
 31 3 5 7 8 10 11 26 30 31 35 - - - S/N..PROB.D
 4 29.7
 1F- 2F- 2F- 2F- 1F+ 1F+ 1F+ 2F- 1F+ 1F+ 1F+ 1F+ 1F+ 1F+ MODE
 41 142 135 133 54 45 41 142 40 42 46 51 63 63 ANGLE
 50 99 99 99 99 99 99 83 95 90 82 71 48 19 C.PROB.
 98 98 98 98 96 96 96 98 96 96 96 97 97 DELAY
 175 161 162 163 164 165 166 168 169 171 172 173 174 175 NOISE
 262 241 243 245 246 247 249 251 253 255 256 258 260 262 FS.LOSS
 4 54 47 42 25 22 19 26 13 12 11 10 9 9 P. LOSS
 24 -29 -22 -16 0 3 6 0 13 16 17 18 18 20 S/N..DB
 99 0 1 5 55 71 84 52 97 99 99 99 99 99 S/N..PROB.A
 98 0 0 0 18 27 37 17 71 81 85 88 90 93 S/N..PROB.B
 76 0 0 0 3 5 10 2 27 35 39 43 45 50 S/N..PROB.C
 31 0 0 0 0 0 1 0 5 8 10 12 13 16 S/N..PROB.D
 6 31.1
 1F- - 2F+ 2F- 2F- 2F- 2F- 1F+ 1F+ 1F+ 1F+ 1F+ 1F+ 1F+ MODE
 40 - 171 149 140 137 135 53 44 43 45 48 59 63 ANGLE
 50 - 99 99 98 97 94 99 97 93 87 77 58 31 C.PROB.
 96 - 100 99 98 98 98 96 96 96 96 96 97 97 DELAY
 175 - 162 163 164 165 166 168 169 171 172 173 174 175 NOISE
 262 - 244 245 246 248 249 251 253 255 256 258 260 262 FS.LOSS
 6 - 76 61 55 49 44 24 20 17 15 14 12 11 P. LOSS
 23 - -51 -35 -29 -23 -18 2 6 10 13 14 16 18 S/N..DB
 99 - 0 0 0 0 0 2 63 84 93 97 98 99 99 S/N..PROB.A
 97 - 0 0 0 0 0 0 21 36 50 68 73 83 88 S/N..PROB.B
 67 - 0 0 0 0 0 0 3 8 14 23 27 36 41 S/N..PROB.C
 23 - 0 0 0 0 0 0 0 0 1 3 4 8 10 S/N..PROB.D
 8 26.5
 1F+ - - 2F+ 2F- 2F- 2F- 2F- 1F+ 1F+ 1F+ 1F+ 1F+ 1F+ MODE
 66 - - 168 148 141 138 142 50 46 48 53 63 63 ANGLE
 50 - - 99 98 96 93 81 97 92 84 71 44 14 C.PROB.
 97 - - 100 99 98 98 98 96 96 96 96 97 97 DELAY
 174 - - 163 164 165 166 168 169 171 172 173 174 175 NOISE
 260 - - 245 246 248 249 251 253 255 256 258 260 262 FS.LOSS
 14 - - 77 62 56 51 41 24 20 17 15 14 12 P. LOSS
 14 - - -52 -36 -30 -24 -14 3 8 10 12 14 17 S/N..DB
 98 - - 0 0 0 0 0 6 71 88 93 96 98 99 S/N..PROB.A
 74 - - 0 0 0 0 0 0 25 41 51 63 75 84 S/N..PROB.B
 28 - - 0 0 0 0 0 0 4 10 15 20 28 37 S/N..PROB.C
 5 - - 0 0 0 0 0 0 0 1 1 3 5 8 S/N..PROB.D

OPERATING FREQUENCIES

GMT	MUF	9	10	11	12	13	14	16	18	20	22	24	27	30	
10	27.9	1F-	2F+	2F-	2F-	2F-	2F-	1F+	1F+	1F+	1F+	1F+	1F-	1F-	MODE
	55	196	175	165	160	160	162	63	58	58	62	70	50	52	ANGLE
	50	99	99	99	97	95	90	98	95	89	78	62	57	27	C.PROB.
	96	102	101	100	100	100	100	97	97	97	97	97	96	96	DELAY
	175	161	162	163	164	165	166	168	169	171	172	173	174	175	NOISE
	261	242	244	245	247	248	249	251	253	255	257	258	260	262	FS.LOSS
	8	88	70	63	56	50	45	26	22	19	17	15	8	7	P. LOSS
	21	-64	-45	-38	-30	-24	-19	0	4	9	11	13	19	22	S/N..DB
	99	0	0	0	0	0	2	52	76	90	95	97	99	99	S/N..PROB.A
	94	0	0	0	0	0	0	15	29	46	57	68	92	96	S/N..PROB.B
	56	0	0	0	0	0	0	1	5	12	17	24	48	61	S/N..PROB.C
	17	0	0	0	0	0	0	0	0	1	2	3	13	20	S/N..PROB.D
12	27.9	1F-	2F-	2F-	2F-	1F+	1F+	1F+	1F+	1F+	1F+	1F+	1F-	1F-	MODE
	49	158	149	146	146	60	52	48	48	51	56	64	44	47	ANGLE
	50	99	99	99	99	99	99	99	97	91	80	63	59	22	C.PROB.
	96	99	99	99	99	97	96	96	96	96	96	97	96	96	DELAY
	175	161	162	163	164	165	166	168	169	171	172	173	174	175	NOISE
	261	242	243	245	246	247	249	251	253	255	257	258	260	262	FS.LOSS
	5	62	55	48	43	26	24	19	16	14	13	12	6	5	P. LOSS
	23	-37	-30	-23	-17	0	2	7	10	13	15	16	22	24	S/N..DB
	99	0	0	1	4	49	65	86	94	97	98	99	99	99	S/N..PROB.A
	97	0	0	0	0	16	24	39	54	67	78	82	96	98	S/N..PROB.B
	67	0	0	0	0	2	4	11	18	25	32	36	65	72	S/N..PROB.C
	25	0	0	0	0	0	0	1	3	5	7	9	24	28	S/N..PROB.D
14	27.0	1F-	2F-	2F-	2F-	2F-	2F-	1F+	1F+	1F+	1F+	1F+	1F-	1F-	MODE
	45	131	132	134	137	140	145	40	44	48	54	65	44	44	ANGLE
	50	99	99	99	98	96	91	99	95	88	74	55	50	12	C.PROB.
	96	98	98	98	98	98	99	96	96	96	96	97	96	96	DELAY
	174	161	162	163	164	165	166	168	169	171	172	173	174	175	NOISE
	261	241	243	245	246	248	249	251	253	255	256	258	260	262	FS.LOSS
	2	32	28	25	23	21	20	10	9	8	8	8	2	2	P. LOSS
	26	-7	-3	0	2	4	5	17	18	20	20	20	26	27	S/N..DB
	99	23	37	49	66	76	80	99	99	99	99	99	99	99	S/N..PROB.A
	99	4	9	16	24	30	34	86	90	93	93	93	99	99	S/N..PROB.B
	83	0	1	2	4	7	8	39	45	50	51	51	83	84	S/N..PROB.C
	37	0	0	0	0	0	0	11	13	16	17	17	37	38	S/N..PROB.D
16	22.5	1F-	1F+	1F+	1F+	1F+	1F+	1F+	1F+	1F+	1F-	1F-	-	-	MODE
	54	42	43	44	45	47	48	53	60	72	50	54	-	-	ANGLE
	50	99	99	99	99	99	99	94	81	57	57	28	-	-	C.PROB.
	96	96	96	96	96	96	96	96	97	97	96	96	-	-	DELAY
	172	161	162	163	164	165	166	168	169	171	172	173	-	-	NOISE
	257	241	243	244	246	247	249	251	253	255	256	258	-	-	FS.LOSS
	1	10	9	8	7	7	7	6	6	7	1	1	-	-	P. LOSS
	26	15	16	17	18	18	19	20	20	20	26	27	-	-	S/N..DB
	99	98	99	99	99	99	99	99	99	99	99	99	-	-	S/N..PROB.A
	99	78	83	87	90	90	92	93	94	93	99	99	-	-	S/N..PROB.B
	83	32	37	41	45	45	49	52	54	50	82	85	-	-	S/N..PROB.C
	36	7	9	11	14	14	16	17	18	16	35	39	-	-	S/N..PROB.D

		OPERATING FREQUENCIES														
GMT	MUF	9	10	11	12	13	14	16	18	20	22	24	27	30		
18	18.4	1F-	1F+	1F+	1F+	1F+	1F-	1F-	1F-	1F-	-	-	-	-	MODE	
	64	53	54	56	59	62	41	48	60	64	-	-	-	-	ANGLE	
	50	99	99	99	98	95	96	83	56	22	-	-	-	-	C.PROB.	
	97	96	96	96	97	97	96	96	97	97	-	-	-	-	DELAY	
	170	161	162	163	164	165	166	168	169	171	-	-	-	-	NOISE	
	254	241	243	244	246	247	249	251	253	255	-	-	-	-	FS.LOSS	
	2	10	9	9	8	8	3	2	2	1	-	-	-	-	P. LOSS	
	25	14	15	16	17	17	23	24	25	26	-	-	-	-	S/N..DB	
	99	98	98	99	99	99	99	99	99	99	-	-	-	-	S/N..PROB.A	
	98	74	79	84	87	87	97	98	99	99	-	-	-	-	S/N..PROB.B	
	77	31	35	38	42	42	70	74	80	81	-	-	-	-	S/N..PROB.C	
	33	8	10	12	14	14	29	31	35	36	-	-	-	-	S/N..PROB.D	
20	16.1	1F-	1F-	1F-	1F-	1F-	1F-	1F-	1F-	-	-	-	-	-	MODE	
	72	41	43	45	48	51	55	71	72	-	-	-	-	-	ANGLE	
	50	99	99	97	94	88	79	52	16	-	-	-	-	-	C.PROB.	
	97	96	96	96	96	96	96	97	97	-	-	-	-	-	DELAY	
	168	161	162	163	164	165	166	168	169	-	-	-	-	-	NOISE	
	251	241	243	244	246	247	249	251	253	-	-	-	-	-	FS.LOSS	
	2	7	5	5	4	3	3	2	2	-	-	-	-	-	P. LOSS	
	24	18	19	20	21	22	23	24	25	-	-	-	-	-	S/N..DB	
	99	99	99	99	99	99	99	99	99	-	-	-	-	-	S/N..PROB.A	
	98	89	92	94	96	97	97	98	99	-	-	-	-	-	S/N..PROB.B	
	74	44	48	54	60	66	70	74	80	-	-	-	-	-	S/N..PROB.C	
	31	15	18	21	23	26	29	31	35	-	-	-	-	-	S/N..PROB.D	
22	15.7	1F-	1F-	1F-	1F-	1F-	1F-	1F-	1F-	-	-	-	-	-	MODE	
	78	46	48	50	54	57	62	78	78	-	-	-	-	-	ANGLE	
	50	99	99	97	93	85	75	44	11	-	-	-	-	-	C.PROB.	
	98	96	96	96	96	97	97	98	98	-	-	-	-	-	DELAY	
	168	161	162	163	164	165	166	168	169	-	-	-	-	-	NOISE	
	251	241	243	244	246	247	249	251	253	-	-	-	-	-	FS.LOSS	
	2	6	5	4	4	3	3	2	2	-	-	-	-	-	P. LOSS	
	24	18	19	20	21	22	23	24	25	-	-	-	-	-	S/N..DB	
	99	99	99	99	99	99	99	99	99	-	-	-	-	-	S/N..PROB.A	
	98	89	92	94	96	97	97	98	99	-	-	-	-	-	S/N..PROB.B	
	72	44	48	54	60	66	70	74	80	-	-	-	-	-	S/N..PROB.C	
	30	15	18	21	23	26	29	31	35	-	-	-	-	-	S/N..PROB.D	
24	14.7	1F-	1F-	1F-	1F-	1F-	1F-	1F-	-	-	-	-	-	-	MODE	
	82	50	52	56	60	65	73	82	-	-	-	-	-	-	ANGLE	
	50	99	99	96	90	79	63	24	-	-	-	-	-	-	C.PROB.	
	98	96	96	96	97	97	97	98	-	-	-	-	-	-	DELAY	
	167	161	162	163	164	165	166	168	-	-	-	-	-	-	NOISE	
	250	241	243	244	246	247	249	251	-	-	-	-	-	-	FS.LOSS	
	2	6	5	4	4	3	3	2	-	-	-	-	-	-	P. LOSS	
	24	18	19	20	21	22	23	24	-	-	-	-	-	-	S/N..DB	
	99	99	99	99	99	99	99	99	-	-	-	-	-	-	S/N..PROB.A	
	98	89	92	94	96	97	97	98	-	-	-	-	-	-	S/N..PROB.B	
	73	43	48	54	60	66	70	74	-	-	-	-	-	-	S/N..PROB.C	
	29	13	15	18	21	24	27	29	-	-	-	-	-	-	S/N..PROB.D	

2
TRANSMITTER
SITE C

SEP

RECEIVER
RCVR 50

SSN= 110

AZIMUTHS
61.0 262.8

26.015
N.MILES
1493.7

TOTAL RELIABILITY(T.REL.)

REQ. S/N= 0DB(A), 10DB(B), 20DB(C), 30DB(D)

GMT	A	B	C	D	GMT	A	B	C	D	GMT	A	B	C	D
2	99	99	79	34	10	97	74	39	9	18	99	99	90	50
4	99	95	58	20	12	99	93	55	20	20	99	99	89	49
6	99	87	41	11	14	99	98	81	30	22	99	99	90	51
8	95	71	26	3	16	99	99	86	33	24	99	99	88	44

3 SEP SSN= 110 26.015
 TRANSMITTER RECEIVER
 SITE C RCVR 100
 SIGMA= 1000 SQ. METERS
 OFF AZIMUTH 0 DEG. MIN. ANGLE= 4 DEG. OFF AZIMUTH 0 DEG.
 PWR=200.00KW 3 MC/S MAN.NOISE= -148 DBW REQ.S/N= 0, 10, 20, 30DB
 OPERATING FREQUENCIES
 GMT MUF 9 10 11 12 13 14 16 18 20 22 24 27 30
 2 19.4
 1F- 1F+ 1F+ 1F+ 1F+ 1F+ 1F+ 1F+ 1F+ 1F- 1F- - - - MODE
 48 60 62 64 67 70 75 92 93 48 48 - - - ANGLE
 50 99 99 99 97 92 82 52 17 40 14 - - - C.PROB.
 94 97 97 97 97 97 98 99 99 94 94 - - - DELAY
 170 161 162 163 164 165 166 168 169 171 172 - - - NOISE
 254 241 243 245 246 248 249 251 253 254 256 - - - FS.LOSS
 1 14 12 11 10 10 10 10 9 1 1 - - - P. LOSS
 26 11 12 13 14 15 16 16 17 27 - - - S/N..DB
 99 95 96 97 98 99 99 99 99 99 - - - S/N..PROB.A
 99 58 65 71 76 80 84 82 87 99 99 - - - S/N..PROB.B
 83 20 23 27 31 34 37 36 41 85 85 - - - S/N..PROB.C
 37 3 4 5 7 8 10 9 11 38 39 - - - S/N..PROB.D
 4 25.6
 1F+ 2F- 2F- 2F- 1F+ 1F+ 1F+ 1F+ 1F+ 1F+ 1F+ 1F+ 1F+ 1F+ 1F+ MODE
 76 136 128 124 60 54 51 50 51 54 59 66 75 75 ANGLE
 50 99 99 99 99 99 99 97 94 87 76 63 34 10 C.PROB.
 98 98 97 97 97 96 96 96 96 96 97 97 98 98 DELAY
 174 161 162 163 164 165 166 168 169 171 172 173 174 175 NOISE
 259 241 243 245 246 247 249 251 253 255 257 258 260 262 FS.LOSS
 10 44 38 34 24 22 20 16 14 12 11 11 10 9 P. LOSS
 18 -18 -13 -9 0 3 6 10 13 15 16 17 18 20 S/N..DB
 99 3 9 18 55 71 84 93 97 98 99 99 99 99 S/N..PROB.A
 88 0 1 3 18 27 37 52 71 77 82 85 90 93 S/N..PROB.B
 42 0 0 0 3 5 10 17 27 31 35 39 45 50 S/N..PROB.C
 12 0 0 0 0 0 1 2 5 7 9 10 13 16 S/N..PROB.D
 6 26.9
 1F+ - 2F+ 2F- 2F- 2F- 2F- 1F+ 1F+ 1F+ 1F+ 1F+ 1F+ 1F+ 1F+ MODE
 77 - 175 145 134 128 126 60 54 54 57 62 75 75 ANGLE
 50 - 99 99 99 97 96 98 95 91 82 71 49 19 C.PROB.
 98 - 101 98 98 97 97 97 96 96 97 97 98 98 DELAY
 174 - 162 163 164 165 166 168 169 171 172 173 174 175 NOISE
 260 - 244 245 246 248 249 251 253 255 257 258 260 262 FS.LOSS
 13 - 75 48 44 40 36 24 20 18 15 14 13 11 P. LOSS
 15 - -51 -23 -18 -14 -10 2 6 10 12 14 15 17 S/N..DB
 98 - 0 0 2 6 14 63 84 93 96 98 98 99 S/N..PROB.A
 79 - 0 0 0 0 1 21 36 50 62 73 80 84 S/N..PROB.B
 32 - 0 0 0 0 0 3 8 14 20 27 32 37 S/N..PROB.C
 6 - 0 0 0 0 0 0 0 1 3 4 6 8 S/N..PROB.D
 8 25.3
 1F+ - - 2F+ 2F- 2F- 2F- 2F- 1F+ 1F+ 1F+ 1F+ 1F+ 1F+ 1F+ MODE
 78 - - 174 143 134 129 129 59 58 61 69 75 75 ANGLE
 50 - - 98 99 97 95 85 95 89 78 62 29 7 C.PROB.
 98 - - 101 98 98 98 97 97 97 97 97 98 98 DELAY
 173 - - 163 164 165 166 168 169 171 172 173 174 175 NOISE
 259 - - 245 246 248 249 251 253 255 257 258 260 262 FS.LOSS
 15 - - 76 49 45 41 34 23 20 18 16 14 12 P. LOSS
 12 - - -51 -24 -19 -15 -7 3 7 10 12 14 16 S/N..DB
 97 - - 0 0 2 5 21 71 85 93 96 98 99 S/N..PROB.A
 66 - - 0 0 0 0 3 25 37 51 63 75 81 S/N..PROB.B
 22 - - 0 0 0 0 0 4 8 15 20 28 33 S/N..PROB.C
 3 - - 0 0 0 0 0 0 0 1 3 5 7 S/N..PROB.D

		OPERATING FREQUENCIES														
GMT	MUF	9	10	11	12	13	14	16	18	20	22	24	27	30		
10	29.4	1F-	2F+	2F-	2F-	2F-	2F-	1F+	1F+	1F+	1F+	1F+	1F+	-	MODE	
	42	203	169	158	152	150	151	71	68	70	76	87	88	-	ANGLE	
	50	99	99	99	98	96	92	98	93	85	71	53	19	-	C.PROB.	
	93	103	100	99	99	99	99	97	97	97	98	98	98	-	DELAY	
	175	161	162	163	164	165	166	168	169	171	172	173	174	-	NOISE	
	261	242	243	245	246	248	249	251	253	255	257	258	260	-	FS.LOSS	
	4	87	56	50	45	41	37	26	22	19	17	15	14	-	P. LOSS	
	25	-63	-31	-25	-20	-15	-11	0	4	8	11	12	14	-	S/N..DB	
	99	0	0	0	1	5	11	52	76	88	95	96	98	-	S/N..PROB.A	
	98	0	0	0	0	0	1	15	29	41	57	63	75	-	S/N..PROB.B	
	80	0	0	0	0	0	0	1	5	10	17	20	28	-	S/N..PROB.C	
	32	0	0	0	0	0	0	0	0	1	2	3	5	-	S/N..PROB.D	
12	24.3	1F+	2F-	2F-	2F-	2F-	1F+	1F+	1F+	1F+	1F+	1F+	1F+	-	MODE	
	84	153	143	138	136	66	61	58	60	64	70	82	83	-	ANGLE	
	50	99	99	99	99	99	99	99	95	87	72	53	11	-	C.PROB.	
	98	99	98	98	98	97	97	97	97	97	97	98	98	-	DELAY	
	173	161	162	163	164	165	166	168	169	171	172	173	174	-	NOISE	
	259	241	243	245	246	247	249	251	253	255	257	258	260	-	FS.LOSS	
	12	50	44	39	35	26	23	19	17	15	13	12	11	-	P. LOSS	
	15	-25	-19	-14	-10	0	2	7	10	13	14	15	16	-	S/N..DB	
	98	0	3	8	16	49	65	86	94	97	98	98	99	-	S/N..PROB.A	
	78	0	0	0	2	16	24	39	54	67	73	78	83	-	S/N..PROB.B	
	32	0	0	0	0	2	4	11	18	25	28	32	37	-	S/N..PROB.C	
	7	0	0	0	0	0	0	1	3	5	6	7	9	-	S/N..PROB.D	
14	23.4	1F+	1F+	1F+	1F+	1F+	1F+	1F+	1F+	1F+	1F+	1F+	-	-	MODE	
	80	49	47	47	47	48	49	51	55	61	70	80	-	-	ANGLE	
	50	99	99	99	99	99	99	98	93	82	65	39	-	-	C.PROB.	
	98	96	96	96	96	96	96	96	96	97	97	98	-	-	DELAY	
	172	161	162	163	164	165	166	168	169	171	172	173	-	-	NOISE	
	258	241	243	244	246	247	249	251	253	255	257	258	-	-	FS.LOSS	
	9	21	18	16	14	13	12	10	9	9	9	9	-	-	P. LOSS	
	18	3	6	9	11	12	14	16	17	19	19	19	-	-	S/N..DB	
	99	69	83	92	96	97	98	99	99	99	99	99	-	-	S/N..PROB.A	
	90	26	37	49	60	66	75	82	87	90	91	91	-	-	S/N..PROB.B	
	46	5	9	16	21	24	30	36	41	46	47	47	-	-	S/N..PROB.C	
	14	0	1	2	3	4	7	9	11	14	14	15	-	-	S/N..PROB.D	
16	23.8	1F-	1F+	1F+	1F+	1F+	1F+	1F+	1F+	1F+	1F+	1F-	1F-	-	MODE	
	42	52	53	54	56	57	59	65	74	87	87	42	42	-	ANGLE	
	50	99	99	99	99	99	98	91	72	43	14	46	11	-	C.PROB.	
	90	96	96	96	96	97	97	97	97	98	98	93	93	-	DELAY	
	173	161	162	163	164	165	166	168	169	171	172	173	174	-	NOISE	
	257	241	243	244	246	247	249	251	253	255	257	257	260	-	FS.LOSS	
	1	10	9	9	8	8	7	7	7	8	8	1	0	-	P. LOSS	
	28	14	15	16	17	18	18	19	19	19	20	28	28	-	S/N..DB	
	99	98	98	99	99	99	99	99	99	99	99	99	99	-	S/N..PROB.A	
	99	74	79	84	87	90	90	91	92	90	93	99	99	-	S/N..PROB.B	
	88	29	33	37	41	45	45	47	49	46	51	88	90	-	S/N..PROB.C	
	42	6	8	10	12	14	13	15	16	14	17	43	45	-	S/N..PROB.D	

		OPERATING FREQUENCIES														
GMT	MUF	9	10	11	12	13	14	16	18	20	22	24	27	30		
18	19.4	1F-	1F+	1F+	1F+	1F+	1F+	1F+	1F-	1F-	1F-	-	-	-	MODE	
		53	63	65	67	70	73	78	94	43	52	52	-	-	ANGLE	
		50	99	99	99	97	92	83	53	69	38	11	-	-	C.PROB.	
		94	97	97	97	97	97	98	99	94	94	94	-	-	DELAY	
		170	161	162	163	164	165	166	168	169	171	172	-	-	NOISE	
		254	241	243	245	246	248	249	251	252	254	256	-	-	FS.LOSS	
		1	11	10	9	9	9	8	9	1	1	1	-	-	P. LOSS	
		26	14	15	15	16	17	17	17	26	27	27	-	-	S/N..DB	
		99	98	98	99	99	99	99	99	99	99	99	-	-	S/N..PROB.A	
		99	74	79	80	84	87	87	86	99	99	99	-	-	S/N..PROB.B	
		83	31	35	35	39	42	42	40	84	85	85	-	-	S/N..PROB.C	
		38	8	10	10	12	14	14	13	38	39	40	-	-	S/N..PROB.D	
20	16.9	1F-	1F+	1F+	1F+	1F+	1F+	1F-	1F-	1F-	1F-	-	-	-	MODE	
		61	72	75	79	83	90	42	53	61	61	-	-	-	ANGLE	
		50	99	96	92	83	70	85	63	29	6	-	-	-	C.PROB.	
		94	97	98	98	98	99	93	94	94	94	-	-	-	DELAY	
		169	161	162	163	164	165	166	168	169	171	-	-	-	NOISE	
		252	241	243	245	246	248	248	251	253	254	-	-	-	FS.LOSS	
		1	11	10	10	9	9	1	1	1	1	-	-	-	P. LOSS	
		26	13	14	15	15	16	25	26	26	27	-	-	-	S/N..DB	
		99	97	98	99	99	99	99	99	99	99	-	-	-	S/N..PROB.A	
		99	69	75	80	80	84	98	99	99	99	-	-	-	S/N..PROB.B	
		81	28	31	35	35	39	80	82	84	85	-	-	-	S/N..PROB.C	
		36	7	8	10	10	12	35	37	38	39	-	-	-	S/N..PROB.D	
22	16.4	1F-	1F+	1F+	1F+	1F-	1F-	1F-	1F-	1F-	-	-	-	-	MODE	
		67	77	80	84	42	45	49	62	67	-	-	-	-	ANGLE	
		50	98	96	98	95	90	82	56	21	-	-	-	-	C.PROB.	
		95	98	98	98	93	94	94	94	95	-	-	-	-	DELAY	
		168	161	162	163	164	165	166	168	169	-	-	-	-	NOISE	
		251	241	243	245	245	247	248	251	253	-	-	-	-	FS.LOSS	
		1	11	11	10	2	2	1	1	1	-	-	-	-	P. LOSS	
		25	13	14	14	23	24	25	26	26	-	-	-	-	S/N..DB	
		99	97	98	98	99	99	99	99	99	-	-	-	-	S/N..PROB.A	
		98	69	75	76	97	98	98	99	99	-	-	-	-	S/N..PROB.B	
		79	28	31	32	71	76	80	82	84	-	-	-	-	S/N..PROB.C	
		35	7	8	9	29	32	35	37	38	-	-	-	-	S/N..PROB.D	
24	15.3	1F-	1F+	1F-	1F-	1F-	1F-	1F-	1F-	1F-	-	-	-	-	MODE	
		71	82	41	44	47	52	57	70	70	-	-	-	-	ANGLE	
		50	99	99	98	94	86	73	37	8	-	-	-	-	C.PROB.	
		95	98	93	94	94	94	94	95	95	-	-	-	-	DELAY	
		167	161	162	163	164	165	166	168	169	-	-	-	-	NOISE	
		250	241	242	244	245	247	248	251	253	-	-	-	-	FS.LOSS	
		1	11	3	2	2	2	1	1	1	-	-	-	-	P. LOSS	
		25	13	22	23	23	24	25	26	26	-	-	-	-	S/N..DB	
		99	97	99	99	99	99	99	99	99	-	-	-	-	S/N..PROB.A	
		99	69	96	97	97	98	98	99	99	-	-	-	-	S/N..PROB.B	
		80	26	65	71	71	76	80	82	84	-	-	-	-	S/N..PROB.C	
		34	5	23	27	27	30	34	36	37	-	-	-	-	S/N..PROB.D	

3
TRANSMITTER
SITE C

SEP

RECEIVER
RCVR 100

SSN= 110

AZIMUTHS
61.0 262.8

26.015
N.MILES
1493.7

TOTAL RELIABILITY(T.REL.)

REQ. S/N= 0DB(A), 10DB(B), 20DB(C), 30DB(D)

GMT	A	B	C	D	GMT	A	B	C	D	GMT	A	B	C	D
2	99	98	55	22	10	95	64	40	16	18	99	99	78	40
4	99	93	55	16	12	99	86	43	9	20	99	98	85	44
6	99	82	35	5	14	99	99	70	24	22	99	99	93	49
8	93	65	21	2	16	99	99	81	32	24	99	99	93	49

4 SEP SSN= 110 26.015
 TRANSMITTER RECEIVER
 SITE C RCVR 150
 SIGMA= 1000 SQ. METERS
 OFF AZIMUTH 0 DEG. MIN. ANGLE= 4 DEG. OFF AZIMUTH 0 DEG.
 PWR=200.00KW 3 MC/S MAN.NOISE= -148 DBW REQ.S/N= 0, 10, 20, 30DB
 OPERATING FREQUENCIES
 GMT MUF 9 10 11 12 13 14 16 18 20 22 24 27 30
 2 15.5
 1F+ 1F+ 1F+ 1F+ 1F+ 1F+ 1F+ 1F+ 1F+ - - - - - MODE
 104 70 72 75 78 82 88 104 104 - - - - - ANGLE
 50 99 99 98 95 87 75 40 10 - - - - - C.PROB.
 100 97 97 98 98 98 98 100 100 - - - - - DELAY
 167 161 162 163 164 165 166 168 169 - - - - - NOISE
 251 241 243 245 246 248 249 252 254 - - - - - FS.LOSS
 10 14 13 12 11 10 10 10 10 - - - - - P. LOSS
 15 10 12 13 14 15 15 16 16 - - - - - S/N..DB
 99 93 96 97 98 99 98 99 99 - - - - - S/N..PROB.A
 81 52 65 71 76 80 80 82 84 - - - - - S/N..PROB.B
 34 17 23 27 31 34 34 36 37 - - - - - S/N..PROB.C
 8 2 4 5 7 8 8 9 10 - - - - - S/N..PROB.D
 4 24.5
 1F+ 2F- 2F- 1F+ 1F+ 1F+ 1F+ 1F+ 1F+ 1F+ 1F+ 1F+ 1F+ - MODE
 87 131 121 75 67 62 61 60 62 66 72 83 86 - ANGLE
 50 99 99 99 99 99 99 96 91 83 70 54 22 - C.PROB.
 98 98 97 98 97 97 97 97 97 97 97 98 98 - DELAY
 173 161 162 163 164 165 166 168 169 171 172 173 174 - NOISE
 259 241 243 245 246 247 249 251 253 255 257 258 260 - FS.LOSS
 11 44 39 27 24 22 20 16 14 13 12 11 10 - P. LOSS
 16 -19 -14 -2 0 3 6 10 12 15 16 16 17 - S/N..DB
 99 2 8 41 55 71 84 93 97 98 99 99 99 - S/N..PROB.A
 83 0 0 11 18 27 37 52 66 77 82 82 87 - S/N..PROB.B
 36 0 0 1 3 5 10 17 24 31 35 36 41 - S/N..PROB.C
 9 0 0 0 0 0 1 2 4 7 9 9 11 - S/N..PROB.D
 6 25.7
 1F+ 2F+ 2F+ 2F+ 2F- 2F- 2F- 1F+ 1F+ 1F+ 1F+ 1F+ 1F+ 1F+ MODE
 89 192 181 175 128 121 117 67 64 66 70 77 87 87 ANGLE
 50 99 99 98 99 98 97 97 94 87 77 64 36 11 C.PROB.
 98 102 101 101 97 97 97 97 97 97 97 98 98 98 DELAY
 174 161 162 163 164 165 166 168 169 171 172 173 174 175 NOISE
 260 242 244 245 246 247 249 251 253 255 257 258 260 262 FS.LOSS
 14 83 75 67 45 41 37 24 20 18 16 14 13 12 P. LOSS
 14 -59 -50 -42 -19 -15 -10 2 6 10 12 13 14 17 S/N..DB
 98 0 0 0 2 5 14 63 84 93 96 97 98 99 S/N..PROB.A
 72 0 0 0 0 0 1 21 36 50 62 68 75 84 S/N..PROB.B
 26 0 0 0 0 0 0 3 8 14 20 24 28 37 S/N..PROB.C
 4 0 0 0 0 0 0 0 0 1 3 3 5 8 S/N..PROB.D
 8 24.2
 1F+ - 2F+ 2F+ 2F+ 2F- 2F- 1F+ 1F+ 1F+ 1F+ 1F+ 1F+ 1F+ - MODE
 89 - 191 180 176 128 121 76 69 70 75 87 87 - ANGLE
 50 - 99 98 95 98 96 98 93 85 70 52 18 - C.PROB.
 98 - 102 101 101 97 97 98 97 97 98 98 98 - DELAY
 173 - 162 163 164 165 166 168 169 171 172 173 174 - NOISE
 259 - 244 245 247 248 249 251 253 255 257 258 260 - FS.LOSS
 16 - 83 75 68 46 42 27 23 20 18 16 14 - P. LOSS
 11 - -59 -51 -43 -20 -15 -0 3 7 10 11 13 - S/N..DB
 95 - 0 0 0 1 5 47 71 85 93 95 97 - S/N..PROB.A
 58 - 0 0 0 0 0 13 25 37 51 57 70 - S/N..PROB.B
 18 - 0 0 0 0 0 1 4 8 15 17 25 - S/N..PROB.C
 2 - 0 0 0 0 0 0 0 0 1 2 4 - S/N..PROB.D

		OPERATING FREQUENCIES															
GMT	MUF	9	10	11	12	13	14	16	18	20	22	24	27	30			
10	23.3	1F+	2F+	2F+	2F-	2F-	1F+	1F+	1F+	1F+	1F+	1F+	1F+	1F+	-	MODE	
	101	207	198	153	145	141	89	79	78	82	90	99	99	99	-	ANGLE	
	50	99	99	99	98	97	99	97	91	80	63	41	10	-	-	C.PROB.	
	99	103	103	99	98	98	98	98	98	98	99	99	99	99	-	DELAY	
	172	161	162	163	164	165	166	168	169	171	172	173	174	-	-	NOISE	
	258	242	244	245	246	248	249	251	253	255	257	259	261	-	-	FS.LOSS	
	16	86	77	51	46	42	31	26	22	19	17	16	14	-	-	P. LOSS	
	10	-62	-53	-26	-21	-16	-4	0	4	8	10	12	13	-	-	S/N..DB	
	94	0	0	0	1	4	32	52	76	88	93	96	97	-	-	S/N..PROB.A	
	55	0	0	0	0	0	6	15	29	41	51	63	70	-	-	S/N..PROB.B	
	17	0	0	0	0	0	0	1	5	10	15	20	25	-	-	S/N..PROB.C	
	2	0	0	0	0	0	0	0	1	1	3	4	-	-	-	S/N..PROB.D	
12	23.3	1F+	2F-	2F-	2F-	1F+	1F+	1F+	1F+	1F+	1F+	1F+	1F+	-	-	MODE	
	95	150	136	129	81	73	70	69	71	76	85	94	-	-	-	ANGLE	
	50	99	99	99	99	99	99	98	93	82	64	37	-	-	-	C.PROB.	
	99	99	98	98	98	97	97	97	97	98	98	99	-	-	-	DELAY	
	172	161	162	163	164	165	166	168	169	171	172	173	-	-	-	NOISE	
	258	241	243	245	246	248	249	251	253	255	257	258	-	-	-	FS.LOSS	
	13	50	45	40	29	26	23	19	17	15	14	13	-	-	-	P. LOSS	
	13	-25	-20	-15	-3	0	2	7	9	12	14	15	-	-	-	S/N..DB	
	98	0	2	7	38	49	65	86	92	96	98	98	-	-	-	S/N..PROB.A	
	71	0	0	0	10	16	24	39	49	62	73	78	-	-	-	S/N..PROB.B	
	27	0	0	0	1	2	4	11	16	22	28	32	-	-	-	S/N..PROB.C	
	6	0	0	0	0	0	0	1	2	4	6	7	-	-	-	S/N..PROB.D	
14	22.4	1F+	1F+	1F+	1F+	1F+	1F+	1F+	1F+	1F+	1F+	1F+	1F+	-	-	MODE	
	91	58	57	57	57	58	59	63	67	74	87	91	-	-	-	ANGLE	
	50	99	99	99	99	99	99	97	90	75	55	22	-	-	-	C.PROB.	
	99	97	97	96	97	97	97	97	97	98	98	99	-	-	-	DELAY	
	172	161	162	163	164	165	166	168	169	171	172	173	-	-	-	NOISE	
	257	241	243	244	246	247	249	251	253	255	257	258	-	-	-	FS.LOSS	
	10	21	18	16	15	13	12	11	10	9	9	9	-	-	-	P. LOSS	
	18	3	6	8	10	12	13	16	16	18	18	18	-	-	-	S/N..DB	
	99	69	83	90	94	97	97	99	99	99	99	99	-	-	-	S/N..PROB.A	
	89	26	37	45	55	66	70	82	84	88	88	88	-	-	-	S/N..PROB.B	
	44	5	9	13	18	24	27	36	37	42	43	43	-	-	-	S/N..PROB.C	
	13	0	1	2	3	4	5	9	10	12	12	12	-	-	-	S/N..PROB.D	
16	18.9	1F+	1F+	1F+	1F+	1F+	1F+	1F+	1F+	1F+	1F+	1F+	1F+	-	-	MODE	
	98	62	63	64	66	68	71	77	89	98	98	-	-	-	-	ANGLE	
	50	99	99	99	99	99	97	86	63	29	6	-	-	-	-	C.PROB.	
	99	97	97	97	97	97	97	98	98	99	99	-	-	-	-	DELAY	
	170	161	162	163	164	165	166	168	169	171	172	-	-	-	-	NOISE	
	254	241	243	245	246	247	249	251	253	255	257	-	-	-	-	FS.LOSS	
	9	11	10	9	9	8	8	8	8	8	8	-	-	-	-	P. LOSS	
	18	14	15	16	16	17	17	18	18	19	19	-	-	-	-	S/N..DB	
	99	98	98	99	99	99	99	99	99	99	99	-	-	-	-	S/N..PROB.A	
	89	74	79	84	84	87	87	89	90	90	91	-	-	-	-	S/N..PROB.B	
	43	29	33	37	38	41	41	43	45	46	47	-	-	-	-	S/N..PROB.C	
	13	6	8	10	10	12	11	13	13	14	14	-	-	-	-	S/N..PROB.D	

		OPERATING FREQUENCIES														
GMT	MUF	9	10	11	12	13	14	16	18	20	22	24	27	30		
18	20.4	1F-	1F+	1F+	1F+	1F+	1F+	1F+	1F+	-	1F-	1F-	-	-	MODE	
	40	73	75	78	81	85	91	107	107	-	40	40	-	-	ANGLE	
	50	99	99	98	95	88	76	40	7	-	24	5	-	-	C.PROB.	
	93	97	98	98	98	98	99	100	100	-	93	93	-	-	DELAY	
	171	161	162	163	164	165	166	168	169	-	172	173	-	-	NOISE	
	255	241	243	245	246	248	249	252	254	-	256	257	-	-	FS.LOSS	
	1	11	10	10	9	9	9	9	9	-	1	1	-	-	P. LOSS	
	27	13	14	15	15	16	16	16	17	-	28	28	-	-	S/N..DB	
	99	97	98	99	99	99	99	99	99	-	99	99	-	-	S/N..PROB.A	
	99	69	75	80	80	84	84	82	87	-	99	99	-	-	S/N..PROB.B	
	86	28	31	35	35	39	38	37	42	-	88	88	-	-	S/N..PROB.C	
	40	7	8	10	10	12	12	11	14	-	43	44	-	-	S/N..PROB.D	
20	17.8	1F-	1F+	1F+	1F+	1F+	1F+	1F+	1F-	1F-	-	-	-	-	MODE	
	49	83	86	90	95	104	115	115	49	49	-	-	-	-	ANGLE	
	50	98	95	89	78	62	43	8	45	14	-	-	-	-	C.PROB.	
	94	98	98	99	99	99	100	100	94	94	-	-	-	-	DELAY	
	169	161	162	163	164	165	166	168	169	171	-	-	-	-	NOISE	
	252	241	243	245	246	248	249	252	253	254	-	-	-	-	FS.LOSS	
	1	11	11	10	10	10	10	10	1	1	-	-	-	-	P. LOSS	
	26	13	13	14	14	15	15	16	26	27	-	-	-	-	S/N..DB	
	99	97	97	98	98	99	98	99	99	99	-	-	-	-	S/N..PROB.A	
	99	69	70	76	76	80	80	82	99	99	-	-	-	-	S/N..PROB.B	
	83	28	28	32	32	35	35	37	84	85	-	-	-	-	S/N..PROB.C	
	38	7	7	9	9	10	10	11	38	39	-	-	-	-	S/N..PROB.D	
22	17.3	1F-	1F+	1F+	1F+	1F+	1F+	1F-	1F-	1F-	-	-	-	-	MODE	
	55	88	91	96	102	112	120	45	55	55	-	-	-	-	ANGLE	
	50	98	94	87	74	58	36	67	36	9	-	-	-	-	C.PROB.	
	94	98	99	99	99	100	101	94	94	94	-	-	-	-	DELAY	
	169	161	162	163	164	165	166	168	169	171	-	-	-	-	NOISE	
	252	241	243	245	246	248	249	250	253	254	-	-	-	-	FS.LOSS	
	1	12	11	10	10	10	10	1	1	1	-	-	-	-	P. LOSS	
	26	12	13	14	14	14	14	26	26	27	-	-	-	-	S/N..DB	
	99	96	97	98	98	98	98	99	99	99	-	-	-	-	S/N..PROB.A	
	99	63	70	76	76	76	75	99	99	99	-	-	-	-	S/N..PROB.B	
	82	25	28	32	32	32	32	82	84	85	-	-	-	-	S/N..PROB.C	
	37	6	7	9	9	9	9	37	38	39	-	-	-	-	S/N..PROB.D	
24	16.1	1F-	1F+	1F+	1F+	1F+	1F+	1F-	1F-	1F-	-	-	-	-	MODE	
	59	92	97	103	113	124	43	58	59	-	-	-	-	-	ANGLE	
	50	98	93	82	64	40	82	52	17	-	-	-	-	-	C.PROB.	
	94	99	99	99	100	101	94	94	94	-	-	-	-	-	DELAY	
	168	161	162	163	164	165	166	168	169	-	-	-	-	-	NOISE	
	251	241	243	245	247	248	248	251	253	-	-	-	-	-	FS.LOSS	
	1	12	11	11	11	11	1	1	1	-	-	-	-	-	P. LOSS	
	26	12	13	13	14	14	25	26	26	-	-	-	-	-	S/N..DB	
	99	96	97	97	98	98	99	99	99	-	-	-	-	-	S/N..PROB.A	
	99	63	70	71	76	76	98	99	99	-	-	-	-	-	S/N..PROB.B	
	82	23	26	27	31	30	80	82	84	-	-	-	-	-	S/N..PROB.C	
	36	4	5	5	7	7	34	36	37	-	-	-	-	-	S/N..PROB.D	

4
TRANSMITTER
SITE C

SEP

RECEIVER
RCVR 150

SSN= 110

AZIMUTHS
61.0 262.8

26.015
N.MILES
1493.7

TOTAL RELIABILITY(T.REL.)

REQ. S/N= 0DB(A), 10DB(B), 20DB(C), 30DB(D)

GMT	A	B	C	D	GMT	A	B	C	D	GMT	A	B	C	D
2	99	97	57	15	10	91	59	16	1	18	99	99	70	28
4	99	91	51	13	12	99	79	36	6	20	99	90	56	24
6	98	76	30	3	14	99	99	67	21	22	99	90	71	34
8	93	59	18	1	16	99	99	77	29	24	99	96	79	37

1		DEC		SSN= 110		26.015									
TRANSMITTER		RECEIVER		AZIMUTHS		N.MILES									
SITE C		RCVR 0		61.0 262.8		1493.7									
SIGMA= 1000 SQ. METERS		MIN. ANGLE= 4 DEG.		OFF AZIMUTH		ANT= 250B									
OFF AZIMUTH 0 DEG.		MAN.NOISE= -148 DBW		REQ.S/N= 0, 10, 20, 30DB		0 DEG.									
PWR=200.00KW		3 MC/S		OPERATING FREQUENCIES											
GMT	MUF	9	10	11	12	13	14	16	18	20	22	24	27	30	
2	10.4	1 F	1 F	1 F	1 F	-	-	-	-	-	-	-	-	-	MODE
	75	58	68	75	75	-	-	-	-	-	-	-	-	-	ANGLE
	50	82	61	31	8	-	-	-	-	-	-	-	-	-	C.PROB.
	98	97	97	98	98	-	-	-	-	-	-	-	-	-	DELAY
	163	161	162	163	164	-	-	-	-	-	-	-	-	-	NOISE
	244	241	243	245	246	-	-	-	-	-	-	-	-	-	FS. LOSS
	4	6	5	4	3	-	-	-	-	-	-	-	-	-	P. LOSS
	21	18	20	21	21	-	-	-	-	-	-	-	-	-	S/N..DB
	99	99	99	99	99	-	-	-	-	-	-	-	-	-	S/N..PROB.A
	95	89	94	95	96	-	-	-	-	-	-	-	-	-	S/N..PROB.B
	56	43	53	60	60	-	-	-	-	-	-	-	-	-	S/N..PROB.C
	19	13	18	21	21	-	-	-	-	-	-	-	-	-	S/N..PROB.D
4	21.2	1 F	2 F	2 F	2 F	2 F	2 F	2 F	-	1 F	1 F	1 F	-	-	MODE
	55	145	148	152	158	167	182	193	-	46	54	54	-	-	ANGLE
	50	99	99	99	95	83	60	13	-	72	36	10	-	-	C.PROB.
	96	99	99	99	100	100	101	102	-	96	96	96	-	-	DELAY
	171	161	162	163	164	165	166	168	-	171	172	173	-	-	NOISE
	256	241	243	245	247	248	250	252	-	255	256	258	-	-	FS. LOSS
	2	24	21	20	18	17	17	16	-	3	2	2	-	-	P. LOSS
	25	0	3	5	6	7	8	9	-	25	25	26	-	-	S/N..DB
	99	52	70	80	84	87	90	91	-	99	99	99	-	-	S/N..PROB.A
	99	17	26	34	38	41	45	47	-	98	98	99	-	-	S/N..PROB.B
	80	2	5	8	10	12	13	15	-	77	78	82	-	-	S/N..PROB.C
	34	0	0	0	1	1	1	2	-	31	32	36	-	-	S/N..PROB.D
6	32.2	1 F	2 F	2 F	2 F	2 F	2 F	2 F	2 F	2 F	2 F	2 F	-	-	MODE
	47	143	137	134	133	133	134	138	145	155	181	179	-	-	ANGLE
	50	99	99	99	99	99	99	99	96	80	47	17	-	-	C.PROB.
	96	99	98	98	98	98	98	98	99	99	101	101	-	-	DELAY
	173	161	162	163	164	165	166	168	169	171	172				

		OPERATING FREQUENCIES															
GMT	MUF	9	10	11	12	13	14	16	18	20	22	24	27	30			
10	29.1	1 F	2 F	2 F	2 F	2 F	2 F	2 F	2 F	2 F	-	-	1 F	1 F	MODE		
	53	147	142	140	140	141	143	151	164	188	-	-	43	51	ANGLE		
	50	99	99	99	99	99	99	99	84	37	-	-	82	32	C.PROB.		
	96	99	98	98	98	98	99	99	100	102	-	-	96	96	DELAY		
	175	161	162	163	164	165	166	168	169	171	-	-	174	175	NOISE		
	261	241	243	245	246	248	249	251	254	256	-	-	260	262	FS.LOSS		
	4	52	46	40	36	32	29	25	22	20	-	-	5	4	P. LOSS		
	24	-27	-20	-15	-10	-6	-3	1	4	6	-	-	23	25	S/N..DB		
	99	0	1	5	14	25	36	57	76	81	-	-	99	99	S/N..PROB.A		
	98	0	0	0	1	4	8	18	29	34	-	-	97	98	S/N..PROB.B		
	75	0	0	0	0	0	0	2	5	7	-	-	70	77	S/N..PROB.C		
	28	0	0	0	0	0	0	0	0	0	-	-	25	29	S/N..PROB.D		
12	27.4	1 F	2 F	2 F	2 F	2 F	2 F	2 F	2 F	2 F	-	-	1 F	1 F	MODE		
	53	133	134	136	138	141	145	155	176	190	-	-	50	52	ANGLE		
	50	99	99	99	99	99	99	91	62	13	-	-	56	9	C.PROB.		
	96	98	98	98	98	98	99	99	101	102	-	-	96	96	DELAY		
	174	161	162	163	164	165	166	168	169	171	-	-	174	175	NOISE		
	260	241	243	245	246	248	249	251	254	256	-	-	260	262	FS.LOSS		
	2	33	29	26	23	22	20	18	17	16	-	-	2	2	P. LOSS		
	25	-8	-4	0	1	3	5	8	9	10	-	-	25	27	S/N..DB		
	99	20	33	49	60	71	80	89	92	93	-	-	99	99	S/N..PROB.A		
	99	3	8	16	21	27	34	43	49	50	-	-	98	99	S/N..PROB.B		
	80	0	0	2	3	5	8	13	16	16	-	-	80	84	S/N..PROB.C		
	34	0	0	0	0	0	0	1	2	2	-	-	33	38	S/N..PROB.D		
14	20.6	1 F	2 F	2 F	2 F	2 F	2 F	-	1 F	1 F	1 F	-	-	-	MODE		
	56	145	149	155	162	174	196	-	41	51	56	-	-	-	ANGLE		
	50	99	99	98	91	74	47	-	89	61	16	-	-	-	C.PROB.		
	96	99	99	99	100	101	102	-	96	96	96	-	-	-	DELAY		
	171	161	162	163	164	165	166	-	169	171	172	-	-	-	NOISE		
	255	241	243	245	247	248	250	-	253	255	257	-	-	-	FS.LOSS		
	1	17	16	15	15	15	15	-	2	1	1	-	-	-	P. LOSS		
	26	7	8	9	9	10	10	-	25	26	26	-	-	-	S/N..DB		
	99	86	89	92	92	94	94	-	99	99	99	-	-	-	S/N..PROB.A		
	99	39	44	49	49	54	54	-	99	99	99	-	-	-	S/N..PROB.B		
	82	11	13	16	16	18	18	-	80	81	82	-	-	-	S/N..PROB.C		
	36	1	1	2	2	3	3	-	34	35	35	-	-	-	S/N..PROB.D		
16	13.3	1 F	2 F	1 F	1 F	1 F	1 F	-	-	-	-	-	-	-	MODE		
	63	209	41	45	50	59	63	-	-	-	-	-	-	-	ANGLE		
	50	49	99	96	84	60	32	-	-	-	-	-	-	-	C.PROB.		
	97	104	96	96	96	97	97	-	-	-	-	-	-	-	DELAY		
	166	161	162	163	164	165	166	-	-	-	-	-	-	-	NOISE		
	248	242	243	244	246	247	249	-	-	-	-	-	-	-	FS.LOSS		
	3	18	5	4	4	3	3	-	-	-	-	-	-	-	P. LOSS		
	23	5	19	20	21	22	23	-	-	-	-	-	-	-	S/N..DB		
	99	78	99	99	99	99	99	-	-	-	-	-	-	-	S/N..PROB.A		
	97	32	92	94	96	97	97	-	-	-	-	-	-	-	S/N..PROB.B		
	67	7	48	54	60	66	70	-	-	-	-	-	-	-	S/N..PROB.C		
	25	0	15	18	21	24	27	-	-	-	-	-	-	-	S/N..PROB.D		

OPERATING FREQUENCIES															
GMT	MUF	9	10	11	12	13	14	16	18	20	22	24	27	30	
18	9.9														
	1 F	1 F	1 F	1 F	-	-	-	-	-	-	-	-	-	-	MODE
	76	63	75	75	-	-	-	-	-	-	-	-	-	-	ANGLE
	50	81	46	15	-	-	-	-	-	-	-	-	-	-	C.PROB.
	98	97	98	98	-	-	-	-	-	-	-	-	-	-	DELAY
	162	161	162	163	-	-	-	-	-	-	-	-	-	-	NOISE
	243	241	243	245	-	-	-	-	-	-	-	-	-	-	FS.LOSS
	5	6	5	4	-	-	-	-	-	-	-	-	-	-	P. LOSS
	20	18	20	21	-	-	-	-	-	-	-	-	-	-	S/N..DB
	99	99	99	99	-	-	-	-	-	-	-	-	-	-	S/N..PROB.A
	99	89	94	95	-	-	-	-	-	-	-	-	-	-	S/N..PROB.B
	52	44	53	60	-	-	-	-	-	-	-	-	-	-	S/N..PROB.C
	20	15	20	23	-	-	-	-	-	-	-	-	-	-	S/N..PROB.D
20	9.9														
	1 F	1 F	1 F	1 F	-	-	-	-	-	-	-	-	-	-	MODE
	85	71	84	84	-	-	-	-	-	-	-	-	-	-	ANGLE
	50	80	47	18	-	-	-	-	-	-	-	-	-	-	C.PROB.
	98	97	98	98	-	-	-	-	-	-	-	-	-	-	DELAY
	162	161	162	163	-	-	-	-	-	-	-	-	-	-	NOISE
	243	241	243	245	-	-	-	-	-	-	-	-	-	-	FS.LOSS
	5	6	5	4	-	-	-	-	-	-	-	-	-	-	P. LOSS
	20	19	20	21	-	-	-	-	-	-	-	-	-	-	S/N..DB
	99	99	99	99	-	-	-	-	-	-	-	-	-	-	S/N..PROB.A
	94	91	94	95	-	-	-	-	-	-	-	-	-	-	S/N..PROB.B
	53	47	53	60	-	-	-	-	-	-	-	-	-	-	S/N..PROB.C
	20	17	20	23	-	-	-	-	-	-	-	-	-	-	S/N..PROB.D
22	11.2														
	1 F	1 F	1 F	1 F	1 F	1 F	-	-	-	-	-	-	-	-	MODE
	85	63	69	81	85	85	-	-	-	-	-	-	-	-	ANGLE
	50	96	84	56	27	8	-	-	-	-	-	-	-	-	C.PROB.
	98	97	97	98	98	98	-	-	-	-	-	-	-	-	DELAY
	164	161	162	163	164	165	-	-	-	-	-	-	-	-	NOISE
	245	241	243	245	246	248	-	-	-	-	-	-	-	-	FS.LOSS
	4	6	5	4	3	3	-	-	-	-	-	-	-	-	P. LOSS
	22	18	20	21	21	22	-	-	-	-	-	-	-	-	S/N..DB
	99	99	99	99	99	99	-	-	-	-	-	-	-	-	S/N..PROB.A
	96	89	94	95	96	97	-	-	-	-	-	-	-	-	S/N..PROB.B
	61	44	53	60	60	66	-	-	-	-	-	-	-	-	S/N..PROB.C
	24	15	20	23	23	26	-	-	-	-	-	-	-	-	S/N..PROB.D
24	11.6														
	1 F	1 F	1 F	1 F	1 F	1 F	-	-	-	-	-	-	-	-	MODE
	81	57	63	71	80	80	-	-	-	-	-	-	-	-	ANGLE
	50	93	82	63	37	13	-	-	-	-	-	-	-	-	C.PROB.
	98	97	97	97	98	98	-	-	-	-	-	-	-	-	DELAY
	164	161	162	163	164	165	-	-	-	-	-	-	-	-	NOISE
	246	241	243	245	246	248	-	-	-	-	-	-	-	-	FS.LOSS
	4	6	5	4	3	3	-	-	-	-	-	-	-	-	P. LOSS
	21	18	19	20	21	22	-	-	-	-	-	-	-	-	S/N..DB
	99	99	99	99	99	99	-	-	-	-	-	-	-	-	S/N..PROB.A
	95	89	92	94	96	97	-	-	-	-	-	-	-	-	S/N..PROB.B
	58	43	48	54	60	66	-	-	-	-	-	-	-	-	S/N..PROB.C
	20	13	15	18	21	24	-	-	-	-	-	-	-	-	S/N..PROB.D

1
TRANSMITTER
SITE C

DEC

RECEIVER
RCVR 0

SSN= 110

AZIMUTHS
61.0 262.8

26.015
N.MILES
1493.7

TOTAL RELIABILITY (T.REL.)

REQ. S/N= 0DB(A), 10DB(B), 20DB(C), 30DB(D)

GMT	A	B	C	D	GMT	A	B	C	D	GMT	A	B	C	D
2	88	82	48	12	10	94	85	60	20	18	84	76	42	15
4	98	84	64	26	12	98	74	52	20	20	84	79	45	18
6	94	54	34	12	14	99	96	80	36	22	99	94	54	22
8	97	81	57	20	16	99	99	72	30	24	98	94	62	20

2		DEC		SSN= 110		26.015									
TRANSMITTER		RECEIVER		AZIMUTHS		N.MILES									
SITE C		RCVR 50		61.0 262.8		1493.7									
SIGMA= 1000 SQ. METERS		MIN. ANGLE= 4 DEG.		OFF AZIMUTH 0 DEG.		ANT= 25DB									
OFF AZIMUTH 0 DEG.		MAN.NOISE= -148 DBW		REQ.S/N= 0, 10, 20, 30DB											
PWR=200.00KW		3 MC/S													
OPERATING FREQUENCIES															
GMT	MUF	9	10	11	12	13	14	16	18	20	22	24	27	30	
2	10.9	1F-	1F-	1F-	1F-	-	-	-	-	-	-	-	-	-	MODE
	64	45	52	63	63	-	-	-	-	-	-	-	-	-	ANGLE
	50	88	72	48	19	-	-	-	-	-	-	-	-	-	C.PROB.
	97	96	96	97	97	-	-	-	-	-	-	-	-	-	DELAY
	163	161	162	163	164	-	-	-	-	-	-	-	-	-	NOISE
	244	241	243	245	246	-	-	-	-	-	-	-	-	-	FS.LOSS
	4	6	5	4	4	-	-	-	-	-	-	-	-	-	P. LOSS
	20	18	19	20	21	-	-	-	-	-	-	-	-	-	S/N..DB
	99	99	99	99	99	-	-	-	-	-	-	-	-	-	S/N..PROB.A
	94	89	92	94	96	-	-	-	-	-	-	-	-	-	S/N..PROB.B
	54	43	48	54	60	-	-	-	-	-	-	-	-	-	S/N..PROB.C
	18	13	15	18	21	-	-	-	-	-	-	-	-	-	S/N..PROB.D
4	22.4	1F-	2F-	2F-	2F-	2F-	1F+	1F+	1F+	1F+	1F-	1F-	-	-	MODE
	43	134	137	141	146	153	41	46	52	64	40	42	-	-	ANGLE
	50	99	99	99	97	89	99	98	86	54	57	24	-	-	C.PROB.
	96	98	98	98	99	99	96	96	96	97	96	96	-	-	DELAY
	172	161	162	163	164	165	166	168	169	171	172	173	-	-	NOISE
	257	241	243	245	246	248	249	251	253	255	256	258	-	-	FS.LOSS
	2	24	21	20	18	17	9	8	7	7	2	2	-	-	P. LOSS
	25	0	3	5	6	8	17	19	19	20	25	26	-	-	S/N..DB
	99	52	70	80	84	90	99	99	99	99	99	99	-	-	S/N..PROB.A
	98	17	26	34	38	45	87	91	92	93	98	99	-	-	S/N..PROB.B
	78	2	5	8	10	14	41	47	49	50	78	82	-	-	S/N..PROB.C
	33	0	0	0	1	2	11	15	16	16	32	36	-	-	S/N..PROB.D
6	30.6	1F+	2F-	2F-	2F-	1F+	1F+	2F-	2F-	2F-	2F-	2F-	1F+	1F+	MODE
	59	138	129	125	50	42	124	127	132	141	157	168	45	56	ANGLE
	50	99	99	99	99	99	99	99	98	87	61	27	88	58	C.PROB.
	97	98	98	97	96	96	97	97	98	98	99	100	96	96	DELAY
	175	161	162	163	164										

		OPERATING FREQUENCIES															
GMT	MUF	9	10	11	12	13	14	16	18	20	22	24	27	30			
10	30.6	1F-	2F-	2F-	2F-	1F+	1F+	1F+	2F-	2F-	1F+	1F+	1F+	1F+	1F+	MODE	
	40	141	134	131	53	45	40	139	149	41	44	48	60	63		ANGLE	
	50	99	99	99	99	99	99	99	92	99	99	95	62	11		C.PROB.	
	96	98	98	98	96	96	96	98	99	96	96	96	97	97		DELAY	
	175	161	162	163	164	165	166	168	169	171	172	173	174	175		NOISE	
	262	241	243	245	246	247	249	251	253	255	256	258	260	262		FS.LOSS	
	4	53	47	41	24	21	19	25	22	11	10	10	9	8		P. LOSS	
	25	-28	-21	-16	1	4	7	1	4	16	17	18	19	20		S/N..DB	
	99	0	1	4	60	76	87	57	76	99	99	99	99	99		S/N..PROB.A	
	98	0	0	0	19	29	40	18	29	81	85	88	92	93		S/N..PROB.B	
	77	0	0	0	2	5	9	2	5	34	38	42	48	50		S/N..PROB.C	
	29	0	0	0	0	0	0	0	0	7	8	10	13	14		S/N..PROB.D	
12	28.9	1F-	2F-	2F-	2F-	2F-	2F-	2F-	2F-	1F+	1F+	1F+	1F+	-		MODE	
	40	124	124	126	127	130	133	142	158	41	46	52	64	-		ANGLE	
	50	99	99	99	99	99	99	95	73	99	94	79	32	-		C.PROB.	
	96	97	97	97	98	98	98	98	99	96	96	96	97	-		DELAY	
	175	161	162	163	164	165	166	168	169	171	172	173	174	-		NOISE	
	261	241	243	245	246	248	249	251	254	255	256	258	260	-		FS.LOSS	
	2	33	29	26	24	22	20	18	17	8	7	7	7	-		P. LOSS	
	26	-8	-4	-1	1	3	5	8	9	20	20	21	20	-		S/N..DB	
	99	20	33	45	60	71	80	89	92	99	99	99	99	-		S/N..PROB.A	
	99	3	8	13	21	27	34	43	49	93	93	95	94	-		S/N..PROB.B	
	83	0	0	2	3	5	8	13	16	50	51	57	54	-		S/N..PROB.C	
	36	0	0	0	0	0	0	1	2	16	17	20	18	-		S/N..PROB.D	
14	21.7	1F-	2F-	2F-	2F-	2F-	1F+	1F+	1F+	1F+	1F-	1F-	-	-		MODE	
	44	134	138	143	149	159	42	47	55	67	44	44	-	-		ANGLE	
	50	99	99	99	95	82	99	96	79	38	41	6	-	-		C.PROB.	
	96	98	98	98	99	100	96	96	96	97	96	96	-	-		DELAY	
	172	161	162	163	164	165	166	168	169	171	172	173	-	-		NOISE	
	256	241	243	245	246	248	249	251	253	255	256	258	-	-		FS.LOSS	
	1	17	16	15	15	14	6	6	6	7	1	1	-	-		P. LOSS	
	27	7	8	9	10	10	19	20	20	21	26	27	-	-		S/N..DB	
	99	86	89	92	94	94	99	99	99	99	99	99	-	-		S/N..PROB.A	
	99	39	44	49	55	54	92	93	94	94	99	99	-	-		S/N..PROB.B	
	85	11	13	16	18	18	49	52	54	56	82	85	-	-		S/N..PROB.C	
	38	1	1	2	3	3	16	17	18	19	35	39	-	-		S/N..PROB.D	
16	14.0	1F-	1F+	1F+	1F+	1F+	1F-	1F-	-	-	-	-	-	-		MODE	
	52	49	53	58	65	42	52	52	-	-	-	-	-	-		ANGLE	
	50	99	98	91	71	77	51	10	-	-	-	-	-	-		C.PROB.	
	96	96	96	97	97	96	96	96	-	-	-	-	-	-		DELAY	
	166	161	162	163	164	165	166	168	-	-	-	-	-	-		NOISE	
	249	241	243	244	246	247	249	251	-	-	-	-	-	-		FS.LOSS	
	3	10	9	9	9	3	3	2	-	-	-	-	-	-		P. LOSS	
	23	14	15	16	16	22	23	24	-	-	-	-	-	-		S/N..DB	
	99	98	98	99	99	99	99	99	-	-	-	-	-	-		S/N..PROB.A	
	97	74	79	84	84	97	97	98	-	-	-	-	-	-		S/N..PROB.B	
	71	29	33	37	38	66	70	74	-	-	-	-	-	-		S/N..PROB.C	
	27	6	8	10	10	24	27	29	-	-	-	-	-	-		S/N..PROB.D	

		OPERATING FREQUENCIES														
GMT	MUF	9	10	11	12	13	14	16	18	20	22	24	27	30		
18	10.4	1F-	1F-	1F-	1F-	-	-	-	-	-	-	-	-	-	MODE	
	65	49	59	64	64	-	-	-	-	-	-	-	-	-	ANGLE	
	50	90	63	28	7	-	-	-	-	-	-	-	-	-	C.PROB.	
	97	96	97	97	97	-	-	-	-	-	-	-	-	-	DELAY	
	163	161	162	163	164	-	-	-	-	-	-	-	-	-	NOISE	
	244	241	243	245	246	-	-	-	-	-	-	-	-	-	FS.LOSS	
	5	6	5	4	4	-	-	-	-	-	-	-	-	-	P. LOSS	
	20	18	19	20	21	-	-	-	-	-	-	-	-	-	S/N..DB	
	99	99	99	99	99	-	-	-	-	-	-	-	-	-	S/N..PROB.A	
	93	89	92	94	96	-	-	-	-	-	-	-	-	-	S/N..PROB.B	
	50	44	48	54	60	-	-	-	-	-	-	-	-	-	S/N..PROB.C	
	19	15	18	21	23	-	-	-	-	-	-	-	-	-	S/N..PROB.D	
20	10.4	1F-	1F-	1F-	1F-	-	-	-	-	-	-	-	-	-	MODE	
	74	57	67	73	73	-	-	-	-	-	-	-	-	-	ANGLE	
	50	89	63	30	9	-	-	-	-	-	-	-	-	-	C.PROB.	
	97	97	97	97	97	-	-	-	-	-	-	-	-	-	DELAY	
	163	161	162	163	164	-	-	-	-	-	-	-	-	-	NOISE	
	244	241	243	245	246	-	-	-	-	-	-	-	-	-	FS.LOSS	
	4	6	5	4	3	-	-	-	-	-	-	-	-	-	P. LOSS	
	21	18	20	20	21	-	-	-	-	-	-	-	-	-	S/N..DB	
	99	99	99	99	99	-	-	-	-	-	-	-	-	-	S/N..PROB.A	
	94	89	94	94	96	-	-	-	-	-	-	-	-	-	S/N..PROB.B	
	56	44	53	54	60	-	-	-	-	-	-	-	-	-	S/N..PROB.C	
	21	15	20	21	23	-	-	-	-	-	-	-	-	-	S/N..PROB.D	
22	11.7	1F-	1F-	1F-	1F-	1F-	-	-	-	-	-	-	-	-	MODE	
	74	51	56	64	74	74	-	-	-	-	-	-	-	-	ANGLE	
	50	98	91	71	41	17	-	-	-	-	-	-	-	-	C.PROB.	
	98	96	96	97	97	97	-	-	-	-	-	-	-	-	DELAY	
	164	161	162	163	164	165	-	-	-	-	-	-	-	-	NOISE	
	245	241	243	245	246	248	-	-	-	-	-	-	-	-	FS.LOSS	
	4	6	5	4	3	3	-	-	-	-	-	-	-	-	P. LOSS	
	21	18	19	20	21	22	-	-	-	-	-	-	-	-	S/N..DB	
	99	99	99	99	99	99	-	-	-	-	-	-	-	-	S/N..PROB.A	
	95	89	92	94	96	97	-	-	-	-	-	-	-	-	S/N..PROB.B	
	59	44	48	54	60	66	-	-	-	-	-	-	-	-	S/N..PROB.C	
	22	15	18	21	23	26	-	-	-	-	-	-	-	-	S/N..PROB.D	
24	12.1	1F-	1F-	1F-	1F-	1F-	1F-	-	-	-	-	-	-	-	MODE	
	70	46	50	56	67	69	69	-	-	-	-	-	-	-	ANGLE	
	50	96	88	74	53	26	8	-	-	-	-	-	-	-	C.PROB.	
	97	96	96	96	97	97	97	-	-	-	-	-	-	-	DELAY	
	164	161	162	163	164	165	166	-	-	-	-	-	-	-	NOISE	
	246	241	243	244	246	248	249	-	-	-	-	-	-	-	FS.LOSS	
		6	5	4	4	3	3	-	-	-	-	-	-	-	P. LOSS	
	22	18	19	20	21	22	23	-	-	-	-	-	-	-	S/N..DB	
	99	99	99	99	99	99	99	-	-	-	-	-	-	-	S/N..PROB.A	
	96	89	92	94	96	97	97	-	-	-	-	-	-	-	S/N..PROB.B	
	61	43	48	54	60	66	70	-	-	-	-	-	-	-	S/N..PROB.C	
	21	13	15	18	21	24	27	-	-	-	-	-	-	-	S/N..PROB.D	

2
TRANSMITTER
SITE C

DEC

RECEIVER
RCVR 50

SSN= 110

AZIMUTHS
61.0 262.8

26.015
N.MILES
1493.7

TOTAL RELIABILITY(T.REL.)

REQ. S/N= 00B(A), 10DB(B), 20DB(C), 30DB(D)

GMT	A	B	C	D	GMT	A	B	C	D	GMT	A	B	C	D
2	94	89	55	20	10	99	97	63	18	18	93	86	49	19
4	99	98	74	30	12	99	99	76	30	20	92	86	49	19
6	98	90	53	15	14	99	99	73	32	22	99	97	58	24
8	99	97	60	20	16	99	95	71	29	24	99	96	62	24

3 DEC SSN= 110 26.015
 TRANSMITTER RECEIVER
 SITE C RCVR 100
 SIGMA= 1000 SQ. METERS
 OFF AZIMUTH 0 DEG. MIN. ANGLE= 4 DEG. OFF AZIMUTH 0 DEG.
 PWR=200.00KW 3 MC/S MAN.NOISE= -148 DBW REQ.S/N= 0, 10, 20, 30DB
 AZIMUTHS N.MILES
 61.0 262.8 1493.7
 ANT= 25DB
 OPERATING FREQUENCIES
 GMT MUF 9 10 11 12 13 14 16 18 20 22 24 27 30
 2 11.5
 1F- 1F+ 1F+ 1F- 1F- 1F- - - - - - - - - - MODE
 53 86 96 46 52 52 - - - - - - - - - - ANGLE
 50 66 34 61 34 11 - - - - - - - - - - C.PROB.
 94 98 99 94 94 94 - - - - - - - - - - DELAY
 164 161 162 163 164 165 - - - - - - - - - - NOISE
 245 241 243 244 246 247 - - - - - - - - - - FS.LOSS
 2 12 11 2 2 2 - - - - - - - - - - P. LOSS
 24 13 13 23 23 24 - - - - - - - - - - S/N..DB
 99 97 97 99 99 99 - - - - - - - - - - S/N..PROB.A
 98 69 70 97 97 98 - - - - - - - - - - S/N..PROB.B
 73 26 26 71 71 76 - - - - - - - - - - S/N..PROB.C
 29 5 5 27 27 30 - - - - - - - - - - S/N..PROB.D
 4 19.3
 1F+ 1F+ 1F+ 1F+ 1F+ 1F+ 1F+ 1F+ 1F+ 1F+ 1F+ 1F+ 1F+ 1F+ MODE
 77 48 48 48 49 51 53 58 66 77 77 - - - - - ANGLE
 50 99 99 99 99 99 99 95 74 36 8 - - - - - C.PROB.
 98 96 96 96 96 96 96 97 97 98 98 - - - - - DELAY
 170 161 162 163 164 165 166 168 169 171 172 - - - - - NOISE
 254 241 243 244 246 247 249 251 253 255 257 - - - - - FS.LOSS
 8 15 13 12 11 10 9 8 8 8 8 - - - - - P. LOSS
 18 10 12 13 14 16 16 18 18 19 20 - - - - - S/N..DB
 99 93 96 97 98 99 99 99 99 99 99 - - - - - S/N..PROB.A
 89 52 65 71 76 84 84 89 90 90 93 - - - - - S/N..PROB.B
 44 17 23 27 31 38 37 43 45 46 51 - - - - - S/N..PROB.C
 13 2 4 5 7 10 10 13 13 14 17 - - - - - S/N..PROB.D
 6 29.1
 1F+ 2F- 2F- 2F- 1F+ 1F+ 1F+ 1F+ 1F+ 1F+ 1F+ 1F+ 1F+ 1F+ MODE
 71 133 122 117 58 50 47 44 44 46 48 52 60 70 ANGLE
 50 99 99 99 99 99 99 99 99 99 99 96 77 39 C.PROB.
 97 98 97 97 97 96 96 96 96 96 96 96 97 97 DELAY
 175 161 162 163 164 165 166 168 169 171 172 173 174 175 NOISE
 262 241 243 245 246 247 249 251 253 255 256 258 260 262 FS.LOSS
 9 38 34 30 21 19 17 14 12 11 10 9 8 8 P. LOSS
 19 -13 -9 -5 4 6 9 12 14 17 18 19 19 20 S/N..DB
 99 7 16 29 76 84 92 96 98 99 99 99 99 99 S/N..PROB.A
 92 0 2 5 29 36 48 63 76 85 88 91 92 93 S/N..PROB.B
 48 0 0 0 5 8 14 21 29 37 42 47 48 50 S/N..PROB.C
 13 0 0 0 0 0 1 3 5 8 10 13 13 14 S/N..PROB.D
 8 28.1
 1F+ 2F+ 2F- 2F- 2F- 1F+ 1F+ 1F+ 1F+ 1F+ 1F+ 1F+ 1F+ 1F+ MODE
 75 169 137 128 123 64 57 50 49 50 53 57 68 73 ANGLE
 50 99 99 99 99 99 99 99 99 99 99 97 69 17 C.PROB.
 98 100 98 97 97 97 96 96 96 96 96 97 97 97 DELAY
 175 161 162 163 164 165 166 168 169 171 172 173 174 175 NOISE
 261 242 243 245 246 247 249 251 253 255 256 258 260 262 FS.LOSS
 10 65 41 36 33 24 21 17 15 13 12 11 10 9 P. LOSS
 18 -40 -15 -11 -7 2 4 9 12 15 16 17 18 19 S/N..DB
 99 0 5 11 22 66 75 91 97 98 99 99 99 99 S/N..PROB.A
 88 0 0 1 3 22 29 47 66 77 82 85 90 90 S/N..PROB.B
 42 0 0 0 0 3 5 13 22 30 34 38 44 45 S/N..PROB.C
 10 0 0 0 0 0 0 1 3 5 7 9 11 12 S/N..PROB.D

		OPERATING FREQUENCIES														
GMT	MUF	9	10	11	12	13	14	16	18	20	22	24	27	30		
10	26.4	1F+	2F-	2F-	2F-	1F+	1F+	1F+	1F+	1F+	1F+	1F+	1F+	1F+	-	MODE
		76	135	126	122	60	53	50	49	50	52	56	62	75	-	ANGLE
		5	99	99	99	99	99	99	99	99	99	98	88	37	-	C.PROB.
		98	98	97	97	97	96	96	96	96	96	96	97	98	-	DELAY
		174	161	162	163	164	165	166	168	169	171	172	173	174	-	NOISE
		260	241	243	245	246	247	249	251	253	255	257	258	260	-	FS.LOSS
		10	43	38	34	24	21	19	16	14	12	11	10	10	-	P. LOSS
		18	-17	-12	-8	1	4	6	11	13	16	17	18	18	-	S/N..DB
		99	3	9	19	60	76	84	95	97	99	99	99	99	-	S/N..PROB.A
		89	0	0	2	19	29	36	57	71	81	85	88	90	-	S/N..PROB.B
		43	0	0	0	2	5	8	18	25	34	38	42	44	-	S/N..PROB.C
		11	0	0	0	0	0	0	2	4	7	8	10	11	-	S/N..PROB.D
12	24.9	1F+	1F+	1F+	1F+	1F+	1F+	1F+	1F+	1F+	1F+	1F+	1F+	1F+	-	MODE
		76	46	44	43	43	44	44	46	49	53	59	68	75	-	ANGLE
		50	99	99	99	99	99	99	99	99	97	88	64	12	-	C.PROB.
		98	96	96	96	96	96	96	96	96	96	97	97	98	-	DELAY
		173	161	162	163	164	165	166	168	169	171	172	173	174	-	NOISE
		259	241	243	244	246	247	249	251	253	255	257	258	260	-	FS.LOSS
		8	22	18	16	14	13	12	10	9	8	8	8	8	-	P. LOSS
		19	3	6	9	11	12	14	16	17	19	20	20	20	-	S/N..DB
		99	69	83	92	96	97	98	99	99	99	99	99	99	-	S/N..PROB.A
		92	26	37	49	60	66	75	82	87	90	93	93	94	-	S/N..PROB.B
		49	5	9	16	21	24	30	36	41	46	51	51	54	-	S/N..PROB.C
		16	0	1	2	3	4	7	9	11	14	17	17	18	-	S/N..PROB.D
14	18.7	1F+	1F+	1F+	1F+	1F+	1F+	1F+	1F+	1F+	-	-	-	-	-	MODE
		78	45	46	47	49	51	53	60	71	78	-	-	-	-	ANGLE
		50	99	99	99	99	99	99	92	65	16	-	-	-	-	C.PROB.
		98	96	96	96	96	96	96	97	97	98	-	-	-	-	DELAY
		170	161	162	163	164	165	166	168	169	171	-	-	-	-	NOISE
		254	241	243	244	246	247	249	251	253	255	-	-	-	-	FS.LOSS
		7	10	9	8	8	7	7	7	7	7	-	-	-	-	P. LOSS
		19	15	16	17	17	18	19	20	19	20	-	-	-	-	S/N..DB
		99	98	99	99	99	99	99	99	99	99	-	-	-	-	S/N..PROB.A
		91	78	83	87	87	90	92	93	92	93	-	-	-	-	S/N..PROB.B
		47	32	37	41	41	45	49	52	49	50	-	-	-	-	S/N..PROB.C
		14	7	9	11	12	14	16	17	16	16	-	-	-	-	S/N..PROB.D
16	14.8	1F-	1F+	1F+	1F+	1F+	1F+	-	-	-	-	-	-	-	-	MODE
		40	61	65	71	82	85	85	-	-	-	-	-	-	-	ANGLE
		5	99	96	83	56	27	8	-	-	-	-	-	-	-	C.PROB.
		93	97	97	97	98	98	98	-	-	-	-	-	-	-	DELAY
		167	161	162	163	164	165	166	-	-	-	-	-	-	-	NOISE
		249	241	243	245	246	248	249	-	-	-	-	-	-	-	FS.LOSS
		1	11	10	9	9	9	9	-	-	-	-	-	-	-	P. LOSS
		25	14	15	15	15	16	17	-	-	-	-	-	-	-	S/N..DB
		99	98	98	99	99	99	99	-	-	-	-	-	-	-	S/N..PROB.A
		98	74	79	80	80	84	87	-	-	-	-	-	-	-	S/N..PROB.B
		78	29	33	34	34	38	41	-	-	-	-	-	-	-	S/N..PROB.C
		32	6	8	8	8	10	11	-	-	-	-	-	-	-	S/N..PROB.D

		OPERATING FREQUENCIES														
GMT	MUF	9	10	11	12	13	14	16	18	20	22	24	27	30		
18	10.9	1F-	1F+	1F-	1F-	1F-	-	-	-	-	-	-	-	-	MODE	
	53	95	43	53	53	-	-	-	-	-	-	-	-	-	ANGLE	
	50	53	79	46	17	-	-	-	-	-	-	-	-	-	C.PROB.	
	94	99	94	94	94	-	-	-	-	-	-	-	-	-	DELAY	
	163	161	162	163	164	-	-	-	-	-	-	-	-	-	NOISE	
	244	241	242	244	246	-	-	-	-	-	-	-	-	-	FS.LOSS	
	2	12	3	2	2	-	-	-	-	-	-	-	-	-	P. LOSS	
	23	12	22	23	23	-	-	-	-	-	-	-	-	-	S/N..DB	
	99	96	99	99	99	-	-	-	-	-	-	-	-	-	S/N..PROB.A	
	97	63	96	97	97	-	-	-	-	-	-	-	-	-	S/N..PROB.B	
	70	25	65	71	71	-	-	-	-	-	-	-	-	-	S/N..PROB.C	
	29	6	25	29	29	-	-	-	-	-	-	-	-	-	S/N..PROB.D	
20	10.9	1F-	1F-	1F-	1F-	1F-	-	-	-	-	-	-	-	-	MODE	
	63	44	51	62	62	-	-	-	-	-	-	-	-	-	ANGLE	
	50	94	77	46	19	-	-	-	-	-	-	-	-	-	C.PROB.	
	95	94	94	95	95	-	-	-	-	-	-	-	-	-	DELAY	
	163	161	162	163	164	-	-	-	-	-	-	-	-	-	NOISE	
	244	240	242	244	246	-	-	-	-	-	-	-	-	-	FS.LOSS	
	2	3	3	2	2	-	-	-	-	-	-	-	-	-	P. LOSS	
	23	22	22	23	23	-	-	-	-	-	-	-	-	-	S/N..DB	
	99	99	99	99	99	-	-	-	-	-	-	-	-	-	S/N..PROB.A	
	97	96	96	97	97	-	-	-	-	-	-	-	-	-	S/N..PROB.B	
	70	63	65	71	71	-	-	-	-	-	-	-	-	-	S/N..PROB.C	
	28	25	25	29	29	-	-	-	-	-	-	-	-	-	S/N..PROB.D	
22	12.3	1F-	1F+	1F-	1F-	1F-	1F-	-	-	-	-	-	-	-	MODE	
	63	87	43	49	59	62	62	-	-	-	-	-	-	-	ANGLE	
	50	88	95	83	58	30	11	-	-	-	-	-	-	-	C.PROB.	
	95	98	94	94	94	95	95	-	-	-	-	-	-	-	DELAY	
	165	161	162	163	164	165	166	-	-	-	-	-	-	-	NOISE	
	246	241	242	244	246	247	248	-	-	-	-	-	-	-	FS.LOSS	
	2	12	3	2	2	2	1	-	-	-	-	-	-	-	P. LOSS	
	24	12	22	23	23	24	25	-	-	-	-	-	-	-	S/N..DB	
	99	96	99	99	99	99	99	-	-	-	-	-	-	-	S/N..PROB.A	
	98	63	96	97	97	98	98	-	-	-	-	-	-	-	S/N..PROB.B	
	72	25	65	71	71	76	80	-	-	-	-	-	-	-	S/N..PROB.C	
	30	6	25	29	29	32	35	-	-	-	-	-	-	-	S/N..PROB.D	
24	12.7	1F-	1F+	1F+	1F-	1F-	1F-	-	-	-	-	-	-	-	MODE	
	58	81	90	42	49	58	58	-	-	-	-	-	-	-	ANGLE	
	50	86	67	82	65	42	18	-	-	-	-	-	-	-	C.PROB.	
	94	98	99	93	94	94	94	-	-	-	-	-	-	-	DELAY	
	165	161	162	163	164	165	166	-	-	-	-	-	-	-	NOISE	
	247	241	243	244	246	247	248	-	-	-	-	-	-	-	FS.LOSS	
	2	11	11	2	2	2	1	-	-	-	-	-	-	-	P. LOSS	
	24	13	13	23	23	24	25	-	-	-	-	-	-	-	S/N..DB	
	99	97	97	99	99	99	99	-	-	-	-	-	-	-	S/N..PROB.A	
	98	69	70	97	97	98	98	-	-	-	-	-	-	-	S/N..PROB.B	
	75	26	26	71	71	76	80	-	-	-	-	-	-	-	S/N..PROB.C	
	3	5	5	27	27	30	34	-	-	-	-	-	-	-	S/N..PROB.D	

3
TRANSMITTER
SITE C

DEC

RECEIVER
RCVR 100

SSN= 110

AZIMUTHS
61.0 262.8

26.015
N.MILES
1493.7

TOTAL RELIABILITY(T.REL.)

REQ. S/N= 00DB(A), 10DB(B), 20DB(C), 30DB(D)

GMT	A	B	C	D	GMT	A	B	C	D	GMT	A	B	C	D
2	86	81	59	22	10	99	98	62	16	18	82	81	57	24
4	99	99	69	25	12	99	99	77	27	20	97	96	74	34
6	99	99	73	24	14	99	99	80	34	22	98	97	78	37
8	99	98	60	15	16	99	88	45	16	24	97	96	79	36

4 DEC SSN= 110 26.015
 TRANSMITTER RECEIVER
 SITE C KCVR 150
 SIGMA= 1000 SQ. METERS
 OFF AZIMUTH 0 DEG. MIN. ANGLE= 4 DEG. OFF AZIMUTH 0 DEG.
 PWR=200.00KW 3 MC/S MAN.NOISE= -148 DBW REQ.S/N= 0, 10, 20, 30DB
 OPERATING FREQUENCIES
 GMT MUF 9 10 11 12 13 14 16 18 20 22 24 27 30
 2 12.1
 1F- 1F+ 1F+ - - - - - - - - - - - - - - - - MODE
 49 101 107 - - - - - - - - - - - - - - - - ANGLE
 50 56 22 - - - - - - - - - - - - - - - - C.PROB.
 93 99 100 - - - - - - - - - - - - - - - - DELAY
 164 161 162 - - - - - - - - - - - - - - - - NOISE
 246 241 243 - - - - - - - - - - - - - - - - FS.LOSS
 2 12 12 - - - - - - - - - - - - - - - - P. LOSS
 23 12 12 - - - - - - - - - - - - - - - - S/N..DB
 99 96 96 - - - - - - - - - - - - - - - - S/N..PROB.A
 98 63 65 - - - - - - - - - - - - - - - - S/N..PROB.B
 72 23 23 - - - - - - - - - - - - - - - - S/N..PROB.C
 28 4 4 - - - - - - - - - - - - - - - - S/N..PROB.D
 4 18.5
 1F+ 1F+ 1F+ 1F+ 1F+ 1F+ 1F+ 1F+ 1F+ 1F+ - - - - - - - - - - MODE
 88 58 58 59 60 62 64 70 82 87 - - - - - - - - - - ANGLE
 50 99 99 99 99 99 99 91 60 21 - - - - - - - - - - C.PROB.
 98 97 97 97 97 97 97 97 98 98 - - - - - - - - - - DELAY
 170 161 162 163 164 165 166 168 169 171 - - - - - - - - - - NOISE
 254 241 243 244 246 247 249 251 253 255 - - - - - - - - - - FS.LOSS
 9 15 13 12 11 10 10 9 9 9 - - - - - - - - - - P. LOSS
 18 9 11 13 14 15 16 17 17 18 - - - - - - - - - - S/N..DB
 99 91 95 97 98 99 99 99 99 99 - - - - - - - - - - S/N..PROB.A
 88 47 59 71 76 80 84 86 87 88 - - - - - - - - - - S/N..PROB.B
 42 15 20 27 31 34 37 39 41 42 - - - - - - - - - - S/N..PROB.C
 12 2 3 5 7 8 10 11 11 12 - - - - - - - - - - S/N..PROB.D
 6 27.8
 1F+ 2F- 2F- 2F- 2F- 1F+ 1F+ 1F+ 1F+ 1F+ 1F+ 1F+ 1F+ 1F+ - - - - - - - - - - MODE
 81 130 116 109 64 59 56 54 55 57 60 64 76 81 - - - - - - - - - - ANGLE
 50 99 99 99 99 99 99 99 99 99 98 91 62 22 - - - - - - - - - - C.PROB.
 98 98 97 96 97 97 96 96 96 96 97 97 98 98 - - - - - - - - - - DELAY
 175 161 162 163 164 165 166 168 169 171 172 173 174 175 - - - - - - - - - - NOISE
 261 241 243 244 246 247 249 251 253 255 257 258 260 262 - - - - - - - - - - FS.LOSS
 9 38 35 31 21 19 17 14 12 11 10 10 9 9 - - - - - - - - - - P. LOSS
 19 -13 -9 -5 4 6 8 12 14 16 17 18 18 20 - - - - - - - - - - S/N..DB
 99 7 16 29 76 84 90 96 98 99 99 99 99 99 - - - - - - - - - - S/N..PROB.A
 91 0 2 5 29 36 44 63 76 81 85 88 90 93 - - - - - - - - - - S/N..PROB.B
 46 0 0 0 5 8 11 21 29 34 38 42 44 50 - - - - - - - - - - S/N..PROB.C
 12 0 0 0 0 0 1 3 5 7 8 10 11 14 - - - - - - - - - - S/N..PROB.D
 8 26.9
 1F+ 2F+ 2F- 2F- 2F- 1F+ 1F+ 1F+ 1F+ 1F+ 1F+ 1F+ 1F+ - - - - - - - - - - MODE
 86 176 132 121 115 70 64 60 60 62 65 70 85 - - - - - - - - - - ANGLE
 50 99 99 99 99 99 99 99 99 99 99 92 48 - - - - - - - - - - C.PROB.
 98 1 1 98 97 97 97 97 97 97 97 97 98 - - - - - - - - - - DELAY
 174 161 162 163 164 165 166 168 169 171 172 173 174 - - - - - - - - - - NOISE
 26 242 243 245 246 248 249 251 253 255 257 258 260 - - - - - - - - - - FS.LOSS
 11 64 41 37 33 23 21 18 15 13 12 11 11 - - - - - - - - - - P. LOSS
 17 -39 -16 -11 -7 2 4 9 11 14 15 16 17 - - - - - - - - - - S/N..DB
 99 0 4 11 22 66 75 91 95 98 98 99 99 - - - - - - - - - - S/N..PROB.A
 87 0 0 1 3 22 29 47 60 72 78 82 87 - - - - - - - - - - S/N..PROB.B
 40 0 0 0 0 3 5 13 19 26 30 34 40 - - - - - - - - - - S/N..PROB.C
 9 0 0 0 0 0 0 1 2 4 6 7 9 - - - - - - - - - - S/N..PROB.D

OPERATING FREQUENCIES																
GMT	MUF	9	10	11	12	13	14	16	18	20	22	24	27	30		
10	25.3	1F+	2F-	2F-	1F+	1F+	1F+	1F+	1F+	1F+	1F+	1F+	1F+	-	MODE	
		87	130	119	74	66	62	59	59	61	64	69	78	86	-	ANGLE
		50	99	99	99	99	99	99	99	99	99	95	74	17	-	C.PROB.
		98	98	97	97	97	97	97	97	97	97	97	98	98	-	DELAY
		173	161	162	163	164	165	166	168	169	171	172	173	174	-	NOISE
		259	241	243	245	246	247	249	251	253	255	257	258	260	-	FS.LOSS
		11	43	38	27	24	21	19	16	14	12	11	11	10	-	P. LOSS
		16	-18	-13	-1	1	4	6	10	12	15	16	17	17	-	S/N..DB
		99	2	8	45	60	76	84	93	97	98	99	99	99	-	S/N..PROB.A
		84	0	0	11	19	29	36	52	66	77	82	85	87	-	S/N..PROB.B
		37	0	0	1	2	5	8	15	22	30	34	38	40	-	S/N..PROB.C
		8	0	0	0	0	0	0	1	3	5	7	9	9	-	S/N..PROB.D
12	23.9	1F+	1F+	1F+	1F+	1F+	1F+	1F+	1F+	1F+	1F+	1F+	-	-	MODE	
		87	56	54	53	53	54	55	57	61	66	73	86	-	-	ANGLE
		50	99	99	99	99	99	99	99	99	95	78	47	-	-	C.PROB.
		98	96	96	96	96	96	96	97	97	97	97	98	-	-	DELAY
		173	161	162	163	164	165	166	168	169	171	172	173	-	-	NOISE
		258	241	243	244	246	247	249	251	253	255	257	258	-	-	FS.LOSS
		9	22	19	16	15	13	12	11	10	9	9	9	-	-	P. LOSS
		18	3	6	8	10	12	13	16	17	18	19	18	-	-	S/N..DB
		99	69	83	90	94	97	97	99	99	99	99	99	-	-	S/N..PROB.A
		88	26	37	45	55	66	70	82	87	88	91	88	-	-	S/N..PROB.B
		43	5	9	13	18	24	27	36	41	42	47	43	-	-	S/N..PROB.C
		12	0	1	2	3	4	5	9	11	12	14	12	-	-	S/N..PROB.D
14	17.9	1F+	1F+	1F+	1F+	1F+	1F+	1F+	1F+	-	-	-	-	-	MODE	
		89	55	56	58	60	62	65	73	89	-	-	-	-	-	ANGLE
		50	99	99	99	99	99	98	85	47	-	-	-	-	-	C.PROB.
		98	96	96	97	97	97	97	98	-	-	-	-	-	-	DELAY
		169	161	162	163	164	165	166	168	169	-	-	-	-	-	NOISE
		253	241	243	244	246	247	249	251	253	-	-	-	-	-	FS.LOSS
		8	10	9	9	8	8	8	8	8	-	-	-	-	-	P. LOSS
		18	14	15	16	17	17	18	19	18	-	-	-	-	-	S/N..DB
		99	98	98	99	99	99	99	99	99	-	-	-	-	-	S/N..PROB.A
		90	74	79	84	87	87	90	91	90	-	-	-	-	-	S/N..PROB.B
		45	29	33	37	41	41	45	47	45	-	-	-	-	-	S/N..PROB.C
		13	6	8	10	12	12	13	15	13	-	-	-	-	-	S/N..PROB.D
16	11.7	1F+	1F+	1F+	1F+	1F+	-	-	-	-	-	-	-	-	MODE	
		96	72	77	85	95	-	-	-	-	-	-	-	-	-	ANGLE
		50	99	92	72	40	-	-	-	-	-	-	-	-	-	C.PROB.
		99	97	98	98	99	-	-	-	-	-	-	-	-	-	DELAY
		164	161	162	163	164	165	-	-	-	-	-	-	-	-	NOISE
		246	241	243	245	246	248	-	-	-	-	-	-	-	-	FS.LOSS
		10	11	10	10	10	10	-	-	-	-	-	-	-	-	P. LOSS
		15	13	14	14	15	15	-	-	-	-	-	-	-	-	S/N..DB
		98	97	98	98	99	99	-	-	-	-	-	-	-	-	S/N..PROB.A
		79	69	75	76	80	80	-	-	-	-	-	-	-	-	S/N..PROB.B
		33	26	30	30	34	34	-	-	-	-	-	-	-	-	S/N..PROB.C
		8	5	6	7	8	8	-	-	-	-	-	-	-	-	S/N..PROB.D

OPERATING FREQUENCIES															
GMT	MUF	9	10	11	12	13	14	16	18	20	22	24	27	30	
18	11.5	1F-	1F+	1F+	-	1F-	1F-	-	-	-	-	-	-	-	MODE
	42	107	107	-	41	41	-	-	-	-	-	-	-	-	ANGLE
	50	39	9	-	34	11	-	-	-	-	-	-	-	-	C.PROB.
	93	100	100	-	93	93	-	-	-	-	-	-	-	-	DELAY
	164	161	162	-	164	165	-	-	-	-	-	-	-	-	NOISE
	245	242	243	-	245	247	-	-	-	-	-	-	-	-	FS.LOSS
	2	12	12	-	2	2	-	-	-	-	-	-	-	-	P. LOSS
	24	12	12	-	24	24	-	-	-	-	-	-	-	-	S/N..DB
	99	96	96	-	99	99	-	-	-	-	-	-	-	-	S/N..PROB.A
	98	63	65	-	98	98	-	-	-	-	-	-	-	-	S/N..PROB.B
	73	25	25	-	76	76	-	-	-	-	-	-	-	-	S/N..PROB.C
	30	6	6	-	32	32	-	-	-	-	-	-	-	-	S/N..PROB.D
20	11.4	1F-	1F+	1F+	1F-	1F-	1F-	-	-	-	-	-	-	-	MODE
	51	115	115	45	50	50	-	-	-	-	-	-	-	-	ANGLE
	50	43	13	64	34	12	-	-	-	-	-	-	-	-	C.PROB.
	94	100	100	94	94	94	-	-	-	-	-	-	-	-	DELAY
	164	161	162	163	164	165	-	-	-	-	-	-	-	-	NOISE
	245	242	244	244	246	247	-	-	-	-	-	-	-	-	FS.LOSS
	2	13	12	2	2	2	-	-	-	-	-	-	-	-	P. LOSS
	24	11	12	23	23	24	-	-	-	-	-	-	-	-	S/N..DB
	99	95	96	99	99	99	-	-	-	-	-	-	-	-	S/N..PROB.A
	98	58	65	97	97	98	-	-	-	-	-	-	-	-	S/N..PROB.B
	73	22	25	71	71	76	-	-	-	-	-	-	-	-	S/N..PROB.C
	30	5	6	29	29	32	-	-	-	-	-	-	-	-	S/N..PROB.D
22	12.9	1F-	1F+	1F+	1F+	1F-	1F-	1F-	-	-	-	-	-	-	MODE
	51	100	116	116	42	51	51	-	-	-	-	-	-	-	ANGLE
	50	81	49	19	74	47	23	-	-	-	-	-	-	-	C.PROB.
	94	99	100	100	93	94	94	-	-	-	-	-	-	-	DELAY
	165	161	162	163	164	165	166	-	-	-	-	-	-	-	NOISE
	247	241	244	245	245	247	248	-	-	-	-	-	-	-	FS.LOSS
	2	12	12	11	2	2	1	-	-	-	-	-	-	-	P. LOSS
	24	12	12	13	23	24	25	-	-	-	-	-	-	-	S/N..DB
	99	96	96	97	99	99	99	-	-	-	-	-	-	-	S/N..PROB.A
	98	63	65	71	97	98	98	-	-	-	-	-	-	-	S/N..PROB.B
	75	25	25	29	71	76	80	-	-	-	-	-	-	-	S/N..PROB.C
	32	6	6	7	29	32	35	-	-	-	-	-	-	-	S/N..PROB.D
24	13.4	1F-	1F+	1F+	1F+	1F+	1F-	1F-	-	-	-	-	-	-	MODE
	46	93	105	112	112	42	46	-	-	-	-	-	-	-	ANGLE
	50	80	57	26	6	58	34	-	-	-	-	-	-	-	C.PROB.
	94	99	100	100	100	93	94	-	-	-	-	-	-	-	DELAY
	166	161	162	163	164	165	166	-	-	-	-	-	-	-	NOISE
	247	241	243	245	247	247	248	-	-	-	-	-	-	-	FS.LOSS
	2	12	11	11	11	2	1	-	-	-	-	-	-	-	P. LOSS
	25	12	12	13	14	24	25	-	-	-	-	-	-	-	S/N..DB
	99	96	96	97	98	99	99	-	-	-	-	-	-	-	S/N..PROB.A
	98	63	65	71	76	98	98	-	-	-	-	-	-	-	S/N..PROB.B
	77	23	23	27	31	76	80	-	-	-	-	-	-	-	S/N..PROB.C
	32	4	4	5	7	30	34	-	-	-	-	-	-	-	S/N..PROB.D

4
TRANSMITTER
SITE C

DEC

RECEIVER
RCVR 150

SSN= 110

AZIMUTHS
61.0 262.8

26.015
N.MILES
1493.7

TOTAL RELIABILITY(T.REL.)

REQ. S/N= 0DB(A), 10DB(B), 20DB(C), 30DB(D)

GMT	A	B	C	D	GMT	A	B	C	D	GMT	A	B	C	D
2	54	49	36	14	10	99	94	52	11	18	60	50	37	15
4	99	99	67	21	12	99	99	73	26	20	82	76	55	24
6	99	99	65	20	14	99	99	73	27	22	95	90	70	31
8	99	95	50	12	16	99	79	38	9	24	91	79	55	21