Table of Design of Telecommunication Links and Terrain Profile.

1 Agno River System

(1) DESIGNATION TABLE OF PROPAGATION PATH

Carmen Rosales (Sub-Center) - Tibag (R&W)

Carmen Rosales (Sub-Center) - Wawa (R&W)

Carmen Rosales (Sub-Center) - Banaga (W)

Carmen Rosales (Sub-Center) - Sta. Barbara (R&W)

Carmen Rosales (Sub-Center) - Mt. Sto. Tomas (Repeater)

Carmen Rosales (Sub-Center) - Carmen (R&W)

Carmen Rosales (Sub-Center) - San Roque (R&W)

Mt. Sto. Tomas (Repeater) - Binga Dam (R&W)

(2) TERRAIN PROFILE

Carmen Rosales (Sub-Center) - Tibag (R&W)

Carmen Rosales (Sub-Center) - Wawa (R&W)

Carmen Rosales (Sub-Center) - Banaga (W)

Carmen Rosales (Sub-Center) - Sta. Barbara (R&W)

Carmen Rosales (Sub-Center) - Mt. Sto. Tomas (Repeater)

Carmen Rosales (Sub-Center) — Carmen (R&W)

Carmen Rosales (Sub-Center) - San Roque (R&W)

Mt. Sto. Tomas (Repeater) — Binga Dam (R&W)

2 Bicol river System

(1) DESIGNATION TABLE OF PROPAGATION PATH

Naga (Sub-Center) — Barongay (W)

Naga (Sab-Center) — Ocampo (R)

Naga (Sub-Center) — Ombao (R&W)

Naga (Sub-Center) - Sipocot Hill (Repeater)

Naga (Sub-Center) — Iraga (Repeater)

Sipocot Hill (Repeater) - Sipocot (R&W)

Sipocol Hill (Repeater) - Napolidan (R)

Iraga (Repeater) — Buhi (R&W)

Iraga (Repeater) - Ligao (R)

Iraga (Reapeater) — Bato (R&W)

(2) TERRAIN PROFILE

Naga (Sub-Center) — Barongay (W)

Naga (Sab-Center) — Ocampo (R)

Naga (Sub-Center) — Ombao (R&W)

Naga (Sub-Center) - Sipocot Hill (Repeater)

Naga (Sub-Center) - Iraga (Repeater)

Sipocot Hill (Repeater) - Sipocot (R&W)

Sipocot Hill (Repeater) - Napolidan (R)

Iraga (Repeater) — Buhi (R&W)

Iraga (Repeater) — Ligao (R)

Iraga (Repeater) — Bato (R&W)

3 Cagayan Rever System

(1) DESIGNATION TABLE OF PROPAGATION PATH

Tuguegarao (Sub-Center) — Tuguegarao (R&W)

Tuguegarao (Sub-Center) -- Tumauini (R&W)

Tuguegarao (Sub-Center) — Iragan (Repeater)

Iragan (Repeater) — Dalibubun (R&W)

Iragan (Repealer) - Maris Dam (R&W)

Iragan (Repeater) — Tumauini (R&W)

(2) TERRAIN PROFILE

Tuguegarao (Sub-Center) — Tuguegarao (R&W)

Tuguegarao (Sub-Center) — Tumauini (R&W)

Tuguegarao (Sub-Center) — Iragan (Repeater)

Iragan (Repeater) — Dalibubun (R&W)

Iragan (Repeater) — Maris Dam (R&W)

Iragan (Repeater) — Tumavini (R&W)

Date: 18th Mor. '77

Agno River System

Carmen Rosales (Sub-Center) — Tibag (R&W)

Tio.	ODE OF COMMINGATION - CLASS CH	T. 10									
	ODE OF COMMUNICATION : SIMPLEX ME		F MODU	LATION:	EM TIMPE	DANCE :	50 (0.)	SPECIFIE	D RELIAB	HLITY :	99.9 (%)
L ¢	CALCULATION OF FADING VALUE PRESUN	ED:	0,1 {	dB/Km) x	d (Km) t	<u>3</u> (dB)		1.3			
_				Cara t		Last		T		Income.	
	CALCULATION NO.			I DESIG!	TED VALUES	BEFORE	TED DATE	DATE OF	AL TEST	DESIGNAL DETERMI	VALUES NAI
	SPAN			CARMEN	- TIBAG	1	· · · · · · ·				TER TEST-
[ALTITUDE		1	SNS CENTE	TIBAG RI (RBW)	<u> </u>		l		 	
S	ANTENNA HEIGHT	H1, H2	m m	24.5	10	24.5	50	24.5	50	24.5	50
SPAN		hi, h2		30		10	10	10	10	30	10_
	· · · · · · · · · · · · · · · · · · ·	*** , *** 2	1 153							l	
COND											
ē	OUTLINE OF PROPAGATION PATH]				Į			
TION		4		l ———				<u> </u>			
Š	DISTANCE	O .	Km	4.	4.4	44	.4	44	. 4	4	1,4
l		MQDE	<u> </u>				YAGI 3E				
!	ANTENNA	POLARIZ	ATION	V	V	V	V	V	V	V V	V
	<u> </u>	PATTE			 	1		ļ	`	-	
	FEEDER	MODE	Ĺ	AFZE50-4	AFZE50-4	50-2V	5D-2V	50-2V	50-2V	AFZE50-4	AFZE50-4
	LEGER	LENGT	H m	45	15	16	16	16	16	45	15
	TRANSMITTING OUTPUT POWER	Pt	W	10	i	10	10	7		10	3
	PROPAGATION LOSS	Lpf	d8			<u> </u>		- 1		- 1	
	SPHERICAL TERRAIN LOSS	Lpp	đВ		27.1	- ;	37. 5		37.5		27. 1
	TERRAIN REFLECTION LOSS		ļ					ļ			
	A	;]			
	SHADOW LOSS	Lps	₫8					1			1.31
SPA	[2]	•				\$		1			
Z	CORRECTIVE VALUE	Lpc	dB	-					0		10
	(TOTAL LOSS)	Lp.	. dB	- 13	7.1	- 14	7. 5	- 15		- 14	
LOS	ANTENNA GAIN	GA	dВ	6	8	8	8	8	8	6	8
S	AZIMUTHAL PATTERN LOSS	Lo	dB		·		1. 1				
	Z ANTENNA H Y B LOSS	3									
	FEEDER LOSS			- 1.575	- 0.525	- 2	– 2	2	- 2	-1.575	-0.525
	FILTER LOSS										L
	Z (TOTAL)		48		.9		2	13			9
	(GRAND TOTAL)	Ls L	dВ	12		- 13		- 14	5.5	- 13	
	TRANSMITTING OUTPUT POWER	PL	d Bm	30	40	40	40		38.5	34.8	40
	RECEIVING POWER LEVEL	Pr	d Bm	-95.2	-85.2		-95.5		~107		- 95.2
Ý	(e, m, f,) INCOMING NOISE POWER LEVEL	er	dBu	17.8	27.8		17.5		6	12.6	17.8
2	(e.m.f.)	Prne erne	dBm uBb					<u></u>		<u> </u>	<u> </u>
S	INTERNAL NOISE LEVEL	Prnl	u8b	!						·	
ٷ	NOISE INCREASE	Δ0	dB	<u> </u>	-	İ				·	
- T	TOTAL RECEIVING NOISE POWER LEVEL	Pro	d Bm								
3	THRESHOLD LEVEL	Pth	dBm	- IIO	-110					-110	- 110
ş	CRESTFACTOR	Cf	dB	9	9	i	7: 1			9	9
~	THRESHOLD MARGIN	Mith	48	14.8	24.8	i		Ī		9.6	14.8
- [S/N IMPROVEMENT	I	dB	12	12					12	12
[STANDARD S/N	S/N	dΒ	35.8	45.8					30.6	35.8
_င်	FADING VALUE PRESUMED	LF	48	- 7.	4		1			7.	4
MOSE NOSE	(Mth > LF)	T	dВ	7.4	17.4	T				2.2	7.4
5''	S/N AT FADING		dВ	28.4	38.4			i		23.2	28.4
	REMARKS										
		1			:						

Date; 18th Mor. 177

Agno River System

Carmen Rosales (Sub-Center) — Wawa (R&W)

MODE OF COMMUNICATION: SIMPLEX METHOD OF MODULATION: FM [MPEDANCE: 50 (N.) SPECIFIED RELIABILITY: 99.9 (%)

CALCULATION OF FADING VALUE PRESUMED: 0.1 (d8/km) x d (km) + 3 (d8)

Г				CALCUL AT	ΕO		TEÒ DATE	DATE OF		DESIGNAL.	
	CALCULATION NO.	: : : : <u></u>	<u> 1, 1, 1</u>	DÈSIGN	VALUES	BEFORE		ACTU	IL TEST	DETERMIN AFT	IAL ER TEST
	SPAN			ROSALES	- WAWA ERILROWI	L			_		
	ALTITUDE		m	24.5	15	24.5	15	24.5	15	24.5	15
ŝ	ANTENNA HEIGHT	H1, H2	Er.	30	10	10	10	10	10	30	10
SPAN		hi, ha	ĮŃ	<u> </u>			<u> </u>			 	
N CONDITION	OUTLINE OF PROPAGATION PATH									· · · · · · · · · · · · · · · · · · ·	
<u>2</u>	DISTANCE	D.	Km		2.1	22		22		2.2	
		MODE	·	3-STAGE CO-LINEAR	YAGI 3E	YAGI 3E	YAGI 3E	YAGI 3E	YAGI 3E V	3-STAGE CO-LINEAR V	YAG1 3E
	ANTENNA	POLARIZ PATTE		V			<u> </u>	<u> </u>	 	 	<u>'</u>
		MODE		AE7550 A	AFZE50-4		50-2V	50-2V	5D-2V	AFZE50-4	ΔΕΖΕ50 - 4
	FEEDER	LENGT		45	15	16		16	16	45	15
	TRANSMITTING OUTPUT POWER	Pt	w	10	13		10	7	!	10	1
	PROPAGATION LOSS	Løf	48)3.9		3.9		3.9	- 10	3.9
ł	SPHERICAL TERRAIN LOSS				25.1		31.1	- 3	11.1	- 2	5. 1
1	TERRAIN REFLECTION LOSS	Lpp	48			1.					
		-	: -	l							
'	SHADOW LOSS	Lps	48								
Ś						-			•		÷ 3
SPAN	S CORRECTIVE VALUE	Loc	dВ	 -		`	; :	-	10		0
	(TOTAL LOSS)	Lp	₫B	; -12	9 :	- 1	3 5	- 1	45	- 1:	39
SSOI	The state of the state of	GA	dB	6	8	8	8	8	8	6	8
SS	ANTENNA GAIN AZIMUTHAL PATTERN LOSS ANTENNA H Y B LOSS	Lo	dВ	1 -		1					L
	ANTENNA HY B LOSS							- 4,			<u>[</u>
20	FEEDER LOSS			- 1.575	-0.525	- 2	2	5	-2	-1.575	- 0.525
	S FILTER LOSS						L		L	ļ	
	(TOTAL)		₫B	11			2		2		.9
	(GRAND TOTAL)	Ls	dB	- 11	7. 1	- \$		_ 1.			27.1
	TRANSMITTING OUTPUT POWER	Pt	d Bm	30	40	40	40		38.5	30	40
	RECEIVING POWER LEVEL	Pr	d Bm	-87.1	77.1	2	- 83		-94.5	- 97.1	87.1
Ś	(e, m, f,)	er	486	25.9	35.9		30		18.5	15.9	25.9
Ž	INCOMING NOISE POWER LEVEL	Prne	dBm		<u> </u>			ļ	<u> </u>		ļ — — —
	(e.m.f.)	erne	dBy	·	 	1 1 1 1) 	 	<u> </u>	ļ	
CALCULAT	INTERNAL NOISE LEVEL	Peni	₫BJJ		ļ		ļ			 	
5	NOISE INCREASE	Δο	d8		<u> </u>	1 2 2		 	-	-	
Þ	TOTAL RECEIVING NOISE POWER LEVEL	Prn	dBm	2 .7274	11.0		<u> </u>	 	1	-110	-110
ŏ	THRESHOLD LEVEL	Pin	dBin	-(10	-110		-,		<u> </u>	9	9
ž	CRESTFACTOR	Cf	<u>dB</u>	9	1 9 32.9				1	12.9	22.9
	THRESHOLD MARGIN	Mih	48	12	12		 -	 	 	12	12
	S/N IMPROVEMENT	I C/Al	4B 8b	43.9	53.9	-	 		ļ	33.9	43.9
<u> </u>	STANDARD S/N	S/N			2				 		.2
ζŠ	FAOING VALUE PRESUMED	LF	48	17.7		 				7.7	17.7
MENT	(MID > LE)		dB dB		48.7	1 2	 	 	}	28.7	38. 7
	S/N AT FADING	!	1 00	38.7	L48./_		!	 		 	
	REMARKS									1	
L			-					<u> </u>		<u> </u>	

Date : 18th Mor. '77

Agno River System

Carmen Rosales (Sub-Center) —— Bonaga (W)

Гмо	DE OF COMMUNICATION : SIMPLEX MI	THOO C	E MÝNÍ	LATION :	eu Liups	DANCE I	50 (0.1)	SPECIFIE	O DELIAC		99.9 (%)
	ALCULATION OF FADING VALUE PRESU				d (Km) t		30 (11.7)	STECIFIE	O RECIAD	ILII .	33.3 (7.)
	CALCULATION NO.		1.14.5	CALĈULA DESIĜI	TED VALUES	CALCULA	TEO DATE	DATE OF	F AL TEST	DESIGNAL DETERMIN	
	SPAN			CARMEN ROSALES	- BANAGA						TER TEST
	ALTITUDE	1.1	m	(SUB CENT	(W) (R3	24.5	2	24.5	2	24.5	2
SPAN	ANTENNA HEIGHT	H1, H2	T/M	30	10	10	10	10	10	30	10
ž		hi, ha	m			l					
COND	OUTLINE OF PROPAGATION PATH			*. *							
TION		 		<u> </u>							
ž	DISTANCE	D	Km	42			.8	42		42	
		MODE	L	3-STAGE CO-LINEAR	YAGI 3E	YAGI 3E	YAGI JE	YAGI 3E	YAGI 3E	3-STAGE CO-LINEAR	YAGI 3E
	ANTENNA	POLARI.	ATION	٧	V	٧	٧	٧	V	٧	٧
		PATT	RN						1	:	
	FEEDER	MODE		AFZE50-4	AFZE50-4	50-2V	5D-2V	50-2V	50-2V	AFZE50-4	AFZE50 - 4
	recoen	LENGT	H m	45	15	16	16	16	16	45	15
<u> </u>	TRANSMITTING OUTPUT POWER	Pt	W	10	10	10	10	7	8	10	10
1	PROPAGATION LOSS	Lot	₫B		09.7		9.7		9.7	- 10	
	SPHERICAL TERRAIN LOSS	Lpp	dВ		20.3	- 2	25.3	2	5.3	- 2	0.3
	TERRAIN REFLECTION LOSS										<u> </u>
				1	· I	· - ı	1.5	1	1, 5	- 1	1
1	SHADOW LOSS	Los	đВ	_ 4	. 3	: 4	.3	_ 4	3	4	. 3
တ္ဆ	2			· 6		- 6		- 6		- 6	
PAN	2 CORRECTIVE VALUE				· '						
_	(TOTAL LOSS)	Lpc	dB			16	6.0	- I 5	0.8	- 15	0.6
5	I - I	Lρ	dB	- 15		8	6.8	8	8		
SS	ANTENNA GAIN A AZIMUTHAL PATTERN LOSS	GA Lo	d8	6	11					- 6	8
	2 ANTENNA H Y 8 LOSS	LU	uo.				41.4		1 1 1 1 1 1 1	1 + 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -	<u> </u>
	FEEDER LOSS			-1575	0.525	2	- 2·	-2	-2	·	- 0.525
	S FILTER LOSS		-		0.020		<u>-</u>				0.02.0
ļ l	Z (TOTAL)		dB	14	1.9	1 1 1	2		2	11	ġ.
l	(GRAND TOTAL)	ĹS	₫₿	13		- 144		- 14		13	· · · · · · · · · · · · · · · · · · ·
	TRANSMITTING OUTPUT POWER	Pt	d Bm	40	40	40	40	39	38.5	40	40
lł	RECEIVING POWER LEVEL	P	d Bm	- 96.4	- 96.4		-104.8	- 105	-103	-98.6	
	(e.m.f.)	er	dBu	16.6	16.6		8.2	8	10	14.4	
S/	INCOMING NOISE POWER LEVEL	Prne	dBm								
2	(e.m.f.)	erne	dВµ			i	···				
₽	INTERNAL NOISE LEVEL	Prni	ىر8ە		·	!					1.1
[5]	NOISE INCREASE	Δn	ďВ			125		: j	. 1,5		
	TOTAL RECEIVING NOISE POWER LEVEL	Pro	dBm								
5	THRESHOLD LEVEL	Pih	m8b	-110	-110		17.			-110	-110
7 0 2	CRESTFACTOR	Cf	dB	9 1	9			i		9	9
7	THRESHOLD MARGIN	Mth	₫₿	13.6	13.6		1.77	<u>j</u>		11.4	11.4
- 1	S/N IMPROVEMENT	ľ	dB	15	12				- 14 × 15	12	12
	STANDARD S/N	S/N	dB	34.6	34.6]		35	32	32.4	32.4
_E[FADING VALUE PRESUMED	LF	dB	– 7 .	3				\$ 4.0 E 44 E	- 7.	3
MENT OGE	(Mih > LF)		68	6.3	6.3	!				4.1	4.1
37T	S/N AT FADING		48	27.3	27.3				1.1	25.1	25.1
	REMARKS										<u> </u>
										-	

Date: 18th Mar. 177

Agno River System

Carmen Rosales (Sub-Center) — Sta. Barbara (R&W)

	L salawayayaya			CALCULAT		CALCULA	TEO DATE	DATE OF	L TEST	DESIGNAL	
	CALCULATION NO.				VALUES Sto Borbora	BEFORE	TEST	ACTO	L IESI	DETERMIN	ER TESI
	SPAN			ISUB CENTE	R)[R&W]			24.5	8	24.5	8
	ALTITUDE		m	<u>24.5</u> 30	<u>8</u> 10	24.5	10	24.5 10	10	30	10
;		H1, H2	W	-30							
		hi, ha	m								
				,							1.
	OUTLINE OF PROPAGATION PATH			1				* .			
ì		100									
A	DISTANCE	D	Κm	25	. 6	25	6	25	. 6	25	6
	DISTANCE	MODE				YAGI 3E				3-STAGE CO-LINEAR	YAGI
	ANTENNA	POLARIZ		CO-LINEAR	V	V	V	V	V	V	V
	antenna de la companya de la company	PATTE		•							
ł		MODE		AE7E50-4	AFZE50-4	50-27	5D-2V	50-2V	50-2V	AF7E50-4	AFZE50
	FEEDER	LENGT		45	15	16	16	16	16	45	15
	TRANSMITTING OUTPUT POWER	Pl	W	10	10	10	10	7	8	10	. 1
-	PROPAGATION LOSS	Lpf	dB	- 10	5.2	- 10	5.2	- 10	5.2	– I C	
1	V CONCOLCAL TERRALM LOSS	11.		-9	-20	-18	, -20	-18	, - 20	-9	, -20
NAGN	TERRAIN REFLECTION LOSS	Lpo	d B	· · · · ·					2 11 1 1 1 K		<u> </u>
	TERRAIN REFLECTION LOSS SHADOW LOSS			7	, 5		8.6	1	8.6	l	7.5
	SHADOW LOSS		40	- 6		Ĭ	6	_ (6		5
	2 31125011 12000	Lps	₫B		5.5		6.5		6.5	-	6.5
	5				J. J			1			
•	CORRECTIVE VALUE	Lpc	dB.	15.4.0				- 14	15.3	<u> </u>	5.3
,	(TOTAL LOSS)	Lρ	dB	- 15		16		8	8	6	8
3	ANTENNA GAIN	GA	48	6	13	8	8		<u> </u>	l —	<u> </u>
•	AZIMUTHAL PATTERN LOSS	Lo	dB				ļ	ļ		1	
1	Z ANTENNA H Y 8 LOSS	- '			0.505			2	-2	-1.575	-0.52
٠	FEEDER LOSS			-1.575	- 0.525	2	-2	\ 	<u> </u>	1.515	
	Director Coss				.9		ـــــــــــــــــــــــــــــــــــــ		2	i i i	. 9
	2) (TOTAL)		dB dB	-137		-152		-13		-1	
-4	(GRAND TOTAL)	Ls	d 8m		40	40	40	39	38.5	30	40
٠	TRANSMITTING OUTPUT POWER RECEIVING POWER LEVEL	PL	d Bm	40 97.3	- 97.3	40	-112.3	- 98	-98.5	-97	-87
- 1		- Pr - er	ови	15.7	15.7		0.7	15	14.5	16	26
	INCOMING NOISE POWER LEVEL		d8m								!
	<u></u>	Prne	48b					-]		
	INTERNAL NOISE LEVEL	Prol	dBy			: :		 	1		1
	NOISE INCREASE	Δn	48	-					j		1
	TOTAL RECEIVING NOISE POWER LEVEL	Pro	d Bm						!		
	THRESHOLD LEVEL	Pth	d8m	-110	-110					-110	-110
	CRESTFACTOR	Ċf	₫ 8	9	9		1.00		<u> </u>	9	1 9
٠	THRESHOLD MARGIN	Mih	đВ	12.7	12.7					13	23
	S/N IMPROVEMENT	I	dB	12	12		! {	ļ —		12	12
_	STANDARD S/N	S/N	₫₿	33.7	33.7		i	35	35	34	1 44
Ξ	FADING VALUE PRESUMED	LF	48	- 5			· • — — — —	<u> </u>	16 4 7	- 5	
BGE	(Mth > LF)	-	48	7.1	7.1	<u> </u>	<u> </u>	<u> </u>	<u> </u>		17.4
	S/N AT FADING		dβ	28.1	28.1	E .	1			28.4	38.

Dote: 18th Mor. '77

Agno River System

Carmen Rosales (Sub-Center) — Mt. Sto. Tomas (Repeater)

M	ΝĎΕ	OF COMMUNICATION & SIMPLEX M	ETUAN A	E NAM	e Atlana	cu Luc	TOANICE A	50 (0.)	COCCUEIC	0.001140		00.0441
										D RELIAE	ILITY:	99.9 (%)
LS	ALI	CULATION OF FADING VALUE PRESU	MEO :	0,1 {	d8/Kmlx	d (Km) t	_3 (dB)	1 4/4/1/11	357 1	Alle to the	e en en en	o stantistica
	Τ	CALCULATION NO.				TED		TEO DATE	DATE O			VALUES
	┢	SPAN	 .		CARMEN	N VALUES	BETORE	TEST	ACTO	AL TEST	DE TERMIN	TER TEST
	\vdash				ROSALES (SUB CENTI	Mt. Sto.Toma: ER) [Repeater]		·····			ļ <u>-</u>	
1.	}	ALTITUDE	T	m		20 24	24.5	2024	24.5	2024		2024
SPAN	1-	ANTENNA HEIGHT	HI, H2	1	30		15	8	15	8	30	30
Įź	\vdash	· · · · · · · · · · · · · · · · · · ·	hi, ha	m	·							
18	1											
Sono	1	OUTLINE OF PROPAGATION PATH				:			100	2		
Tion	ı			100			l ——				<u> </u>	
Į	\vdash	DISTANCE	D	Km	5	1.8		1.8		1.8	5	1.8
1	H		MODE			YAGI 3E		YAGI 3E				YAGI 3E
1	L	ANTENNA	POLARI		CO-LINEAR	Y V	TAGI SE	V	V	V		
1	Ι `		PATT		v	· · · ·		l v	- · ·	V	V .	V
1	┢		MODE		AEZESO-A	AFZE50-4		50-2V	50-2V	50-2V	AEZEŚO . A	AFZE50 - 4
ĺ	'	EEDER	LENGT		45	45	25	25	25	25	45	45
	Ŀ	RANSMITTING OUTPUT POWER	Pt	W	10	10	8	· · · · · · · · · · · · · · · · · · ·	8		10	iŏ
	1	PROPAGATION LOSS	Lpf	ďΒ	- 11	1.3	18	1.3	- 111	.3		1.3
	景	SPHERICAL TERRAIN LOSS								1 1 2 3 3		
	R	TERRAIN REFLECTION LOSS	Lpp	48						1.1		
1	AGA				- 3		- 3	1	3	1	- 3	
	5	SHADOW LOSS	Los	₫₿	ľ	•	l :	•	ľ	•	Ĭ	
က္ဆ	z		LβS		1		1					
0 2 2	8	CORRECTIVE VALUE	ļ <u>.</u>	- 45					ļ <u>. </u>			
_	Ö	(TOTAL LOSS)	Lpc Lp	dB dB	- 14	2.3	-14	2 1	- 14	.5		1.5 0.8
6	,	ANTENNA GAIN	GA	dB	6	· · · · · · · · · · · · · · · · · · ·	2	8	2	8	6	6
SS	ž	AZIMUTHAL PATTERN LOSS	Lo	48		- 6	-		-	-		<u> </u>
	ξį	ANTENNA H Y B LOSS							i		-	
	5	FEEDER LOSS			~1.575	-1.575	-1.6	-1.6	-1.6	-1.6	-1.575	- 1.575
1	Ŷ	FILTER LOSS					-					
	ź	(TOTAL)		48	: 8.	9	6.	8	6	8	8	ġ
L		(GRAND TOTAL)	Ls	48	- 133	3.4	- 135	5.5	- 13	4	<u> </u>	1.9
	TF	ANSMITTING OUTPUT POWER	∙∙Pŧ	d Bm	40	40	,	39		39	40	40
	RE	CEIVING POWER LEVEL	Pr	d Bm	-93.4	-93.4	45.1	 96.5		-95	-91.9	-91.9
S	[6	, m, f,)	e r	цвь	19.6	19.6	j	16.5		18	21.1	21.1
ž	IN	COMING NOISE POWER LEVEL	Prne	dBm				1 12		12.4	-	
ဂ္ဂ		+ m • f •)	erne	480				<u> </u>				J
ALC	<u> </u>	TERNAL NOISE LEVEL	Prni	dB)	i			N11 (1)			<u></u>	
טר		ISE INCREASE	Δn	- 48								
Ð	_	AL RECEIVING NOISE POWER LEVEL	Prn	d Bm							•••	116
Ö		RESHOLD LEVEL ESTFACTOR	Pth	dBm	-110	-110					-110	1-110
2		RESHOLD MARGIN	Cf	₫B dB	9 1	-	i		<u>'</u>		18.1	9 18. I
		N IMPROVÉMENT	Mth	dB	16.6	16.6 12	-} -1		i		12	15
		ANDARD S/N	S/N	48	37.6	37.6	- !			-	39.1	39.1
5	_	DING VALUE PRESUMED	LF	dB	- 8.		1		لب			2
žχ		th > LF }		dB	8.4		1				9.9	
MENT BOOK		N AT FADING		dB	29.4	29.4	- 	i	<u>i</u>		30.9	30.9
الند		EMARKS										
	•7	LIVING		ļ	1	l l						- 1

Date; 18th Mar. 177

Agno River System

Carmen Rosales (Sub-Center) —— Carmen (R&W)

						DANCE 1	50 (Å)	SPECIFIE	RELIAB	LITY : 9	9.9 (%)
CA	ALCULATION OF FADING VALUE PRESUME	D:	0.1 (B/Km) x o	1 (Km) +						
	CALCULATION NO.			CALCULAT DESIGN	VALUES	CALCULA BEFORE	TED DATE TEST	DATE OF ACTUA		DESIGNAL DETERMIN AFT	
	SPAN	:		CARMEN ROSALES (SUB CENTE	Cormen esten Wi						
	ALTITUDE		W	24.5	24	24.5	24	24.5	24	24.5	24
<u>io</u>	ANTENNA HEIGHT	11, 112	m	30	<u> 10</u>	10	10	10	10	30	:10
PAN		hi , be	m		<u> </u>					<u></u>	
CONDITION	OUTLINE OF PROPAGATION PATH			<u> </u>			··				
9	DISTANCE	D	Km	(.	7	1.	7		7	I. STAGE	
1.		MODE	L	3-STAGE CO-LINEAR	YAGI 3E	YAGI 3E	YAGI 3E	YAGI 3E	YAGI 3E	3-STAGE CO-LINEAR	YAGI 3E
1.4	ANTENNA	OLARIZ	ATION	V	V	٧	V	٧.	V	V	V
		PATTE	RN						FO 211	AFZE50-4	AE7E50 - A
	CCCDEO	MODE			AFZE50-4			50-2V	50-2V	45	15
		LENGT		45	15	16	16	16 7	16	10	13
	TRANSMITTING OUTPUT POWER	Pl	W	10		- 8		-8	1.7	- 81	. 7
	PROPAGATION LOSS	Föl	₫B	<u> - 81</u>	· <u>'</u>			<u>-</u>			
	SPHERICAL TERRAIN LOSS	Lop	₫₿	<u> </u>		ļ — —					
	TERRAIN REFLECTION LOSS										
S	SHADOW LOSS	Lps	đΒ			:					
SPAN	S CORRECTIVE VALUE	Lpc	₫₿						13	- 1	
_	(TOTAL LOSS)	Lp	dB.	-81	7	- 8	1.7	94	. 7	9	
5	> ANTENNA GAIN	GA	dВ	6	8	- 8	8	8	8	6	8
SS	AZIMUTHAL PATTERN LOSS	Lo	dB				 				<u> </u>
	ANTENNA H Y B LOSS						<u> </u>		i	1 5 7 5	- 0.525
100	FEEDER LOSS			~1.575	-0.525	<u>- 5</u>	-2	-2	-5	-1.515	-0.323
	S FILTER LOSS					l	<u>i</u>		2	(1	9
	Z (TOTAL)		dB		9	- 6	2	- 82		- 82	
	(GRAND TOTAL)	Ls	dB		.8		40		38.5.	30	40
45	TRANSMITTING OUTPUT POWER	PL	d Bm	30 -39.8	-29.8	40	-29.7	 	-44.2	-528	- 42.8
	RECEIVING POWER LEVEL	Pr er	dBm dBu	73.2	83.2		83.3	 	68.8	60.2	70.2
Ŋ	(e.m.f.) INCOMING NOISE POWER LEVEL	Prne	dBm					I	<u> </u>		
Z		8019	480		<u></u>		Ī		 		
Ç.	(e.m.f.) INTERNAL NOISE LEVEL	Prni	dΒμ			: -			!		
رد ا	NOISE INCREASE	Δp	d8		. 		i				<u> </u>
اج	TOTAL RECEIVING NOISE POWER LEVEL	Pin	d Bm]		1				i
4	THRESHOLD LEVEL	Pth	d₿m	-110	-110		1	<u> </u>	<u> </u>	 -	-110
ATION	CRESTFACTOR	Cf	d8	9	9	<u> </u>	1 1	ļ	 	9	9
~	THRESHOLD, MARGIN	Mth	48	70.2	80.2	1		 	-	57.2	67. 2
	S/N IMPROVEMENT	<u>I</u>	48	1.2	12	 	i	ļ	!	78.2	88.2
	STANDARD S/N	S/N	dB	91.2	101.2	 	L	 		- 3	
٦	FADING VALUE PRESUMED	LF	- 8		2		· · · · · · · · · · · · · · · · · · ·	1	<u> </u>	54	·
NA NA NA NA NA NA NA NA NA NA NA NA NA N	(Mih > LF)		₫ <u>₿</u>	67	77	1	1		!	75	85
É.,	S/N AT FADING		L. "	88	98	1	J	 		 	1
	REMARKS										

Date ; 18th Mor. '77

Agno River System

Carmen Rosales (Sub-Center) — San Roque (R&W)

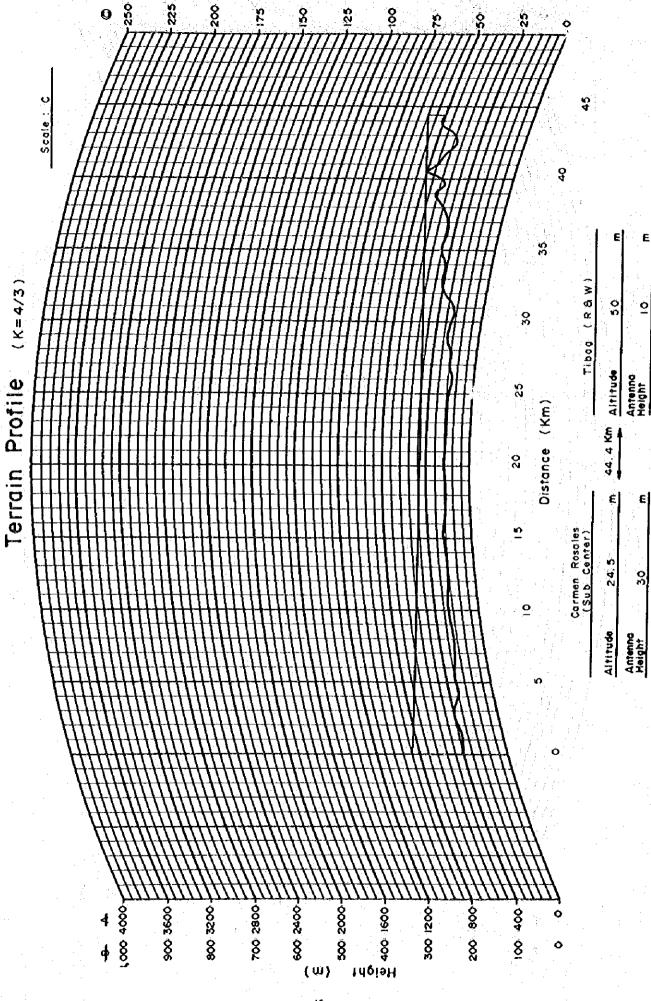
	DDE OF COMMUNICATION : SIMPLEX ME						50 (n.)	SPECIFIE	D RELIAB	HERTY :	99.9 (%)
	CALCULATION OF FADING VALUE PRESUR	WED:	0.1 (dB/Km) x	d (Km) +	<u>3</u> (48)			237	1214.37	10.00
	CALCULATION NO.			DESIĞI	TÉD N VALUES	CALCULA BEFORE	TEO DATE	DATE OF	AL TEST	DETERMI	VALUES NAL
	SPAN			CARMEN ROSALES	- Sah Roqué (ER) (R&W)	1 1 1 1		100 -		AF	TER TEST
1.	ALTITUDE		m	(SUB CENT 24.5	ER) (88W) 98	24.5	98	24.5	98	24.5	98
Ϋ́	ANTENNA HEIGHT	HI, Hz		30	10	15	8	15	8	30	10
SPAN		hì, hà		1							·
			• -								
CONDITION	OUTLINE OF PROPAGATION PATH								e dez e Polici		
١ğ	DICTANCE		1 3 3 3				<u> </u>				
Z	DISTANCE	D	Km		7 :		7	27.			7. 7
	ANTONNA	MODE			YAGI 3E					CO-LINEAR	*
ĺ	ANTENNA	POLARI		٧	<u> </u>	V	: - V	٧	. V	V	<u> </u>
		PATTI			<u> </u>		1.4	l- <u>-</u>			
•	FEEDER	MÓDE			AFZE50-4			50-2V			AFZE50-4
	TOMICULTING OUTGOT COMES	LENGT		45	15	25	25	25	25	45	15
	TRANSMITTING OUTPUT POWER	Pt	W.	10	<u>i l</u>	8		8		10	<u></u>
1	PROPAGATION LOSS	Lof	dB	<u>~ 10</u>		- IÓ:		- 10		10	
1	SPHERICAL TERRAIN LOSS TERRAIN REFLECTION LOSS	Lpp	dΒ	z	1.7	- 3	1.6	- 3	1.6	<u> </u>	1 .7.
ļ	S LEUWHUR WELFECTION FO22					!					
SPAN	TERRAIN REFLECTION LOSS SHADOW LOSS SHADOW LOSS	Lps	d8			· . :					
2	CORRECTIVE VALUE	Lpc	dВ	1 1 1					. 3	_	1. 3
-	(TOTAL LOSS)	Lp	₫B	12	7. 6	- 13	7.5	138	3.8	12	
SO	ANTENNA GAIN	ĠA	dB	6	8	2	8	2	8	6	8
Ś	AZIMUTHAL PATTERN LOSS	Lo	dВ					4 :			
	ANTENNA H Y B LOSS										
. j	FEEDER LOSS			- 1.575	- 0.525	- 1.6	-1.6	-1.6	I.6	-1.575	-0.525
	FILTER LOSS			1							
	Ž (TOTAL)		ďΒ	. []	9	6		6.	8	11	.9
	(GRAND TOTAL)	L s	dB	~ 113	5.7	130). 7	13	2	11	7
	TRANSMITTING OUTPUT POWER	Pt	d Bm		40		39		39	30	40
٠.	RECEIVING POWER LEVEL	٧.	dBm	- 85. 7	~75.7		- 91.7		-93	⊷87 .	-77
ý	(e.m.f.)	er :	4B)	27.3	37.3	1	21.3		20	26	36
z	INCOMING NOISE POWER LEVEL	Stue	dBm	<u> </u>					3.3	31 11 11	A 1 1 2
Q.	(e.m.f.)	erne	uBb				5 2 2				
Ě	INTERNAL NOISE LEVEL	Proi	qBh	<u> </u>						. y . 1 1 1	
Ę	NOISE INCREASE	Δn	d8				- · · · · · · ·				
>	TOTAL RECEIVING NOISE POWER LEVEL	Prn.	dBm dBm			<u>-</u>	* * * *	j		100	110
ਰ	THRESHOLD LEVEL	Pih	dBm	÷110	110			<u> </u>		-110	-110
ž	CRESTFACTOR	Cf	- B		9	<u>-ii</u>				9 2	33
.]	THRESHOLD MARGIN S/N IMPROVEMENT	Mth	48	24.3 12	34.3 12	i	<u> </u>			23 12	12
. }	STANDARD S/N	I S/N	: dB	45.3	55.3	- i		 - į		44	54
اءِ -	FADING VALUE PRESUMED	LF.	dB	45.5 5.							8
≅ĕl	(Min > LF)		dB								27.2
MÖ MÖ MÖ MÖ MÖ MÖ MÖ MÖ MÖ MÖ MÖ MÖ MÖ M	S/N AT FADING		48	39.5		j					48.2
	SZE AL CAUING	_::		39.5	49.5					38.2	40.2
	REMARKS			1							

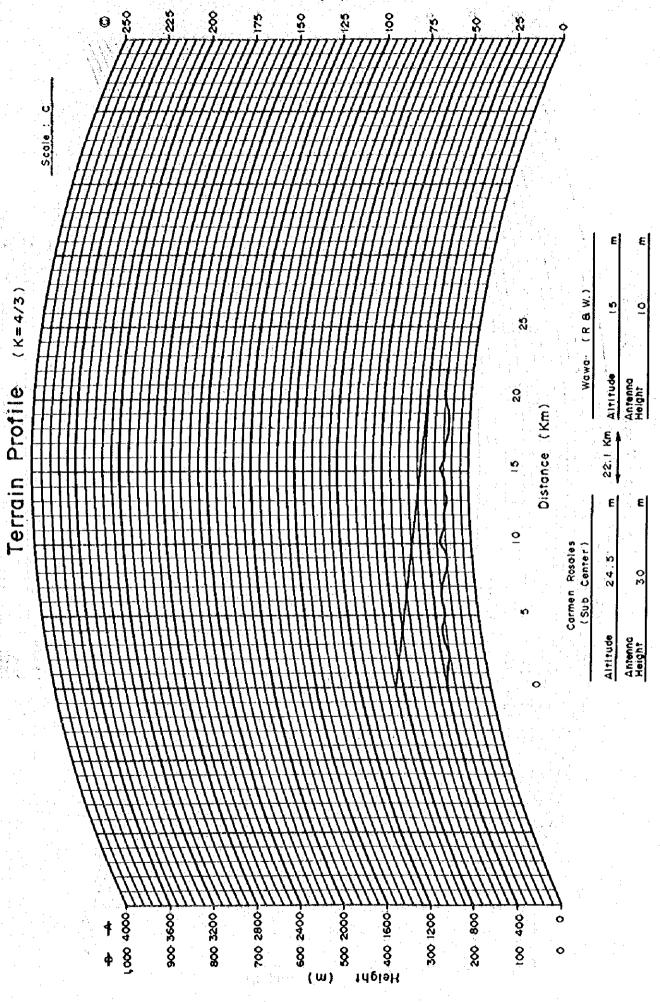
Date : 18th Mor. 177

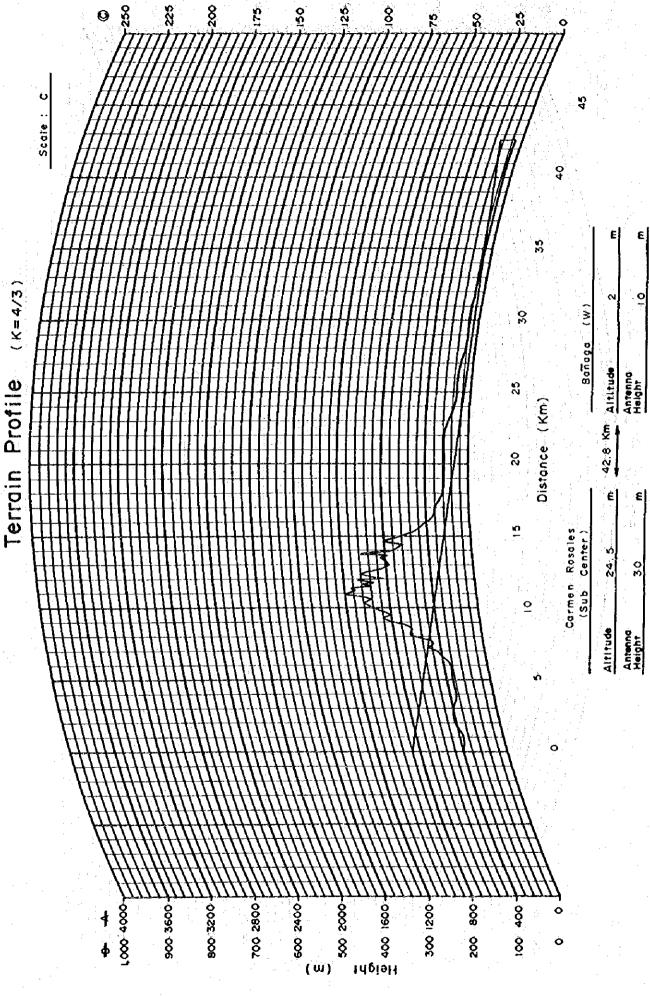
Agno River System

Mt. Sto. Tomos (Repeater) — Binga Dom (R&W)

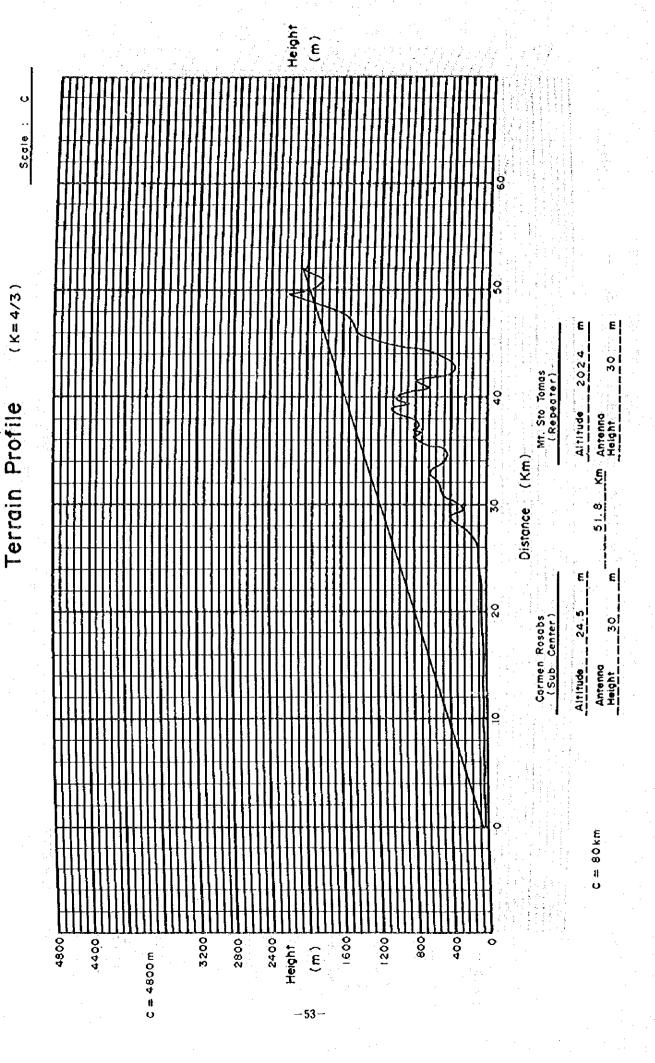
	CALCULATION NO.		3.1	CALCULAT		CALCUL A BEFORE	TED DATE	DATE OF		DESIGNAL DETERMIN	
┝	SPAN			MI.SIO.	VALUES _ Binga Dom	BEFURE		-	-		TEST
1_				(Repeater)	(R&W):	20.24	480	2024	480	2024	480
1—	ALTITUDE	11. 11.	m	<u>2024</u> 30	<u>480</u>	10	10	10	10	30	10
-	ANTENNA HEIGHT	H1, H2	m	30				- 			
-	OUTLINE OF PROPAGATION PATH	hi, h2									
1	DICTANCE	D	:Km	l Ó	65	18.	65	18	65	18.	65
-	DISTANCE				YAGI 3E		YAGI 3E			3-STAGE	
		MODE				V V	V	V	V	V	V
1	ANTENNA	POLARIZ		V	<u> </u>	_ <u>v</u>	<u> </u>	-	 	-	
		PATTE		1 C 7 C 2 A 3	IAFREA A	60 012	50-2V	5D-2V	50-2V	AFZE50-4	AFZE50
1	FEEDER	MODE			AFZE50-4	5D-2V	16	16	16	45	15
L		LENGT		45	15	16	10	7	9	10	3
4-	TRANSMITTING OUTPUT POWER	Pt	W	10	3		2. 4	- 10		-10	
15	PROPAGATION LOSS	Lpf	d₿	-10	2. 9	- 10	2.4				
18	SPHERICAL TERRAIN LOSS	Lpp	dВ	·							
ROPAG	TERRAIN REFLECTION LOSS							 		<u> </u>	^
18				- 1	2	-1	_	1		- 1	
ATION	SHADOW LOSS	Los	đВ		9		9	-	9		
z		,		- 2	2	- 2	2	- 2	2	- a	2
ΙŅ	COPOCCENIC MALUE	1.06	48				1.9.	1	9		. 9
Š		Lpc	48	-145	4	-145		143		-143	. 5
-	(TOTAL LOSS)	Lp	48	6	8	8	8	8	8	6	8
B	ANTENNA GAIN	GA	dB	0			-		 		!
급	AZIMUTHAL PATTERN LOSS	Lo	00		ļ				i		i
EZ.	ANTENNA H Y 8 LOSS			-1.575	0.535	-2	- 2	- 2	- 2	-1.575	- 0.52
P				- 1,575	-0.323				 		-
I≧	FILTER LOSS	·	40	11.	<u> </u>	1	2	<u>-</u> -	5	1 1	.9
Z	TOTAL T	·	48 48	- 133		- 133		-131		-13	
┵	(GRAND TOTAL)	L S			T	40	40	39.5		34.8	1 40
_	RANSMITTING OUTPUT POWER	Pl	d8m	34.8	40	-40	-93.4	-88	-93	-96.8	1-91.6
	ECEIVING POWER LEVEL	Pr	dBm dB u	- 98.7	-93.5 19.5	100	19.6	25	20	16.2	1 21
	e. (n. f.)	er		14.3	19.5		13.0		1	10.2	
-	COMING NOISE POWER LEVEL	Prne	dBm			7 7 7		 -	 	1.0	<u> </u>
	e.m.f.)	erne	48)		 		!		<u>i</u>		i —
	ITERNAL NOISE LEVEL	Prnl	485				ļ	 	!	 	ļ
	OISE INCREASE	Δη	dB		 		<u> </u>		1		!
	TAL RECEIVING NOISE POWER LEVEL	Prn	68m				<u> </u>		!	-110	-110
	HRESHOLD LEVEL	Pth:	d8m d8	-110	j -110 l 9		<u> </u>			9	
	RESTFACTOR	Cf		9	16.5	 	,	 	i	13.2	4
	HRESHOLD MARGIN	Mih	dB .	11.3		 	 	 	<u> </u>	12	15
	/N IMPROVEMENT	T CAN	4B	12	37.6		!	46	35	34.2	39
	TANDARD S/N	S/N	dB	32.3				1 7 8	1 33		
i E	ADING VALUE PRESUMED	LF	dB	-4			1		1	8.3	1 13.5
; I						=	-			. 8.	
11	MIN > LF) /N AT FADING		dB dB	27.4	32.6		<u> </u>	- -	}	29.3	34.







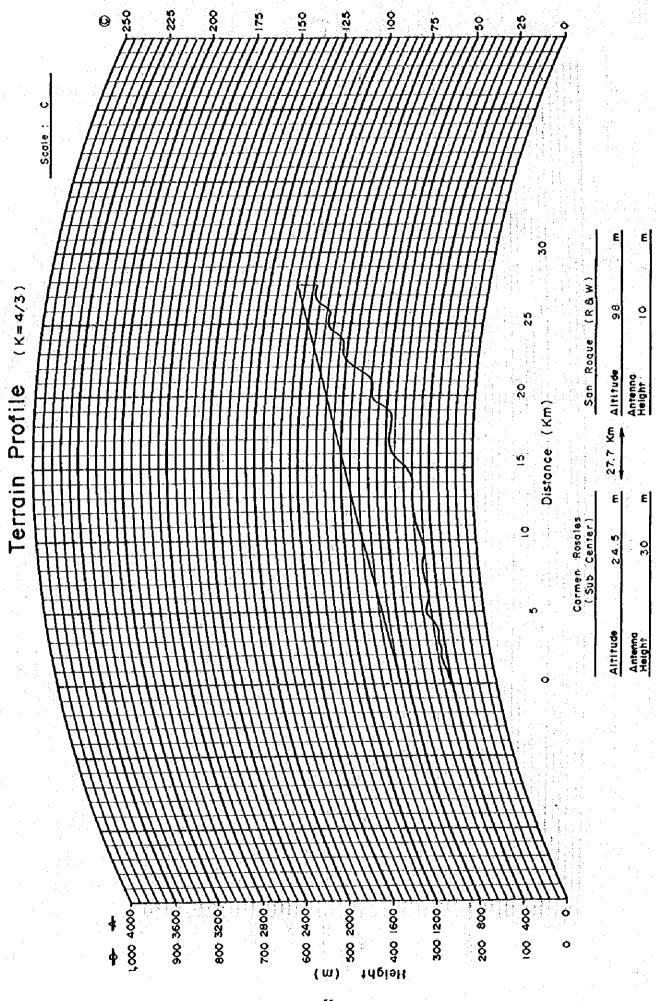
14gisH



0

Scale: B.

(K=4/3)



D

Binga Dam (R.A.W)

Mt. Sto Tomas (Repeater)

480

Km Antenna Height

Altitude 202.4 Antenna Height 30

C = 80 km

Scale : C

(火=4/3)

Date : 18th Mor. 177

Bicol River System

Naga (Sub-Center) — Barongay (W)

_	NODE OF COMMUNICATION : SIMPLEX ME								D RÉLIAE	HLITY:	99.9 (%)
Ċ	CALCULATION OF FADING VALUE PRESUM	ED:	0.1 (d8/Km) x	d (Km)+	<u>3</u> (dB)	1 St. 14. 2"	ing graph	k Ethija N		ojih sare i j
	CALCULATION NO.				TED N VALUES	CALCUL A BEFORE	TED DATE	DATE OF	AL TEST	DESIGNAL DETERMI	VALUES
	SPAN				Barongay			_	_	AF.	TER TEST
	ALTITUDE		m	2 2	er} (W)	2	1	2	1	2	<u> </u>
Ŷ	ANTENNA HEIGHT	HI, Ha		30	10	10	10	10	10	30	10
SPAN		hi, hà	m	1	·						·
1		· · · · · · · · · · · · · · · · · · ·	*	1	, —				·—	·	-
COND				1							
õ	OUTLINE OF PROPAGATION PATH			i		ľ			1000		
NOIL			4.7			i			 		
ž	DISTANCE	D	Κm	11	. 2	11.	2	11.	2	1, 201	2
1:		MODE	L		YAGI 3E		YAGI 3E				YAGI 3E
	ANTENNA	POLÁRIZ	ZATION	V	V	V	V	v	V	V V	V
	ì	PATT			 		3.5				
		MODE	L	AF7E50-4	AFZESO-4	5D-2V	5D-2V	50-2V	50-2V	ΔΕΖΕ5Ω - 4	AFZE50-4
ľ	FEEDER	LENGT	H m	45	15	16	16	16	16	45	15
	TRANSMITTING OUTPUT POWER	Pl	W	10		10	10	7		10	
	PROPAGATION LOSS	Lof	dB	- 91	8.5	- 9	8. 5	- 98	3.5		3.5
	SPHERICAL TERRAIN LOSS TERRAIN REFLECTION LOSS SHADOW LOSS			- 15		- 24		-24	4.5	-19	•
	TERRAIN REFLECTION LOSS	Lpp	48								
	6										
	5 SHADOW LOSS	•	ا ہر ا	:							1. 1
US.		Los	₫₿	l:							
SPAN	CORRECTIVE VALUE										
2		Lpc	.dB					-10)	-1	0
Z.	(TÖTAL LOSS)	Lρ	dB	- 117	7.5	12	3	-13	3	-12	7.5
F0S:	ANTENNA GAIN	GA	dΒ	6	8	8	8	8	8	6	8
S	AZIMUTHAL PATTERN LOSS	Lò	dB	<u> </u>	.				10000	- 10 as A	<u> </u>
	Z ANTENNA H Y 8 LOSS				!						
	FEEDER LOSS			-1.575	-0.525	- 2	- 5	<u>-2</u>	s	-1.575	-0.525
	FILTER LOSS	·			i	i					<u> </u>
	Z (TOTAL)		dВ		9	1			· · · · · · · · · · · · · · · · · · ·	- 11	
	(GRAND TOTAL)	Ls	dB	<u> </u>		!!		-13	21		5.6
į	TRANSMITTING OUTPUT POWER	Pt	d Bm		40	40	40		38.5	30	40
	RECEIVING POWER LEVEL	Pr	dBm	-75.6	- 65.6	i	- 71		-82.5	-85.6	l – 75.6
ý	(e, m. f.)	er	dΒμ	37.4	47.4		42	<u> </u>	30.5	27.4	37.4
. 2	INCOMING NOISE POWER LEVEL	Prne	dBm	-	} ——↓				1 3 1 1 1		i
δ	(e.m.f.)	erne	48µ	*							<u> </u>
ALCU	INTERNAL NOISE LEVEL	Prni	dBu	 .	<u> </u>	i	<u> </u>		7.50		10 10 10 10 10 10 10 10 10 10 10 10 10 1
È	NOISE INCREASE	Δn	4B		! -						
Þ	TOTAL RECEIVING NOISE POWER LEVEL	Prn	dBm		11.					110	-110
NOIL	THRESHOLD LEVEL CRESTFACTOR	Pih Cf	dBm dB	-110	-110				15	-110 9	-110
z	THRESHOLD MARGIN		- dB	9 34.4	9 44.4	1		' i		24.4	34.4
	S/N IMPROVEMENT	Mip I	dB	12	12 :	 j		i	1 4 4 4	12	12
}	STANDARD S/N	S/N	d8	55.4	65.4	<u>!</u>		!		45.4	55.4
٤		LF L	dB	- 4.		<u> </u>				- 4.	
∟⊊L	(MID > LF)		₫₿	30.3		1 17 1		1	3 15 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	20.3	
좋었			dB	51.3						41.3	51.3
	ESZN AT FAOING										
A CO		1		1		<u>- 19 (i</u>	I				
MACH MACH MACH MACH MACH MACH MACH MACH	S/N AT FADING REMARKS							.		41.3	

Dole; 18th Mor. 177

Bicol River System

Naga (Sub-Center) — Ocompo (R)

-	LOULATION OF FADING VALUE FRESUM		· · · · · ·	307 Kin7 A	<u> </u>	<u> </u>			<u></u>		
	CALCULATION NO.			CALCULAT DESIGN	ED VALUES	CALCULA BEFORE		DATE OF ACTUA		DESIGNAL DETERMIN	
, fr	SPAN		٠.	Nàga — (Sub-Cente	Ocompo	-		=	-	, ,, ,,	EN ILOI
1 44	ALTITUDE	:	m	2	53	2	53	2	53	5	53
ک		Hi, H2	m	30	10	10	10	10	10	30	10
D A Z		hı, he	នា			<u> </u>					
V CONDITION	OUTLINE OF PROPAGATION PATH			-							
ž	DISTANCE	Ò	Km		35	23.		23		23.	
[MODE	L	CO-LINEAR	YAGI 3E					3 - STAGE CO-LINEAR	
	ANTENNA	OLARIZ		٧	V	٧	V	V	V	V	<u> </u>
		PATTE		2		4 - 4	50 011	60 34	5D-2V	AFZE50-4	AE 2550 -
.	FEEDER	MODE			AFZE50-4	50-2V	50-2V	50-2V	16	45	15
- 1		LENGT:	H. m W	10	15	10	10	7	9	10	
	TRANSMITTING OUTPUT POWER PROPAGATION LOSS		dB	- 10	L		4.6	- 10	4.6	10	4.6
•	V ASSESSMENT TOOPSMENT LOCK	L'pf	UB	- 6		-1		-1		8	3
. 1	TERRAIN REFLECTION LOSS	Lpp	d B								
•	TERRAIN REFLECTION LOSS SHADOW LOSS									,	Ė.
7.	SHADOW LOSS	Los	dB	- 7.	5	1.	9	1	9	- 7.	*
		_,		- 8	.5		8.5	. – .	8.5	- 8	. 5
SPAN	CORRECTIVE VALUE	Lpc	dB					- 12	. 4	-12	. 4
	(TOTAL LOSS)	Lpc	dB	- 12	8 6	- 13	7. 1	- i4	9.5	- 14	T.
5		GA	dB	6	8	8	8	8	8	6	8
SS	ANTENNA GAIN AZIMUTHAL PATTERN LOSS	Lo	dB						<u> </u>	2.00	İ
	Z ANTENNA H Y B LOSS	· .					<u>i</u>	1 1 1	<u> </u>		
	FEEDER LOSS			-1.575	-0.525	- 2	-2	-2	- 2	-1.575	-0.52
	& FILTER LOSS						i	<u> </u>	1		
	Z (TOTAL)		4B	4	9	1			2		9
	(GRAND TOTAL)	Ls	dB	-11		- 15		-13		- 12	40
	TRANSMITTING OUTPUT POWER	PL	d Bm	30	40	40	40	39.5		30 - 99.1	-89
	RECEIVING POWER LEVEL	Pr	d Bm	-86.7	-76.7	<u> </u>	-85 28	- 89. 5 23.5	- 99 4	L	23.
ွှ်	(e. m. f.)	- 19	480	26.3	36.3		20	23.3	' ' ' '		!
ì	INCOMING NOISE POWER LEVEL	Prne	dBp dBp	-	 	-	 	 	 		1
ξ.	(e.m.f.)	erne	480				!		1		
CALCI	INTERNAL NOISE LEVEL NOISE INCREASE	Prol An	dB		<u> </u>	 	 		1	10.0	
۲	TOTAL RECEIVING NOISE POWER LEVEL	Pro	d Bm		j		<u>. </u>				
4	THRESHOLD LEVEL	Pih	d8m	-110	-110]			-110	110
ATION	CRESTFACTOR	C1	48	9	9		l		!	9	1 9
-	THRESHOLD MARGIN	Mth	dВ	23.3	33.3		. 	<u> </u>	1 1111	10.9	20.9
•	S/N IMPROVEMENT	1	dB.	12	12	ļ		4.7	i	12	12
•=	STANDARD S/N	S/N	48	44.3	54.3	 	<u> </u>	43	i 46	31.9 - 5	
Ę	FADING VALUE PRESUMED	LF	48	- 5		<u> </u>			1		1 15
39C	(Mih > LF)	<u> </u>	48	18	1 28		i	 	i	5.6 26.6	36
₹"	S/N AT FADING		48	39	4.3	1 .	1 1 1	1	j .	1 50.0	. ~~.

Dote; 18th Mar. '77

Bicol River System

Naga (Sub-Center) --- Ombao (R&W)

MODE OF COMMUNICATION: SIMPLEX METHOD OF MODULATION: FM (MPEDANCE: 50 (A) SPECIFIED RELIABILITY: 99.9 (%)
CALCULATION OF FAOING VALUE PRESUMED: 0.1 (d8/Km)x d (Km) + 3 (d8)

										,	
	CALCULATION NO.				VALUES	CALCUL A BEFORE	TED DATE TEST	DATE OF	AL TEST	DETERMIN	
	SPAN			Naga -	- Ombao r)(RBW)	-		_	_	AF.	TER TEST
	ALTITUDE	7 1	m	2	10	2	10	2	10	2	10
Ϋ́	ANTENNA HEIGHT	Hı, Ha	m	30	10	10	10	10	10	30	10
SPAN		hi, hz	rn				4				
1											
CONDITION	OUTLINE OF PROPAGATION PATH					1			4 4 15		
불		1.14									}
ĮΣ	DISTANCE	0	Km		. 6	17.	6	17	. 6	17	6
i		MODE	L .	3-STAGE	YAGI 3E	YAGI 3E	YAGI 3E	YAGI 3E	YAGI 3E	3-STAGE	YAGI 3E
	ANTENNA	POLARIZ	ATION	V	V	V	V	٧	V	V	v
		PATTE	RN								
		MODE	L .	AFZE50-4	AFZE50-4	50-2V	5D-2V	50-2V	50-2V	AFZE50-4	AFZE50-4
ł	FEEDER	LENGT	H m	45	15	16	16	16	16	45	15
1	TRANSMITTING OUTPUT POWER	Pt	W	10	ļ	10	10	7	9	10	1
	_ PROPAGATION LOSS	Lpf	dB	– IÒ	2.5	-10	2.5	~ 10	2.5	– 10	2.5
	SPHERICAL TERRAIN LOSS		10	- 2	0.3	- 2	8	- 2	8	- 2·	0.3
	TERRAIN REFLECTION LOSS	Lpp	48				1 1 1				+ 11 F .
	8					1					1-
	SHADOW LOSS		dВ	- 4.	5		5		5		4.5
S	Ž	Lps	05								
NAG	[5]	1.									
2	CORRECTIVE VALUE	Lpc	₫B			1 1 1	54.1	-	*		
Į g	(TOYAL LOSS)	Lp	₫ <u>B</u>	- 127	. 3	- 135		-136		5.5.	3.3
ros:	ANTENNA GAIN	GA	dB	6	8	8	8	8	8	6	. 8
<i>V</i> ,	AZIMUTHAL PATTERN LÓSS	Lo	dB								
	Z ANTENNA H Y B LOSS									3 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	2 - 2 -
1	FEEDER LOSS	·		-1.575	- 0.525	-5	~ 2	- 2	-2	-1.575	-0.525
	S FILTER LOSS			ليسب		ļi				1. V	
	Z (TOTAL)		dB	11.		1		1			9
L	(GRAND TOTAL)	L s	48	-11		- 12			1.5	- 11	
1	TRANSMITTING OUTPUT POWER	Pt	d Bm	30	40	40	40	39.5	36.5	30	40
	RECEIVING POWER LEVEL	Pr	d Bm	-85.4	-75.4		-83.5	- 85	-85	-86.4	
Ś	(e.m.f.)	Ċf	dВµ	27.6	37.6		29.5	28	28	26.6	36.6
ž	INCOMING NOISE POWER LEVEL	Prne	o Bm						15.1 No. 1 No. 1		
.0	(e.m.f.)	erne	dBپ			1	1122			1	
ΙĔΙ	INTERNAL NOISE LEVEL	Prol	dBu		ļ,						
CALCUL	NOISE INCREASE	_Δη	dB			<u> </u>					1-:
	TOTAL RECEIVING NOISE POWER LEVEL	Prò	dBm	i	110				<u> </u>	-110	- \$ 2 0
6	THRESHOLD LEVEL CRESTFACTOR	Pth	48m 8b	-110 j	9				· · · · · ·	9	9
Ž	THRESHOLD MARGIN	Cf								23.6	33.6
! !		Mih	d8	24.6	34.6				* : -	12	12
	S/N IMPROVEMENT	I	48		12			50	5.0		
	STANDARD S/N FADING VALUE PRESUMED	S/N	48	45.6	55.6			30	50	44.6	54.6
₹8		LF	dB	4.					<u> </u>		
MENT	(Mih > LF)		48	19.8	29.8					18.8	28.8
	S/N AT FADING		48	40.8	50.8	نــــــــــــــــــــــــــــــــــــــ		i	٠	39.8	49.8
	REMARKS		1	-:			į		•		

MODE OF COMMUNICATION : SIMPLEX METHOD OF MODULATION : FM IMPEDANCE : 50 (Q)

Date: 18th Mar. 177

SPECIFIED RELIABILITY : 99.9 (%)

Bicol River System

Naga (Sub-Center) — Sipocot Hill (Repeater)

CA	ALCULATION OF FADING VALUE PRESUN	EO:	0,1 (d8/Km) x	d (Km) t	<u>3</u> (dB)			<u> </u>		
	CALCULATION NO.				VALUES	BEFORE	TED DATE TEST	DATE OF ACTUA	AL TEST	DESIGNAL DETERMIN AFT	
	SPAN			Nago	Sipocot Hi!! (Repeater)	-	 .	· -		174	7 17
	ALTITUÓE	I	m	2	100	2	100	S	100	_ 2	100
Ω	ANTENNA HEIGHT	HI, He	ľή	30	30	10	10	10	10	30	30
PAN		hi, h2	m	<u> </u>	·		· !				· <u> </u>
NOITION D	OUTLINE OF PROPAGATION PATH										
န္	DISTANCE	, O,	Km		85		85	27.	85	27	85
11.		MODE	L	3-STAGE	YAGI 3E	YAGI 3E	YÁGI 3E	YAGI 3E	YAGI 3E	3-STAGE CO-LINEAR	YAGI 3E
- 1	ANTENNA	POLARIZ	ATION	٧	٧	V	٧	V	.V	V	V
		PATTE	RN								
		MODE	L	AFZE50-4	AFZE50-4	5D-2V	50-2V	5D-2V	50-2V	AFZE50-4	AFZE50-4
	FEEDER	LENGT	Hm	45	45	16	16	16	16	45	45
	TRANSMITTING OUTPUT POWER	Pt	W	.10.	10	10	10	7	7	10	- 10
	PROPAGATION LOSS	Lpf	48	- 10	6.5	- 10	6.5	- 10		- 10	6.5
	SPHERICAL TERRAIN LOSS		46			-1	0	- 1	<u> </u>	11 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
	TERRAIN REFLECTION LOSS	Lpp	48								
	ရို					1	•	_ :			2
	SHADOW LOSS		- 20	- s	!	- :	3		3		-
S	SHADOW LOSS	Los	4B	i :							
PA	5					ļ			·	- 2	
2	& CORRECTIVE VALUE	Lpc	48			<u> </u>	<u> </u>	- 2 - 13		- 126	
5	(TOTAL LOSS)	Lp	48	- 108		11		 	8	6	6
S	ANTENNA GAIN	GA	48	6	6	8	8	8	-		
S	AZIMUTHAL PATTERN LOSS	Lo	48				ļ		 		[!
1.	I Z I ANTENNA H Y B LOSS		ļ				- 2	- 2	- 2	-L 575	- 1.575
	FEEDER LOSS			-1.575	-1.575	- 2			ļ	1.0.0	
	g FILTER LOSS			<u></u>	<u></u>		2	₋	2	8	9
	Z (TOTAL)		48	8.		- 10			7. 5	1	9.6
<u> </u>	(GRANO TOTAL)	Ls	dB.	- 99	·		40	38.5		40	40
	TRANSMITTING OUTPUT POWER	Pt	d8m	40	40	40	-67.5	- 89	30.5	- 79.6	-79.6
	RECEIVING POWER LEVEL	Pr	d Bm	- 59.6	- 59.6		45.5	24		33.4	33.4
ý	(e. m. f.)	61	dBu	53.4	53.4		1 43.5		120		!
2	INCOMING NOISE POWER LEVEL	Proe	dBm dBm				 	 	 	 	I
၂	(e m, f)	erne	48,	 -		 	 		 		
Ę	INTERNAL NOISE LEVEL	Prol	48h	 	<u>!</u>	· · · · · · · · · · · · · · · · · · ·	 	 	i :	1	
اغ	NOISE INCREASE	Δn	d8m		i	 	<u> </u>	7 / 32	!		1
Þ	TOTAL RECEIVING NOISE POWER LEVEL	Prn	dBm	-110	-110	 	1			-110	-110
ᇹ	THRESHOLD LEVEL CRESTFACTOR	Pih Cf	98	9	 	1	1		i	9	9
ž	THRESHOLD MARGIN	Mth	68	50.4	50.4	1	Ţ i	1	1 1	30.4	30.4
	S/N IMPROVEMENT	I I	48	12	12		<u> </u>			12	12
. 7	STANDARÓ S/N	5/11	dB	71.4	71.4	62 1 15	19.7	45	45	51.4	51.,4
	FADING VALUE PRESUMED	LF	dB	2 - 5					1 1 st 1	5	
<u>∡</u> 8			dB	44.6		1.3	1		T .	24.6	24.6
MÖN T	CALL AT CASINO		48	65.6	65.6	 	1	 	1	45.6	45.6
<u>-i </u>	S/N AT FAOING			1	1 0 3.0	 	L	 	بــــــــــــــــــــــــــــــــــ	1	
	REMARKS										

Date : 18th Mor. 177

Bicol River System

Naga (Sub-Center) ——— Iraga (Repeater)

MODE OF COMMUNICATION : SIMPLEX METHOD OF MODULATION : FM IMPEDANCE : 50 (1) SPECIFIED RELIABILITY : 99.9 (%) CALCULATION OF FADING VALUE PRESUMED : 0,1 (d8/Km)x d (Km) + 3 (dB)												
	CALCULATION NO.					CALCULATED CALCULATE DESIGN VALUES BEFORE T			DATE OF	F AL TEST	DESIGNAL DETERMIN	VAL
1	L	SPAN			Naga — Iraga (Sub-Center) (Repeater)						AF	TER TEST
	ALTITUDE			m	E	42	2	42	2	42	2	42
Š		ANTENNA HEIGHT	HI, H2		30	30	10	10	10	10	30	30
SPAN	L		hı, he	m	1							-
CONDITION		OUTLINE OF PROPAGATION PATH					30					
Įž	[[DISTANCE	D	Km	33	3.6	3.3	3.6		3. 6	33	3.6
1			MÓDE	Ĺ				YAGI 3E			3-STAGE CO-LINEAR	YAGI 3E
	,	ANTENNA	POLARIZ	MOITAS	V	٧	V	ν	V	V	V	v
	L		PATTERN			!		1			[
	٦,	EEÔER	MODE	L	AFZE50-4	AF2E50-4	50-2V	5D-2V	50-2V	50-2V	AFZE50-4	AFZE50-4
1	<u> </u>		LENGT	H m	45	45	16		16	16	45	45
 _	1	RANSMITTING OUTPUT POWER	Pt	W	10	10	ΙÒ	10	7	7	10	10
	77	PROPAGATION LOSS	Lof	dΒ	- IĆ		- 10		- IĆ		- 10	
	ð	SPHERICAL TERRAIN LOSS	Lpp	48		7		19	_ [19		7
	Ď	TERRAIN REFLECTION LOSS					<u> </u>				ļ	
SPAN	GATION LC	SHADOW LOSS	Lps	đВ	· 6	5	- 9 - 6 - 6		- 9 - 6 - 6		- 6 - 6 - 7	
ź	SS	CORRECTIVE VALUE	Lpc	dB				1000	3.	5	3.	5
	ĽÏ	(TOTAL LOSS)	Lρ	dВ	- 13	5 4	- 14	8	-144.5		- 130	
ပ္ပြင္	₽	ANTENNA GAIN	GA	dВ	6	6	8	8	8	8	6	6
Ġ	揙	AZIMUTHAL PATTERN LOSS	Lo	4B							[
	3	ANTENNA H Y B LOSS	1.					1.]	1		
	Þ	FEEDER LOSS			-1.575	-1.575	Ż	2	2	- 2	-1.575	-1.575
	8	FILTER LOSS										
į	2	(TOTAL)		48	8	9	1	2	1:			9
		(GRAND: TOTAL)	L s	dB	-12		- 13	6	- 132	2.5	- 151	1.6
ļ		ANSMITTING OUTPUT POWER	Pt	d8m	40	40	40	40	38.5	38.5	40	40
-		CEIVING POWER LEVEL	Pr	dBm	- 85.1	−85. I	i	- 96	-94		- 81.6	
Ş		am. f.)	er	dB)	27.9	27.9		17	19 [21.4	21.4
Z	·	COMING NOISE POWER LEVEL	Prne	dBm	1				L			
0		reput Noise Fruet	erne	dB)u			المنابط		└	·	<u> </u>	
٦		TERNAL NOISE LEVEL	Proi	u8b	<u> </u>		1			<u> </u>	ļl	
רכהר	_	NISE INCREASE	Δο	dB dB			1		\ !	·	i	1 2
Þ		AL RECEIVING NOISE POWER LEVEL RESHOLD LEVEL	Prn	dBm		112			<u> </u>	<u> </u>	 	I
5		RESTFACTOR	Pth C4	d8m d8	~ 110	- 110			·!	12.0	- 110	-110
Ž		RESHOLD MARGIN	Cf Mth	dB dB	9 24 9	24.9	i				28.4	9 28. 4
. }		N IMPROVEMENT	E	98	24.9 12	12	 Î		· · · · · · · · · · · · · · · · · · ·		12	12
ŀ		ANDARD S/N	S/N	₫B	45.9	45.9	 !		35	41.5	49.4	49.4
딜		DING VALUE PRESUMED	LF	48	- 6.							4
ZCD MO MO MO MO MO MO MO MO MO MO MO MO MO		Ih > LF)		48	18.5		1		1		22	22
žή		N AT FADING		dB	39.5	39.5	- i			- · · ·	43	43
!	REMARKS					33.0						73

Date: 18th Mar. 177

Bicol River System

Sipocot Hill (Repeater) —— Sipocot (R&W)

(e. m. f.) er d8µ 65.9 75.9 67 50.5 50.9 60.5 incoming noise power level proe d8m (e. m. f.) erne d8µ (MODE OF COMMUNICATION : SIMPLEX METHOD OF MODULATION : FM IMPEDANCE : 50 (A) SPECIFIED RELIABILITY : 99.9 (%)													
CALCULATION NO. SPAN Specific Test CATUAL TEST CERTIMINAL	Ċı	ALCULATION OF FAOING VALUE PRESUN	ÆĎ:	0.1 (d8/Km) x	d (Km) +	<u>3</u> (48)							
SAN		CALCULATION NO.									DETERMIN	IAL		
National Height		SPAN	SPAN						_		A-	EK IESI "		
OUTLINE OF PROPAGATION PATH D				m			100	7			1	20		
OUTLINE OF PROPAGATION PATH D	S	ANTENNA HEIGHT		m	30	10	10	10	10	10	30	10		
ANTENNA MODEL 3-3165	Z		p1 * p5		<u> </u>	<u> </u>								
ANTENNA MODEL 3-3165	8									1				
ANTENNA MODEL 3-3165	ž	OUTLINE OF PROPAGATION PATH			11	4					1			
ANTENNA MODEL 3-3165	∃ .				l									
ANTENNA	2	DISTANCE	0	Km	3.	75	3.	75	3.	75				
ANTENNA	- 1		MODE	L	3-STAGE CO-LINEAR	YAGI 3E	YAGI 3E	YAGI 3E	YAG1 3E	YAGI 3E	3-STAGE CO-LINEAR	YAGI 3E		
FEEDER		ANTENNA	POLARIZ	ATION			V	V	V	V	V	٧		
RECEIVING POWER LEVEL Problem Problem Problem Proposed Problem Proposed Problem			PATTE	RN										
TRANSMITING OUIPUT POWER PI W 10 1 10 10 7 — 10 1 1		FEEDER			AFZE50-4	AFZE50-4	5D-2V							
PROPAGATION LOSS Lpf dB										16		15		
SPARRICAL TERRAIN LOSS Lpp dB										<u> </u>		<u> </u>		
Synamic Tenam Reflection Loss Lpp dB		171	Lpi	GR	- 8	9	- 8		89		89		8	9
SHADOW LOSS			Lop	đВ								<u> </u>		
STADOW LOSS Lps dB		6 TERRAIN REFEECTION COSS				 }								
S S S S S S S S S S		B					g		- 9	9				
TOTAL LOSS Lp d8 -89 -98 -113 -104	i n	S SHADOW LUSS	Los dB		1						[
TOTAL LOSS Lp d8 -89 -98 -113 -104	Ď	15					L	· ·		1, 1		<u> </u>		
ANTENNA GAIN GA dB 6 8 8 8 8 8 6 8 8 8	Ž	CORRECTIVE VALUE	Lpc	d8	-1									
AZIMUTHAL PATTERN LOSS LO 68		(TOTAL LOSS)	Lp			9	- 9		 					
AZIMUHAL PATTERN LOSS Lo GB	SS	171			6	8	8	8	8	8	6	8		
FEEDER LOSS	03	H AZIMUTHAL PATTERN LOSS	Lo	48								 		
FILTER LOSS	į.					0.508			- 2	l	-1 575	- 0.525		
TRANSMITTING OUTPUT POWER Pt dBm 30 40 40 40 40 38.5 30 40 40 40 40 40 40 40		1 _ 1			- 1.3/3	-0.525		<u> </u>]	1 3.3	0.520		
GRAND TOTAL Ls d8 -77.1 -86 -101 -92.1	•			dR	11	à		2		2	10 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	9		
TRANSMITTING OUTPUT POWER Pt dBm 30 40 40 40 — 38.5 30 40 RECEIVING POWER LEVEL Pr dBm - 47.1 - 37.1 — 46 — -62.5 -62.1 -52. (e. m. f. l er dBy 55.9 75.9 67 — 50.5 50.9 60.5 INCOMING NOISE POWER LEVEL Prne dBm		A	l s											
RECEIVING POWER LEVEL Pr dBm - 47.1 - 37.1 - 4662.5 - 62.1 - 52. (e. m. f. 1 er d8µ 65.9 75.9 67 - 50.5 50.9 60.5 INCOMING NOISE POWER LEVEL Prne dBm (e. m. f.) erne dBµ INTERNAL NOISE LEVEL Prnl dBµ NOISE INCREASE									_	38.5	30	40		
INCOMING NOISE POWER LEVEL	1		-	d Bm				- 46	_	- 62.5	-62.1	-52.1		
THE SHOLD NATION STANDARD S	76	(e. m. f.)	er	ىر 8ە	55.9	75.9		67		50.5	50.9	60.9		
Color Colo	۲	INCOMING NOISE POWER LEVEL	Prne	dBm										
TOTAL RECEIVING NOISE POWER LEVEL P/A dBm	۵	(e.m.f.)	erna	d€µ						<u> </u>		İ		
TOTAL RECEIVING NOISE POWER LEVEL Prh dBm	Ä									<u> </u>				
THRESHOLD LEVEL PIN dBm -110 -110 -	2							· · · · · · · · · · · · · · · · · · ·		<u> </u>				
CRESTFACTOR CI dB 9 1 1 7 9 9 9 9 9 9 1 9 9 9 1 7 9 9 9 9 9 1 9 9 9 1 47 9 57 9 7 9	۶					110			ļ	<u> </u>	_ 110	1 - 1 2 Å		
THRESHOLD MARGIN Mih dB 62.9 72.9 47.9 57.9 S/N IMPROVEMENT I dB 12	퀽								· · · · ·	<u> </u>				
S/N IMPROVEMENT 1 dB 12 12 12 12 STANDARD S/N dB 83.9 93.9 - 50 68.9 76.9 E FADING VALUE PRESUMED LF dB -3.4 -3.4 -3.4 C (Mth) LF) dB 59.5 69.5 44.5 54.5 S/N AT FADING dB 80.5 90.5 65.5 75.5	Ż						 		 	i				
STANDARD S/N S/N dB 83.9 93.9 — 50 68.9 78.9 E FADING VALUE PRESUMED LF dB —3.4 —3.4 —3.4 G (Mth) LF) dB 59.5 69.5 44.5 54.5 S/N AT FADING dB 80.5 90.5 65.5 75.5														
E FADING VALUE PRESUMED LF dB -3.4 -3.4 G (Mth) LF) dB 69.5 69.5 44.5 54.5 M S/N AT FADING dB 80.5 90.5 65.5 75.5										50		78.9		
Min LF dB 69.5 69.5 44.5 54.5 54.5 575.5 65.5 75.5 75	딭									7	- 3.	4		
	ខ្លី			₫₿				7						
	i m			dB	7					[75.5		
	-	DEMARKS	·									1 1 1		
		120140411374										ita yaka Kanana		

Date; 18th Mor. '77

Bicol River System

Sipocot Hill (Repeater) --- Napolidan (R)

MODE OF COMMUNICATION: SIMPLEX METHOD OF MODULATION: FM IMPEDANCE! 50 (Ω) SPECIFIED RELIABILITY: 99.9 (%) CALCULATION OF FADING VALUE PRESUMED: 0.1 (dB/Km)x d (Km) + 3 (dB)

Γ	CALCULATION NO.	1	4	CALCULAT			TED DATE	DATE OF	AL TEST	DESIGNAL DETERMIN	VALUES
	· , 	DESIGN	VALUES		BEFORE TEST		IL IEST	AFTER TEST			
	SPAN	(Repeater	II-Nopolisc (R)	<u> </u>				(1-1			
1.	ALTITUDE		m	100	100	100	100	100	100	100	100
13	ANTENNA HEIGHT	HI, H2	m	30_	10	10	10	10	10	30	10
VPAN	<u> </u>	hi, h2	W			l	<u> </u>				
											2 5
Į	OUTLINE OF PROPAGATION PATH								3-14-55	180 1900	
1 =								· · ·	· · · · · · · ·		
CONOTITION	DISTANCE	Ď	Κm			1.5	. 1	1.7	5.1.	.13	
'	UISTANCE	MODE		3-STAGE CO-LINEAR	VIOL 15	V461 26	YAGI 3E			3-SYAGE	
	ANTENNA	POLARIZ	<u> </u>	CO-LINEAR V	V	IAGI SE	V V	V	V	CO-LINEAR	V
	ANIENNA	PATTE				Y	у	·····	<u> </u>	_ v	-
		MODE		ACTORA A	AFZE50-4	5D-2V	50-2V	50-2V	5D-2V	AFZE50-4	ΔF7F50 - 4
	FEEDER	LENGT		A-ZE3U-4 45	15	16	16	16	16	45	15
1	TRANSMITTING OUTPUT POWER	PL	w	10	1	10	10	7		10	3
-	PROPAGATION LOSS	Lpf	₫B	- 10		- 10		-10	00	- 10	00
	SPHERICAL TERRAIN LOSS										10 1 N 1 1 1 1
	TERRAIN REFLECTION LOSS	Lpo	d.B								
	8			- 2	- 2	- 4	3	- 4	3	2	- 2
1	티 SHADOW LOSS			_ 2	- 4	- 4	- 4	- 4	- 4	– 2	- 4
۱.,	151	Los	dB	- 3	- 3	- 4.5	- 3 .	4.5	- 3	– 3	- 3
7 E	[5]		:	- 3		- 4.5	<u> </u>	4.5		- 3	
Z	CORRECTIVE VALUE	Lpc	48				<u> </u>	- 23			3.5
I٢	(TOTAL LOSS)	Lp	48	i i	9	1		- 15		- 14	
8	S Parition Com.	GA	dB	6	8	8	8	8	8	6	8
۷	AZIMUTHAL PATTERN LOSS	Lò	dB			1 Sq. 2			<u> </u>		
1	Z ANIENNA N I B LUSS				<u> </u>				-2	-1.575	- 0.525
1.	FEEDER LOSS	:	·	1.575	0.525	- 2	<u> </u>	2	<u> </u>	-1.575	-0.525
I	FILTER LOSS	**	dΒ		<u> </u>		2 2	1	2		. 9
1	Z (TOTAL)		4B	- 10					8.5	- 13	
-	(GRANO TOTAL)	Ls Pt	d Bm		40	40	40	, <u>'</u>	38.5	34.8	40
1	TRANSMITTING OUTPUT POWER RECEIVING POWER LEVEL	Pr	48m	30 - 77. i	-67. I	40	-75		- 100	- 95.8	-90.6
1		er	48 μ	35.9	45.9		38		13	17.2	22.4
1 4	INCOMING NOISE POWER LEVEL	Prne	dBm	33.3	70.0				İ		1 a 1 a 4 a
2	(e.m.f.)	8118	dθμ		i				!		;
{	INTERNAL NOISE LEVEL	Proj	d Bu	+	ŀ			···	<u> </u>		401± 14
CALCO	NOISE INCREASE	Δή	dB		L			7 14 7	!	1.00	
18	TOTAL RECEIVING NOISE POWER LEVEL	Prp	dBm								
1	THRESHOLD LEVEL	Pih	dBm	-110	-110					-110	110
] 2	CRESTFACTOR	Ċf	dB	9	9	18 33			1	9	9
2	THRESHOLD MARGIN	Mih	dВ	32.9	42.9					14.2	19.4
	S/N IMPROVEMENT	I	dB	12	12					12	12
	STANDARD S/N	S/N	₫₿	53.9	63.9				40	35.2	1 40.4
	FADING VALUE PRESUMED	LF	dB	- 4	3				1 3 4 6	4	
X.	(MIL) LF)		dB	28.6	38.6				<u> </u>	9.9	15.1
N N	S/N AT FADING	•	dB	49.6	59.6			<u> </u>	<u>i</u>	30.9	36.1
							7.7				A Committee of
1	REMARKS			$\pm \frac{\lambda}{2}$		1.5					
L								Description of the last	وارجيه والبائدة المستحدث والجروم		

Dale; 18th Mor. 177

Bicol River System

Iraga (Repeater) —— Buhi (R&W)

MODE OF COMMUNICATION : SIMPLEX METHOD OF MODULATION : FM IMPEDANCE : 50 (0.1 | SPECIFIED RELIABILITY : 99.9 (%)

CALCULATION OF FADING VALUE PRESUMEO : O.1 (dB/Km)x d (Km) + 3 (dB)											
	CALCULATION NO.			CALCULA DESIGN	EO I VALUES	CALCULA	TED DATE	DATE OF	AL TEST	DESIGNAL DETERMIN	IAL
1	SPAN	Iraga — Buhl (Repeater) (RAW)				_		AF	TER TEST		
	ALTETUDE	- 1 - 1	m	42	95	42	95	_42_	95	42	95
ξ	ANTENNA HEIGHT	H1, H2		30	10	10	10	10	10	30	10
SPAN		hi, h2	m					<u></u>			
N CONDITION	OUTLINE OF PROPAGATION PATH	<u> </u>									
Į ž	DISTANCE	D	Km	12	. 5	12	5	12	2.5	12	5
1.0		MODE	L	3-STAGE	YAGI 3E	YAGI 3E	YAGI 3E	YAGI 3E	YAGI 3E	3-STAGE	YAG1 3E
	ANTENNA	POLARIZ		V	V	V	٧	V	V	V	v
		PATTE	RN								
	FEEDER	MÓDE	L	AFZE50-4	AFZE50-4	50-2V	50-2V	50-2V	50-2V	WZE50-4	AFZE50-4
1	FEEDER	LENGT	H m	45	15	16	16	16	16	45	15
L	TRANSMITTING OUTPUT POWER	۶ŧ	W	10	1	10	10	7	7	iò	3
	PROPAGATION LOSS	Lpf	dВ	- 9	9	- 9	9	- (9		99
i .	SPHERICAL TERRAIN LOSS	1	dВ								
	TERRAIN REFLECTION LOSS	Lóp	08			1					
	ର୍ଜି	-								_	
SPAN	SHADOW LOSS	Lps	фB	- 20 - 6		6 5 l		→ e		- 6 - 6	
Z	CORRECTIVE VALUE	Lpc	₫B					- 19).5	1 (⊋. 5
	(TOTAL LOSS)	Lp	dB	12	5	- 12	6	- 145.5		14	4.5
[5	≥ ANTENNA GAIN	GA	dВ	6	8	8	8	8	8	6	8
Š	AZIMUTHAL PATTERN LOSS	Lo	dB					i			1
	Z ANTENNA H Y B LOSS		11.	i							
	FEEDER LOSS			-1.575	-0.525	- 2	- 2	- s	- 2	-1.575	- 0.525
	S FILTER LOSS										
	Z (TOTAL)		ďΒ	11.	9	=	2	1:	2	- 11	. 9
لــــا	(GRAND TOTAL)	Lŝ.	dВ	- 113	. 1	- 13	4	- 133	3.5	- 13	2.6
	TRANSMITTING OUTPUT POWER	Pt	d Bm	30	40	40	40	38.5	38.5	34.8	40
	RECEIVING POWER LEVEL	Pr	dBm	- 83.1	-73.I		-74	- 95	1	- 97.8	- 92.6
S	(e.m.f.)	er	ىز8ە	29.9	39.9		39	18		15.2	20 4
Ì	INCOMING NOISE POWER LEVEL	Prn#	dBm	j		12 11 15					(34)
	(e, m, f,)	erne	dBju								
CALCULA	INTERNAL NOISE LEVEL	Prnl	48 ه	i				i			
8	NOISE INCREASE	Δn	dΒ	1		j	Notice of				
<u> </u>	TOTAL RECEIVING NOISE POWER LEVEL	Pro	dBm								
티로티	THRESHOLD LEVEL	PIh	dBm	<u>-110</u>	-110]		i		-110	-110
02	CRESTFACTOR	Cf 5	48	9	9			1		9	9
	THRESHOLD MARGIN	Mih	48	26.9	36.9					12.2	
	S/N IMPROVEMENT	1	dė		12			 ¦	- 12	12	12
ا ـــا	STANDARD S/N	S/N	48	47.9	57.9	i		36 j	40	33.2	38.4
ુદ્ધ	FADING VALUE PRÉSUMED	LF	dB.	+ 4.					Santa Santa	- 4	
MENT	(Mih > LF)		48	52.6	~~~~~					7.9	13.1
=	S/N AT FAOING		dВ	43.6	53.6	<u> </u>		<u> </u>		28.9	34.1
	REMARKS						· · .				

Dole; 18th Mor. '77

Bicol River System

Iraga (Repeater) — Ligao (R)

CALCULATION NO. SPAN TITUDE MATTITUDE MODEL MODE	MODE OF COMMUNICATION : SIMPLEX METHOD OF MODULATION : FM IMPEDANCE : 50 (1) SPECIFIED RELIABILITY : 99.9 (%)												
OBSIGN WALTES OFFST ACTUAL TEST CEFSMINAL TOUGH TO	CALCULATION OF FADING VALUE PRESUMED: 0.1 (dB/Km)x d (Km) + 3 (dB)												
AUTITUDE			CALCULATION NO.	1, 4,1									
NATIONAL National		L	SPAN		- 1	Iraga — Ligao				_		AF	— ЕК (ES)
OUTLINE OF PROPAGATION PATH		L			m			42	30	42	30	42	30
OUTLINE OF PROPAGATION PATH	SP	L	ANTENNA HEIGHT	H1, H2	m	30	10						10
OUTLINE OF PROPAGATION PATH	Ž			hi, ha	m				<u> </u>			1 1	3 <u>. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1.</u>
ANTENNA MODEL SCHEER VAGI 3E			OUTLINE OF PROPAGATION PATH					-					
### ANTENNA POLARIZATION V V V V V V V V V	ž		DISTANCE	D	Km	24	1.5	24	5	24	. 5	24	5
### ANTENNA POLARIZATION V V V V V V V V V				MODE	L.							3-STAGE	YAĞI 3É
FEEDER			ANTENNA	POLARI	MOITA					<u> </u>	•		V
TRANSMITTING OUTPUT POWER PI W 10 1 10 10 7 7 10 10 10 10 10 10 10 10 10 10 10 10 10		l_{-}		PATTI	RN					: 2 · · ·			
TRANSMITING OUTPUT POWER PI W 10			FEEDLO	MODE	L,	AFZE50-4	AFZE50-4	50-2V	5D-2V	50-2V	5D-SV	AFZE50-4	AFZE50-4
PROPAGATION LOSS		L		LENGT	H m	45	15	16	16	16	16		15
SPHERICAL TERRAIN LOSS Lpp dB		1		-							<u> </u>		10
TERRAIN REFLECTION LOSS		٦,		Lpf	48			-10		1			
SHADOW LOSS		8		Lop	đВ	- :	- 2 - 5			5	- 2		
Corrective value Lpc dB		P	TERRAIN REFLECTION LOSS										
TOTAL LOSS Lp dB	SE	ATION	SHADOW LOSS	Lps	₫B		[] [] [] [] [] [] [] []			- · ·		-	
TOTAL LOSS Lp dB	2	ဖြင့်	CORRECTIVE VALUE	Lpc	dB	 				_ 1	7.5	1	7. 5
Note Note	_	ľ				- 12	3.3		6				<u> </u>
AZIMUTHAL PATTERN LOSS	ò	Þ	ANTENNA GAIN		dВ							6	8
FEEDER LOSS	ζ,	=		Lo	dB								7 T. F. W.
FILTER LOSS		ž	ANTENNA H Y B LOSS				1.5						
TRANSMITTING OUTPUT POWER		Ď	FEEDER LOSS	1		-1.575	- 0.525	- 2	- 2	- 2	- 2	-1.575	-0.525
TRANSMITTING OUTPUT POWER		ည်	FILTER LOSS										
TRANSMITTING OUTPUT POWER Pt dBm 30 40 40 40 38.5 38.5 40 40 40 RECEIVING POWER LEVEL Pr dBm -9(.1 -81.1 -84 -102 -103 -98.6 -98. -98.		Z			48		9	1	2	1	2		
RECEIVING POWER LEVEL Pr dBm -91.1 -81.1 -84 -102 -103 -98.6 -98. (e. m. f.) er dBJ 21.9 31.9 29 11 10 14.4 14. INCOMING NOISE POWER LEVEL Prns dBm (e. m. f.) erne dBJ 21.9 31.9 29 11 10 14.4 14. INTERNAL NOISE LEVEL Prns dBJ 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2		_	· · · · · · · · · · · · · · · · · · ·	Ls	₫₿	- 12	1.1	1 - 12	4	- 141		- 13	
(e, m, f,) er d8µ 21.9 31.9 29 11 10 14.4 14. INCOMING NOISE POWER LEVEL Prine d8m		_				30	40	40					40
INCOMING NOISE POWER LEVEL								1					
Color	Ø.					21.9	319				10	14.4	.14.4
INTERNAL NOISE LEVEL	ż	} <u> </u>					: 		<u> </u>		1942 P	171	
Noise Increase	Q							i					
TOTAL RECEIVING NOISE POWER LEVEL Prin d8m	ř									····			
THRESHOLD LEVEL. PIN d8m -110110 CRESTFACTOR Cf d8 g g g THRESHOLD MARGIN MIN d8 18.9 28.9 THRESHOLD MARGIN S/N IMPROVEMENT I d8 12 12 STANDARD S/N STANDARD S/N S/N d8 39.9 49.9 G FADING VALUE PRESUMED LF d8 13.4 23.4 C S/N AT FADING d8 34.4 44.4 26.9 26	Ë												
CRESTFACTOR Cf dB 9 11.4	2					_ 114	-110					- 110	-110
THRESHOLD MARGIN MIN d8 18.9 28.9 11.4	ಠ			2.4	4.4			i			<u> </u>		9
S/N IMPROVEMENT I d8 12 1	Z	_				. 1		i	i				11.4
STANDARD S/N S/N dB 39.9 49.9 38 37 32.4 32. FADING VALUE PRESUMED LF dB -5.5 -5.5 -5.5 CMIN > LF) dB 13.4 23.4 5.9 5 S/N AT FADING dB 34.4 44.4 26.9 26								- A - A			1,2.4		12
FADING VALUE PRESUMED LF 68 - 5.5 - 5.6 (Mih > LF) 68 (3.4 23.4 5.9 5 5.9 5 6 6 6 6 6 6 6 6 6	_				-				11.1	38	37		32.4
(Mih) LF d8 13.4 23.4 5.9 5 5 5 5 5 5 5 5 5	ü				dB			- 100			11.0	5.	5
	S O		······································		48							5.9	5.9
	₹(I)	S	N AT FADING		dB				1 1 1 1 1			26.9	26.9
・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・		-	· · · · · · · · · · · · · · · · · · ·										

Dole; 18th Mar. '77

Bicol River System

FADING VALUE PRESUMED

(Mih > LF)

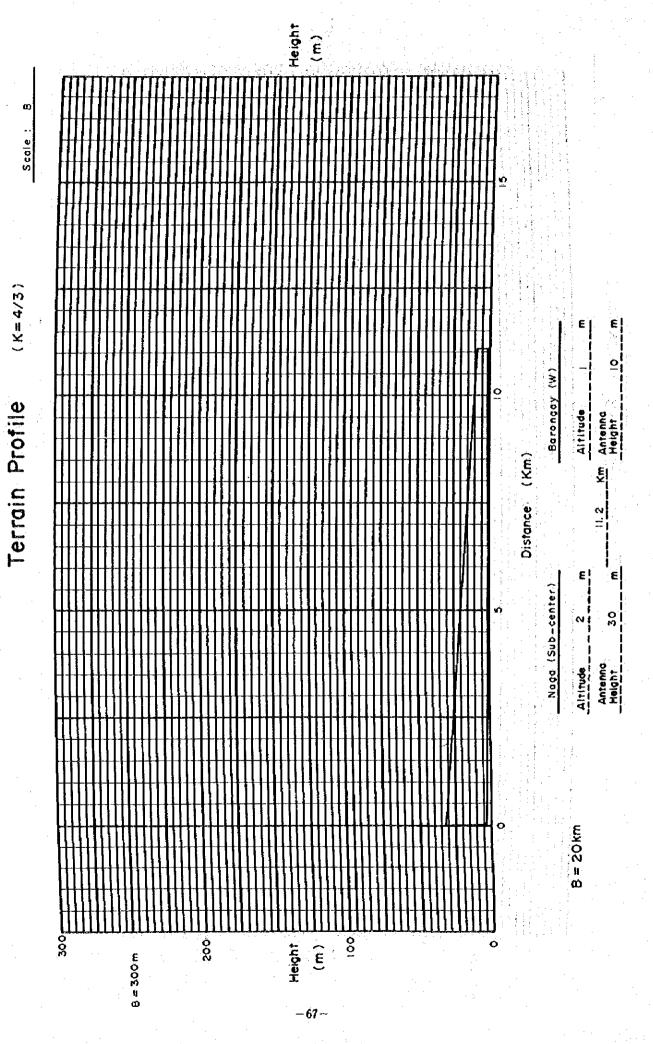
S/N AT FADING REMARKS

Irago (Repeater) ---- Bato (R&W)

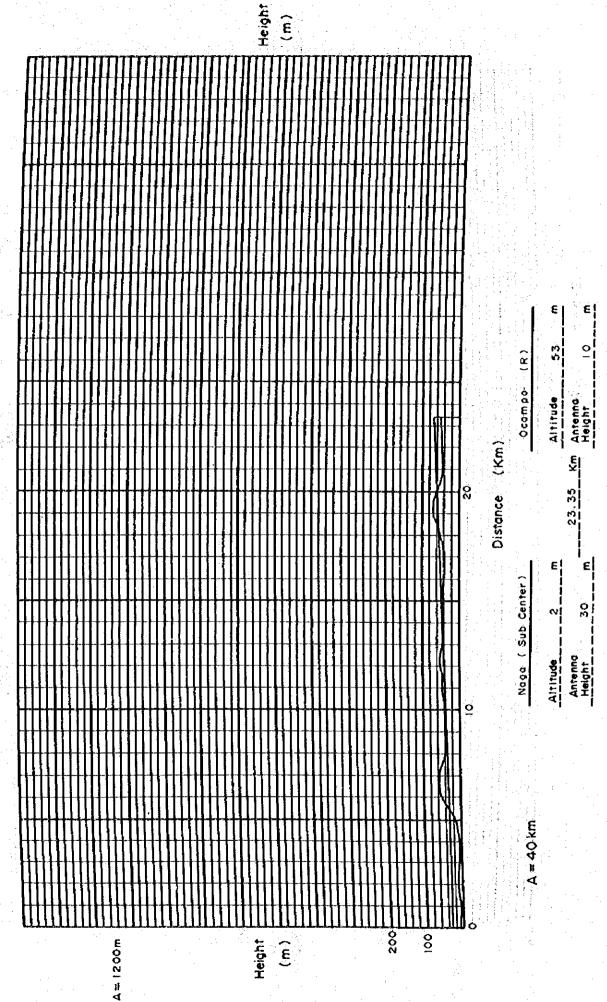
MK	DE	OF COMMUNICATION & SIMPLEX N	ETHOD C	F MOOL	LATION:	FM IMP	DANCÉ :	50 (1)	SPECIFIED RELIABILITY : 99.9 (%)				
_ 0	AL (SULATION OF FADING VALUE PRESI	MEO:	0.1	d8/Km) x	d (Km) t	3 (dB)	e entre					
	T_				Icai can a	760	Tation		I SATE S		Incorna	VALUE OF	
	1	CALCULATION NO.				TED V VALUES	BEFORE	TEST		AL TEST	DESIGNAL DETERMIN		
	SPAN					Bato (RAW)			_		AF	TER TEST	
^		ALTITUDE		m	42	10	42	10	42	10	42	10	
S.		ANTENNA HEIGHT	Hı, Ha	tn	30	10	10	10	10	10	30	10	
SPAN			hi, ha	w				10000					
CONDIT		OUTLINE OF PROPAGATION PATH								:			
Š		DISTANCE	D	Km	8	4	8	. 4	. 8	. 4	8	4	
1	Г			L	3-STAGE	YAĞI JE	YAGI 3E	YAGI 3E	YAGI 3E	YAGI 3E	3-STAGE CO-LINEAR	YAGI 3E	
] /	ANTENNA	POLARI			V	V	V	ν	v	V	V	
			PATT	ERN		<u> </u>							
	Γ,	- Care	MODE	L	AFZE50-4	AFZE50-4	50-2V	50-2V	50-2V	50-2V	AFZE50-4	AFZE50-4	
	Ľ	EEDER	LENGT	Ηm	45	15	16	16	16	16	45	16	
	_;	FRANSMITTING OUTPUT POWER	PL	W	10	1	10	10	7		10	1	
	_	PROPAGATION LOSS	Lpf	đВ	– 9	1.5	- 9	1. 5	- 9	- 91.5		1.5	
	ž.	SPHERICAL TERRAIN LOSS	Lóp	dB		3.5	- 5.5		- 5.5		- 3.5		
	ğ	TERRAIN REFLECTION LOSS	Lyp	08			,						
SPAN	GATION L	SHADOW LOSS	Løs	d8	- 3		-	4	- 4			3	
2	Ϋ́	CORRECTIVE VALUE	Lpc	dB						20		20	
		(TOTAL LOSS)	Lo	dВ	- 9	8	- 10) i	\$	2 1	- 1	8	
ő	Þ	ANTENNA GAIN	GA	48	6	8	8	8	- 8	8	6	8	
Š	Z	AZIMUTHAL PATTERN LOSS	Lo	dB					17.0		5		
	2	ANTENNA H Y 8 LOSS	1										
	ź	FEEDER LOSS			~1.575	- 0.525	- 2	- 2	2	.– s	- 1.575	- 0.525	
	ଦୁ	FILTER LOSS										it eye	
	Ź	(TOTAL)		. ₫₿	11	9	1	2		2	H	. 9	
		(GRAND TOTAL)	Ls	₫B	- 86	5.1	8	9	<u>- 10</u>	09	- 108	5.9	
		ANSMITTING OUTPUT POWER	Pt	d 8m	30	40	40	40		38.5	30	40	
		CEIVING POWER LEVEL	Pr.	d Bm	- 56.1	- 46.1		- 49		-70.5	- 76.1	-663	
S		. m. f.)	197	עפא	56.9	66.9		64		42.5	36.9	46.9	
ž	IN	COMING NOISE POWER LEVEL	Prne	d8m				3 34 1	3.7				
1 1		· m. f.)	erne	48ր			3.75	f 12 % 1		 			
P		TERNAL NOISE LEVEL	Prni	48)		<u> </u>					1. 10.		
CALCULAT		DISE INCREASE	Δn	48		1.5	1 14	1					
>		AL RECEIVING NOISE POWER LEVEL	Prn	dBm				*					
5	_	RESHOLD LEVEL	Pih	∂Bm	-110	-110				<u> </u>	-110	-110	
ž		RESTFACTOR	Cf	48	9	9					9	9	
		RESHOLD MARGIN	Mth	øΒ	53.9	63.9					33.9	43.9	
		N IMPROVEMENT	I	dB	12	15					15	12	
	ગ	ANDARD S/N	S/N	dΒ	74.9	84.9	ليلتيا	L	لبحبا		54.9	64.9	

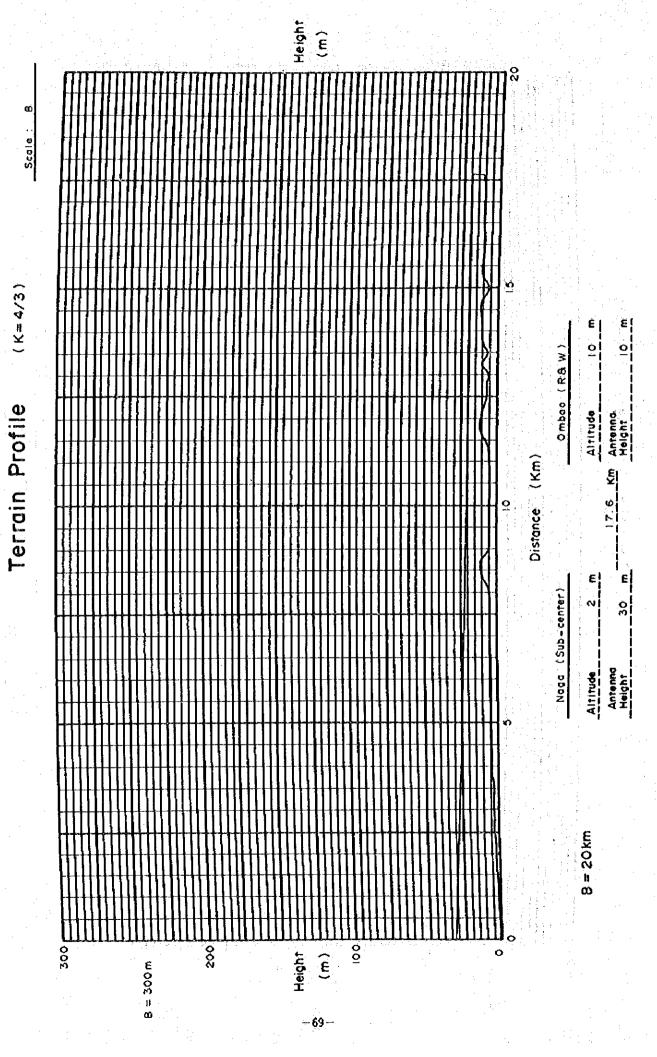
dB

d8



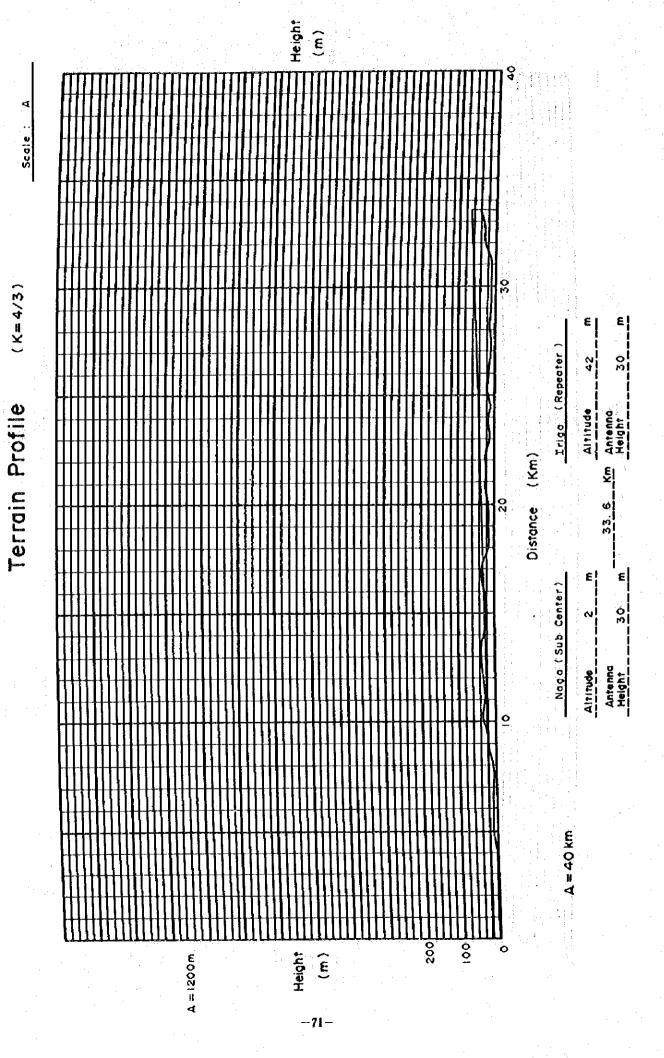
(K=4/3)





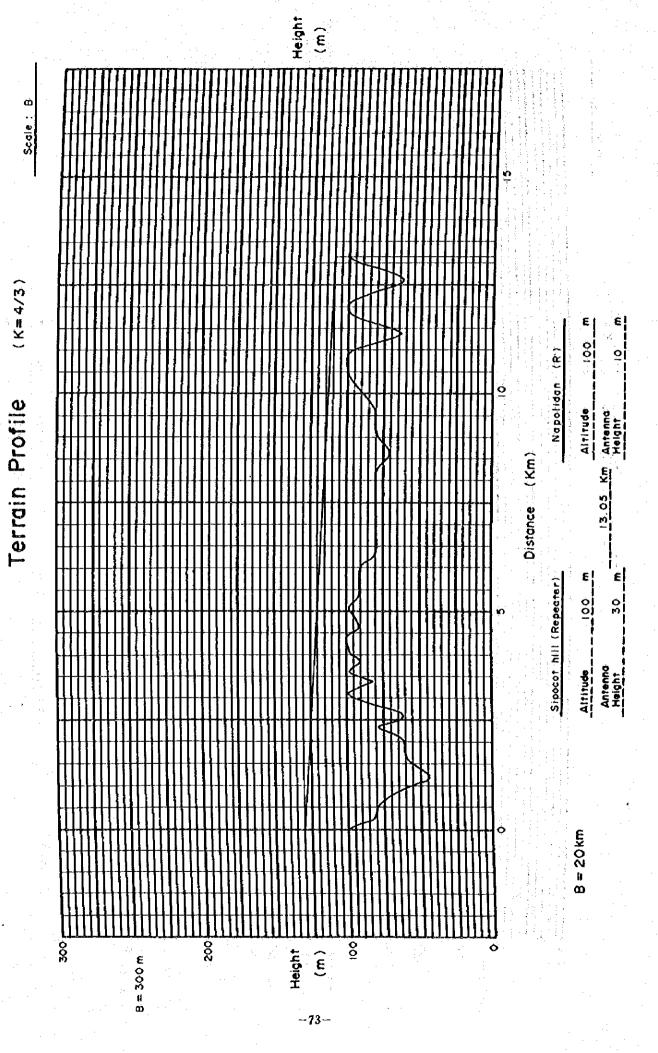
Scale : A

(K=4/3)



Scale: B

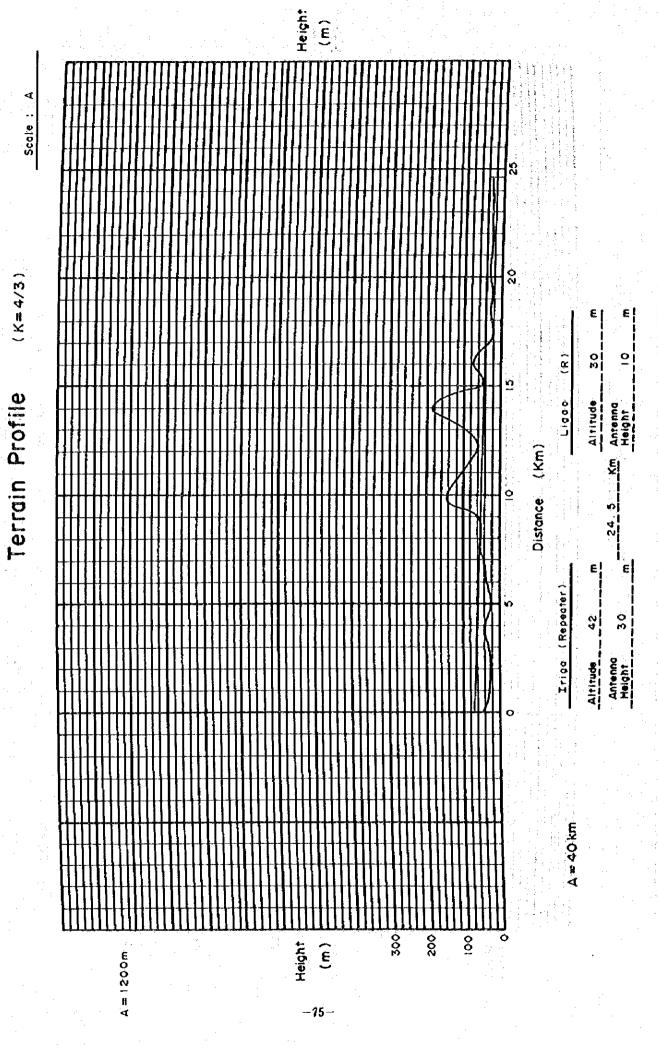
(K=4/3)



-74-

Scale: 8

(K#4/3)



Scale: B

(K=4/3)

Terrain Profile

Date : 18th Mar. 177

Cagayan River System

Tuguegarao (Sub-Center) — Tuguegarao (R&W)

MIL	ODE OF COMMUNICATION & SIMPLEX ME	THOD O	F MODU	LATION:	FM IMPE	DANCE 1	50 (Ω)	SPECIFIE	D RELIAE	ILITY :	99.9 (%)
	ALCULATION OF FADING VALUE PRESUN				d (Km) +						
	CALCULATION NO.	CALCULA	TED N VALUES	BEFORE	TED DATE	DATE OF	AL TEST	DESIGNAL DETERMIN	VALUES		
	SPAN		ió - Tuguégaro			AUTO.	NE TEST	AF	TER TEST		
1.	ALTITUDE	(Sub-Cente	ir) (Raw)	4							
က	ANTENNA HEIGHT	H1, H2	m	30	15	20	15	20	15	20	15
SPAN	ATTENNA TELOTIC	hi, h2		30_		_10_		10	10	30	10
	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1									f	
β								1			1
õ	OUTLINE OF PROPAGATION PATH					1:			2011/06	100	
CONDITION						·	·············				
ž	DISTANCE	Ď	Km	4	Ö.	4	O ,	4	0	4	Ō
10		MODE	L	3-STAGE CO-LINEAR	YAGI 3E	YAGI 3E	YAGI 3E	YAGI 3E	YAĞI 3E	3-STAGE CO-LINEAR	YAGI, 3E
	ANTENNA	POLARIZ	ZATION	٧	V	V	V	ν	٧	٧	V
		PATT	ERN								
1	FEEDER	MODE		AFZE50-4	AFZE50-4	50-2V	50-2V	5D-2V	50-2V	AFZE50-4	AFZE50-4
1		LENGT	,	45	15	16	16	16	16	45	15
<u> </u>	TRANSMITTING OUTPUT POWER PROPAGATION LOSS	<u>Pt</u>	W	10	<u> </u>	10	10	7	<u> </u>	10	
	SPHERICAL TERRAIN LOSS	Lpf	dВ	- 89 - 3		- 89		- 89		- 89	
	TERRAIN REFLECTION LOSS	Lpp	d8		2.5	- 10	5.5	- 16	. 5		2,5
							· · · · · · · · · · · · · · · · · · ·			••••	·
	SHADOW LOSS	· .	ŀ			1 1					
Ś	SHADOW LOSS	Lps	48								
ρΔ	[5]	-31						<u> </u>			
2	CORRECTIVE VALUE	Lpc	48			.i. '.			0	-	
٦	(TOTAL LOSS)	Lp	4B	- 92		- 106		- 116		- 102	
SS	ANTENNA GAIN	GA	dB	6	8	8	8	8	8	6	8
, ,	AZIMUTHAL PATTERN LOSS ANTENNA H Y B LOSS	Lo	dB		.			* ***			
	FEEDER LOSS				A) = 0 =	1					0505
	S FILTER LOSS	 ,		-1.5/5	-0.525	-2	-2	-2	-2	- 1.575	- 0.525
,	Z (TOTAL)		dB	11,	۵		2	 	2	- 11	9
	(GRAND TOTAL)	Ls	48	- 80		- 9		- 10		- 90	
	TRANSMITTING OUTPUT POWER	Pt	d Brn	30	40	40	40	ĭ	38.5	30	40
	RECEIVING POWER LEVEL	Pr.	dBm .	-50.I	40.I	70.	- 54		- 65.5	- 60.1	
c,	(e.m.f.)	er	dΒμ	62.9	72.9		59		47.5	52.9	62.9
Ž	INCOMING NOISE POWER LEVEL	Prne	dBm								
	(e.m.f.)	erne	υBp								
CALCU	INTERNAL NOISE LEVEL	Prol	цВb								
ΩΙ	NOISE INCREASE	Δη	48			j			, N		
· C		D-4	d Bm	21 777							
Ţ	TOTAL RECEIVING NOISE POWER LEVEL	Prn									_ 1 1 0
4	THRESHOLD LEVEL	PIħ	d8m	-110					- 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1	-(10	
ULATION	THRESHOLD LEVEL CRESTFACTOR	PIħ Ĉf	d8m dB	9	9				4	9	9
4	THRESHOLD LEVEL CRESTFACTOR THRESHOLD MARGIN	PID Cf Mth	d8m dB dB	9 59.9	9 69.9					9 49.9	9 59.9
4	THRESHOLD LEVEL CRESTFACTOR THRESHOLD MARGIN S/N IMPROVEMENT	PID Cf Mth I	d8m dB dB dB	9 59.9 12	9 69.9 12					9 .49.9 .12	9 59.9 12
LATION	THRESHOLD LEVEL CRESTFACTOR THRESHOLD MARGIN S/N IMPROVEMENT STANDARD S/N	PIh Cf Mth I S/N	d8m d8 d8 dB dB	9 59.9 12 80.9	9 69.9 12 90.9					9 49.9 12 70.9	9 59.9 12 80.9
LATION	THRESHOLD LEVEL CRESTFACTOR THRESHOLD MARGIN S/N IMPROVEMENT STANDARD S/N FADING VALUE PRESUMED	PID Cf Mth I	d8m d8 d8 d8 d8	9 59.9 12 80.9	9 69.9 12 90.9					9 49.9 12 70.9	9 59.9 12 80.9
LATION	THRESHOLD LEVEL CRESTFACTOR THRESHOLD MARGIN S/N IMPROVEMENT STANDARD S/N FADING VALUE PRESUMED (MILL) LF)	PIh Cf Mth I S/N	d8m d8 d8 dB d8 d8	9 59.9 12 80.9 -3.	9 69.9 12 90.9 4 66.5					9 49.9 12 70.9 -3.	9 59.9 12 80.9 4
LATION	THRESHOLD LEVEL CRESTFACTOR THRESHOLD MARGIN S/N IMPROVEMENT STANDARD S/N FADING VALUE PRESUMED	PIh Cf Mth I S/N	d8m d8 d8 d8 d8	9 59.9 12 80.9	9 69.9 12 90.9					9 49.9 12 70.9	9 59.9 12 80.9

Dote : 18th Mor. '77

Cagayan River System

Tuguegarao (Sub-Center) — Tumauini (R&W)

MODE OF COMMUNICATION : SIMPLEX METHOD OF MODULATION : FM (IMPEDANCE : 50 (1)) SPECIFIED RELIABILITY : 99.9 (%)

C/	ALCULATION OF FADING VALUE PRESU	MED:	0.1 (dB/Kmlx	d (Km) +	3 (48)					
	CALCULATION NO.				VALUES	BEFORE	TEO DATE TEST	DATE OF ACTU/	L TEST	DESIGNAL DETERMIN	VALUES AL ER TEST
	SPAN			Tuguegara	o-Turnouini		- J ana 1		- 1.11	_	-
	ALTITUDE	77.	m	20 20	7) (RAW) 30	20	30	20	30	20	30
S	ANTENNA HEIGHT	H1, H2	m	30	10	10	10	10	10	30	10
PAN		hi, ha	m								
		1	L		-:						
8										1.1	
Ö	OUTLINE OF PROPAGATION PATH										
CONDITION		ing Pi	1.5		5. 7. 15	a - 1					
Š	DISTANCE	0	Km	38	3.1	38	1	38	, 1	38	11 1
		MÓDE	L" N	3-STAGE	YAGI 3E	YAGI 3E	YAĞI 3E	YAGI 3E	YAĞI 3E	3-STAGE	YAGI 3E
	ANTENNA	POLARIZ	ATION	V	V	٧	V	٧	٧	٧	٧
		PATTE									
	Tale Waller	MODE		AFZE50-4	AFZE50-4	50-2V	50-2V	50-2V	50-2V	AFZE50-4	
	FEEDER	LENGT	H m	45	15	16	16	16	16	45	15
	TRANSMITTING OUTPUT POWER	Pt	W	10	10	10	10	7	8	10	10
·	PROPAGATION LOSS	Lpf	48	 [09	10		- 10		- K	
	SPHERICAL TERRAIN LOSS	1 4 21	dВ	·	9	= 1	4		14		9
	TERRAIN REFLECTION LOSS	Lóp	UB		<u> </u>	1			<u> </u>		
	GAIT		1	6	- 6	-	6 – 6	(6 – 6	- (5 – 6
	3 SHADOW LOSS	Lps	48	- è			6 - 6	(6 – 6	_ (6 – 6
S	SHADOW LOSS	L Ch.	"	_ `	· -		65 - 6		6.5 - 6		6 - 6
PA Z	5								?		2
Z	CORRECTIVE VALUE	Lpc	dB	- 15 4		- 159.5		- 157.5		15	
50	(TOTAL LOSS)	Lp	48	6	11	- 13 8	Г 8	8	8	6	8
ŠŠ	NATENNA GAIN	GA	1B 4B					7 7 7 7	7 2 3 4 7		
, °	AZIMUTHAL PATTERN LOSS Z ANTENNA H Y 8 LOSS	Ló	V.D								
	FEEDER LOSS		···	-1.575	-0.525	-2	- 2	- 2	-2	-1.575	- 0.525
	P FILTER LOSS	1 7, 1		-1.313	-0.323					· · · · ·	
	Z (TOTAL)		- d8	14	9	1	2	1	2	11	. 9
	(GRAND TOTAL)	LS	48		39 l	- 14		- 14	5.5	- 14	0. 1
	TRANSMITTING OUTPUT POWER	Pi	d Bm	40	40	40	40		38.5	40	40
	RECEIVING POWER LEVEL	Pr	dßm	- 99.1	- 99.1		-107.5		- 107	~ 100. I	i – 100. i
	(e.m.f.)	er	dВи	13.9	13.9		5.5		6	12.9	12.9
S/	INCOMING NOISE POWER LEVEL	Prne	dBm		1	3 1111			l		<u> </u>
2	(e.m.f.)	erne	dBu						i		i
CALC	INTERNAL NOISE LEVEL	Prol	цВЬ			1			<u> </u>		
ը [NOISE INCREASE	Δη	σB		1:-,	1 1	i		<u> </u>		İ
ן לַ	TOTAL RÉCEIVING NOISE POWER LEVEL	Prn	d8m				<u> </u>				i
	THRESHOLD LEVEL	Pih	dBm	-110	-110		<u> </u>		<u> </u>	-110	1-110
9	CRESTFACTOR	Cf -	dB	9	1 9	1111	<u> </u>	1	<u> </u>	9	9
~	THRESHOLD MARGIN	Mih	6 9	10.9	10.9		 		 	9.9	9,9
	S/N. IMPROVEMENT	Ĭ	dB	12	12	<u> </u>	 	 	 	12 30.9	30.9
	STANDARD S/N	S/N	dB	31.9	31.9			 	L		
_ ဋ	FADING VALUE PRESUMED	LF	dB	6		18 1 NO 12		 	,	- 6	<u></u>
MENT	(Mih > LF)		dB		4.1		 	 		3.1	3,1
\	S/N AT FADING	•	48	25.1	25.1		<u>i</u>	 	L	24.1	24.1
	REMARKS	· · · · · · · · · · · · · · · · · · ·	·	-54	1. 4	1	1. 1	1		2 / /	
ı	TEMPINO .			1 t 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	er grander g		200	1 .			

Dole: 18th Mor. '77

Cagayan River System

Tuguegarao (Sub-Center) — Iragon (Repeater)

MODE OF COMMUNICATION : SIMPLEX	METHOD OF MODULATION : FM (IMPEDANCE : 50 (A) SPECIFIED RELIABILITY : 99.9 (%)
CALCULATION OF FADING VALUE PRE	SUMED: 0.1 (d8/Km)x d (Km) + 3 (d8)

	CALCULATION NO.			CALCULAT	TED I VALUES	CALCULA BEFORE	TED DATE	DATE OF	L TEST	DESIĞNAL DETERMIN	<i>i</i> AL
	SPAN			Tuguegara	ó – Tragán r) (Repeater			_		AF1	ER TEST
	ALTITUDE		m		100	20	100	20	100	20	100
S	ANTENNA HEIGHT	Hi. Ha	m	30	30	10	10	10	01	30	30
SPAN	RATE IN THE OTHER	hi hz									
ź			_ m		. ———						
CONDITION	OUTLINE OF PROPAGATION PATH				·		<u>.</u>				
2	DISTANCE	Ó	Km	56	. 4	56	.4	56.	4	56	. 4
		MODE	1:	3-STAGE	YAGI 3E	VAGI 3F	YAGI 3E	YAĞI 3E	YAGE 3F	3-STAGE CO-LINEAR	YAGE 3F
	ANTENNA	POLARIZ		V	V	V	V	V	V	V	V
	MITEMA			V	<u> </u>		<u> </u>	V		Υ	<u> </u>
1 .		PATT			<u> </u>			4.1			
	FEEDER	MODE			AFZE50-4	50-2V		50-2V	50-2V		AFZE50-4
	<u> </u>	LENGT	Нm	45	45	16	 	16	16	45	45
1	TRANSMITTING OUTPUT POWER	Pt	w	10	10	10	10	7	7	10	j 10
	PROPAGATION LOSS	Lpf	dB	- 11	2.5	- 11	2.5	– U3	2.5	- 11	2.5
1	DESCRIPTION TENDENT LOCK									1.8	5
	TERRAIN REFLECTION LOSS SHADOW LOSS	Lop	98								V
	8										
	 ≚			1	- 7	- 3	- 8	- 3	- 8	_ I	- 7
	õ SHADOW LOSS	Lps	đВ	- 5	- 6	-5	- 7	- 5	- 7	Ś	- 6 ;
to I	1 1	-,		- 7	14	<u>-</u> 8		8	'	- 7	5
SPAN	CORRECTIVE VALUE			<u> </u>	<u></u>						
2		Lpc	d8				<u> </u>	9		- : - :	
	(TOTAL LOSS)	Lp	48	13	8.5	– 14	3.5	- 15	2.5	- 14	7.5
LOSS	ANTENNA GAIN	GA -	48	- 6	6	8	8	8	8	6	6
Š		Lo	48						All the	FE 84 C 276	
1 .	Z ANTENNA H Y 8 LOSS	i								118431	ĺ
	FEEDER LOSS		-	-1.575	-1.575	- 2	-2	- 2	- 2	-1.575	-1.575
1	S FILTER LOSS				l	7					
1	Z (TOTAL)		48	8.	A	1	2	1	2	8.	
1			48	- 121		- 13			0.5	13	
-	(GRAND TOTAL)	Ls									
	TRANSMITTING OUTPUT POWER	Pt	d Bm	: 40 :	40	40	40	38.5	38.5	40	40
	RECEIVING POWER LEVEL	Pr	d Bm	-89.7	-89.7		-91.5	-102	-101	-98.7	
ان	(e. m. f.)	èr	dB)J	23.3	23.3	<u>, , 115. </u>	<u> </u>	11	15	14.3	14.3
S/N	INCOMING NOISE POWER LEVEL	Prne	d Bm	i.	<u> </u>		<u> </u>	1.00	120 4	1 <u>1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 </u>	41 f V.
	(e.m. f.)	erne	dBju							3 A 18	i
CALCULATIO	INTERNAL NOISE LEVEL	Prol	dBu			Ų.					
[5]	NOISE INCREASE	Δη	d8				 			1.5	
5	TOTAL RECEIVING NOISE POWER LEVEL		dBm	,	i		<u> </u>			3 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	
>		Prn		11.6			 			-110	- 110
1 🔣	THRESHOLD LEVEL	Pih	d8m	-110	<u>[-110</u>	<u> </u>		-		9	9
Ιž	CRESTFACTOR	Cf	dB	9	1 9		<u>'</u>				
	THRESHOLD MARGIN	Mth	dß	20.3	20.3		11/2 3			11.3	11.3
	S/N IMPROVEMENT	I	68	15	12					12	12
1.5	STANDARD S/N	S/N	dB	41.3	41.3		<u> </u>	34	32 👵	32.3	32.3
<u> </u>	FADING VALUE PRESUMED	LF	ďB	- 8.	6		7.1 1			548.73 - 8 .	6
Į≅δ	(Mth > LF)		dB	11.7	11.7	1				2.7	2.7
EN S			dB	32.7	32.7				1,00	23.7	23.7
川	S/N AT FADING			32.	32.1				L		
	REMARKS		į	5	•		1. 4.			10 11 11 11 11	
1			_								
-							7-10-1				كالمستحدث والمستحدث

Dote: 18th Mar. '77

Cagayan River System

Tragan (Repeater) — Dalibubun (R&W)

MODE OF COMMUNICATION : SIMPLEX METHOD OF MODULATION : FM IMPEDANCE : 50 IR) SPECIFIED RELIABILITY : 99.9 (%)

نيا	T	ULATION OF FADING VALUE PRESUI	MEU:	0.1 (
	Ľ	CALCULATION NO.				TEO N VALUES	CALCULA BEFORE	TED DATE	DATE OF		DESIGNAL DETERMIN	NAL
	SPAN				Iragan — Dalibubun (Repeater) (R8W)						AFTER TES	
	1	ALTITUÓE	44.4	m	100	80	100	80	100	80	100	80
Ŷ	\perp	ANTENNA HEIGHT	H1, H2	m	30	10	10	10	10	10	30	10
SPAN	L		hi, hz	m]							
CONDITION	L	OUTLINE OF PROPAGATION PATH										
ž	C	DISTANCE	0	Km		Ó.8	1 1 1					
	Γ		MODE	L	3-STAGE	YAGE 3F	YARL 35	YAGI 3E	YAGI 3F	YAGI 3F	3-STAGE	YAGI 36
Ī	1	INTENNA	POLARIZ		V-LINEAR	V	V	V	V	V	CO-LINEAR V	V
		我们的"我们的"的"大哥"。"你们"	PATTE					<u> </u>		· · · ·	-	i
	-		MODE		ACRESS 4	lacreso =			50.00	50.311	ACTES A	16E2EEQ 5
. 3	F	EEDER	LENGT			AFZE50-4		50-2V	50-2V			AFZE50-4
	Η.	RANSMITTING OUTPUT POWER	}		45	15	16		16	16	45	15
	! -	· · · · · · · · · · · · · · · · · · ·	Pt	W	10	1 1	1.0	10	8.5	7	10	j : 10
	أورا	PROPAGATION LOSS	Lpf	σB	- !	13	1	13	- 1	13	11	1.3
	18	SPHERICAL TERRAIN LOSS	Lop	48	-		 	·	<u> </u>			:
	B	TERRAIN REFLECTION LOSS			 		 		 		10.00	. · · · · · · · · · · · · · · · · · · ·
	[ह़		i	!	- 6			7.5		7.5	- 6	
	ᅙ	SHADOW LOSS	Los	48	- 6		· ·	6	- 6	- :	6	all the second
r.	2		""	30	- 8.			9		9		3.5
PAN	[5]		<u> </u>	لعقيبا	- 6	الصفية		8	– ε		6	
Z	8	CORRECTIVE VALUE	Lpc	48					- 13		13	
Ċ.	Ш	(TOTAL LOSS)	lρ	₫B	- 13	9.5	- 14	3.5	- 15	7.3	- 15	3.3
5	<u>≱</u>	ANTENNA GAIN	GA	dВ	_ 6	8	8	8	8	8	6	- 11
S	ايرا	AZIMUTHAL PATTERN LOSS	Lo	dВ		<u>, </u>						
l		ANTENNA H Y B LOSS					۱ - ۱	į	1	1	1	!
. "	[ځ	FEEDER LOSS			- 1.575	- 0.525	2	- S	-2	2	-1.575	- 0.525
	द्वी	FILTER LOSS					100					
	ΖÌ	(TOTAL)		dВ	11	9	·	2		2	14	9
	-, %	(GRAND TOTAL)	Ls	dB	- 127	·	-13			5.3	- 13	
	TO	ANSMITTING OUTPUT POWER	PL	d8m	3ò	40	40	40		39.3	40	40
		CEIVING POWER LEVEL	Pr	d Bm	-97.6	-87.6	40	- 91.5		- 106	- 98.4	
7		. m. f.)	er	dBu dBu	15.4	25.4			!	7		
8		COMING NOISE POWER LEVEL			10.4	27.4		21.5			14.6	14.6
ż			Prne	d8m			1 to 1	14 (18 1 T			ļi	ļ
Ď.		· m, f, l	eine	48µ		· · · · · · · · · · · · · · · · · · ·			i			!
CALCULAT		ERNAL NOISE LEVEL	Prot	dBp		1	Talka s		! -			
۲		ISE INCREASE	Δη	₫B.								
Þ.		AL RECEIVING NOISE POWER LEVEL	Prn	dBm								i
링		RESHOLD LEVEL	PIN	dBm	-110 j	110			<u> </u>	<u> </u>	~110	→110
ž		ESTFACTOR	Cf :	6 8	9 1	9	15 F		(9	9
1	TH	RESHOLD MARGIN	Mth	dB	12.4	22.4					11.6	11.6
		N IMPROVEMENT	İ	ďΒ	12	12				- 1 T	12	12
[ANDARD S/N	S/N	86	33.4	43.4			29	33.7	32.6	32.6
ૃદી	FAI	DING VALUE PRESUMED	LF	₫₿	- 9	1				45°'' 151	- 9;	
젖		h > LF J		dВ	3.3	13.3	- 1					2.5
Z OGE		N AT FADING		dB	24.3	34.3	1				23.5	23.5
— I								+		 }	1	
	R	EMARKS	- *	: [l				l	200	10 P
			-		*				-			
-												

Dote; 18th Mor. '77

Cagayan River System

REMARKS

Iragan (Repeater) — Maris Dam (R&W)

				and Section 2					25 42 4			
M	ODE	OF COMMUNICATION : SIMPLEX ME	THOO O	FMOOU	LATION:	FM IMPE	DANCE:	50 (N)	SPECIFIE	D RELIAB	ILITY : S	9.9 (%)
П	CALC	WLATION OF FADING VALUE PRESUM	MED:	0.1	dB/Km) x	d (Kml+	3 (dB)		Assayî kiş ç	<u> 455 Strien</u>		<u> </u>
	1				T. 4. 3. 3.		1 4 4 4 4 4		LANG A		Toros NAI	MALLIEC
1	1.	CALCULATION NO.				CALCULATED CALCULATE DESIGN VALUES BEFORE			DATE OF	AL TEST	DESIGNAL DETERMIN	IAL
1	1-	SPAN ALTITUDE m			Iragan — N	Maris Dam					AFI	ER TEST
ı	L				(Repeater)				166		7	
۸		ALTITUDE			<u>100</u> 30	10	100 10	90	100	90	100 30	90
SPAN		ANTENNA HEIGHT	Hi, H2	m	30			- 10			- 30	
Įź	-		111 , 112	111			<u> </u>					- 115
8			1 1			•						
8	1 4	OUTLINE OF PROPAGATION PATH			4 1			13.	1.01- 1	1000		r. dik
CONDITION	1			1.								
2	\vdash	DISTANCE	О	Km	51	.7	51	7	51	. 7	51	. 7
ı		to the territory are a subject to earlie	MODE	L	3-STAGE	YAGI 3E	YAGI 3E	YAGI 3E	YAG1 3E	YAGI 3E	3-STAGE	YAG! 3E
		ANTENNA	POLARIZ	ATION	V	V	٧	ν `	V	v	v	V
ı	1		PATTE	RN					6.	1	100	N 1
			MODE	L	AFZE50-4	AFZE50-4	5D-2V	5D-2V	50-2V	50-2V	AFZE50-4	AFZE50-4
1		FEEDER	LENGT	H m	45	15	16	16	16	16	45	15
1		TRANSMITTING OUTPUT POWER	ŕ٤	W	10	L	10	10	7	7	10	3
[1_	PROPAGATION LOSS	Lpf	₫B	1 1 = 1	15	- 1		1		19.5 - 1 1	
	١ž	SPHERICAL TERRAIN LOSS	Lpp	dв		4	- 4		- 4		- 4	
l	ROPAGATION	TERRAIN REFLECTION LOSS	СРР									
l	18			:	- 6		- 6		- 6		- 6	
Į .	旨	SHADOW LOSS	Lps	dB	- 18		18		-18		-15	
ဟူ			1		``	•	'	•			! '	
SPAN	SSOT	CORRECTIVE VALUE	Loc	48			- 6	.5	- 6.5			
•	۱۳	(TOTAL LOSS)	Lp	48	-13	37	- 14	10	- 15	6.5	- 14	3.5
8	P	ANTENNA GAIN	ĞĀ	dВ	6	8	8	8	8	8	6	8
ŭ	= =	AZIMUTHAL PATTERN LOSS	Lo	₫B						<u> </u>		1 - 1 - 1
ļ	Ιÿ	ANTENNA H Y B LOSS			18 27	<u> </u>				ļ 		
l .	Ď	FEEDER LOSS			- I.575	- 0.525	-2	-2	-2	<u>i - 2 </u>	-1.575	- 0.525
i	18	FILTER LOSS			ال حدث ا	İ					I	<u> </u>
	Z	(TOTAL)		48		. 9	1				11 - 13	
L_	4—	(GRAND TOTAL)	Ls	ďΒ	12		J;		- 13	4.5	<u>_</u>	40
		RANSMITTING OUTPUT POWER	PL	d Bm	30	40	40	40 -88		38.5 -96	34.8	91.6
		ECEIVING POWER LEVEL	Pr	dBm dB µ	-95.1 17.9	-85.I 27.9	3 1 3 3	1 25		1 17	16.2	21.4
Ý	1-	e.m.f.) ICOMING NOISE POWER LEVEL	1\$		37.9	21.3		23		} 	10.5	
z	100		Prne	dBm dBy				 	1	 	 	1 1 1
l g		B.M. (,) ITERNAL NOISE LEVEL	Prnl	עפט		 		 	-	 		11 13
١á	-	OISE INCREASE	Δη	48				<u> </u>		 	1	
CALCULA		TAL RECEIVING NOISE POWER LEVEL	Pin	dBm						}		4.00
	T	HRESHOLO LEVEL	Pih	dBm	-110	-110					-110	-110
9	CI	RESTFACTOR	ČI	dВ	9	1 9				1	.9	
~	TI	HRESHOLD MARÇIN	Mih	dВ	14.9	24,9			1.6		13.2	18.4
		N IMPROVEMENT	ī	dВ	12	12					12	12
L		IANDARD S/N	S/N	48	35.9			L	40	39	34.2	39.4
ć	FA	DING VALUE PRESUMED	LF	48	- 8			<u> </u>				. 2
WEN	CN	hh > LF)		₫B		16.7	1.	<u> </u>	1200	<u> </u>	5	10.2
Ξ"	'[s	/N AT FADING	d	dВ	27.7	37.7		<u> </u>		Ĺ <u>.</u>	26	31.2
						1	-		 ** ** ** ** ** ** ** ** ** ** ** ** **			

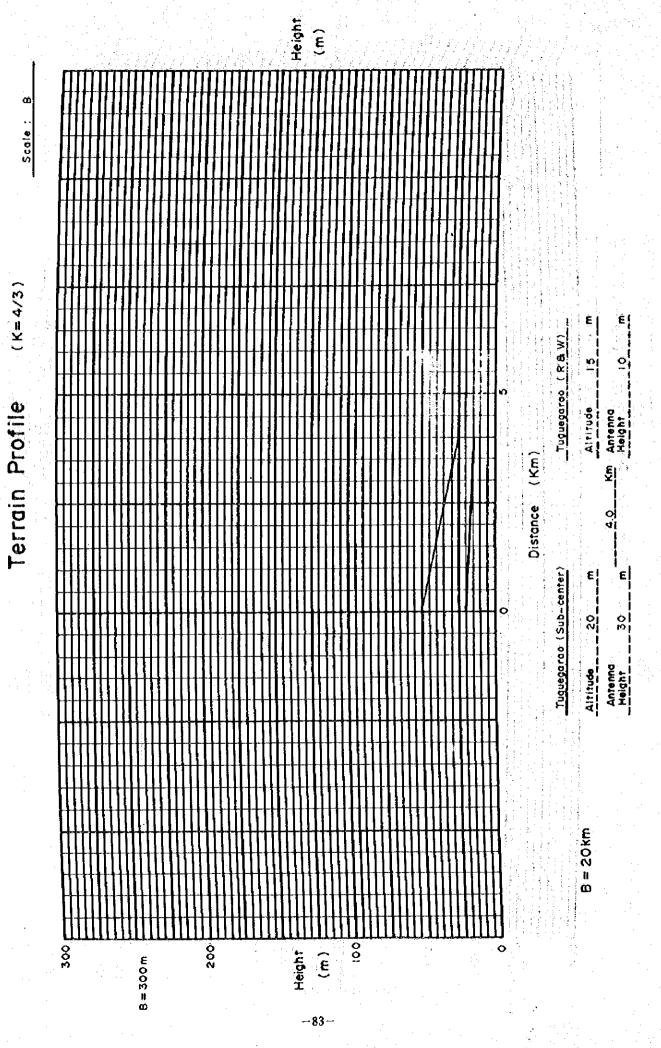
Dote; 18th Mor. '77

Cagayan River System

Iragan (Repeater) — Tumauini (R&W)

MODE OF COMMUNICATION : SIMPLEX METHOD OF MODULATION : FN IMPEDANCE : 50 (A.) SPECIFIED RELIABILITY : 99.9 (%)

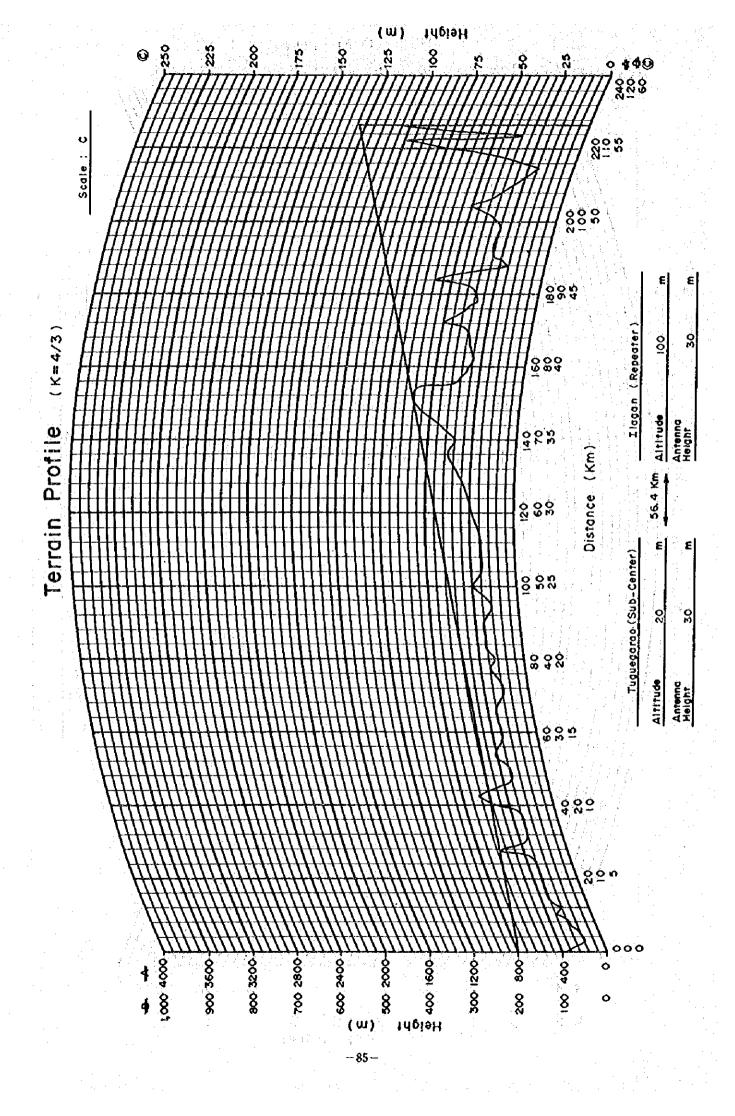
جيث	ALCULATION OF FADING VALUE PRESUM			CALCULAT		3 (dB)	TED DATE	DATE OF		DESIGNAL	VALUES	
0.5	CALCULATION NO.	213 <u>.</u>		DESIGN	VALUES	BEFORE	TEST	ACTU	AL TEST	DETERMIN AFT	IAL ER TEST-	
	SPAN				Tumouini (R8W)			_	- .:	-	_	
	ALTITUDE		m	100	30							
Ϋ́	ANTENNA HEIGHT	Hi, Ha	, Liu	30	10	10	10	10	10	30	10	
N d d		hi, ha	m									
	, <u></u>								-			
8												
5	OUTLINE OF PROPAGATION PATH			1								
∄					10					1.00		
CONDITION	DISTANCE	Ď	Km	18.	65	100				1. 1. 1. 1.		
3.		MODE	L	3-STAGE	YAGE 3E	YAGI 3E	YAĞI 3E	YAGI 3E	YAGI 3E	3- STAGE	YAGI 3E	
	ANTENNA	POLARIZ		V CINEAR	V	V	v	V	V	V	V	
		PATTE					1.44			·		
		MODE		ACZEKAJA	AFZESÓ-4	50-2V	5D-2V	50-2V	50-2V	AFZE50-4	ΔF7F50 - 4	
	FEEDER	LENGT		45	15	36		16	16	45	15	
	TRANSMITTING OUTPUT POWER	PI	W	10		10	10	7	8	10	1	
	PROPAGATION LOSS	Lof	48	- 10		1		- 10	03	- 10	03	
	B SPHERICAL TERRAIN LOSS	Lyi	0.5									
2.5	STREAM REFLECTION LOSS	Loo	đB									
- 1	D		`									
	SHADOW LOSS			2.	5	– 3		- 3		- 2.5		
J	g SHADOW LOSS	Lps	98	: 3.	.5	- 4.	5	- 4.	5	3.	5	
ş												
SPAN	S CORRECTIVE VALUE	Lpc	48					-13		 1	3	
	(TOTAL LOSS)	Lρ	₫B	- 10	9	~ 11	0.5	- 12	3.5	– I	22	
<u>5</u>		GA	dB	6	8	8	8	8	8	6	8	
SS	ANTENNA GAIN AZIMUTHAL PATTERN LOSS	Lo	dB					1 1 1 1 1 1	i	11.0		
- i	2 ANTENNA-HY B LOSS								· · · · · · · · · · · · · · · · · · ·		•	
	FEEDER LOSS			-1,575	-0.525	- 2	- 2	- 2	- 2	~1.575	- 0.525	
	R FILTER LOSS		-						i ————			
	Z (TOTAL)	D 1 1 17	dB	11	.9		2)	2	1.1	. 9	
	(GRAND TOTAL)	Ls	48	-9		- 98	3. 5	- 111	. 5	~ 11	O. I	
	TRANSMITTING OUTPUT POWER	PL	d Ém	30	40	40	40	14. 125	38.5	30	40	
. }	RECEIVING POWER LEVEL	jė,	dBm i	-67.1	- 57.l	-	58.5		-73	-80.1	-70.1	
10.0	(e. m. f.)	er	dВи	45.9	55.9	Trans	54.5	_	40	32.9	42.9	
8	INCOMING NOISE POWER LEVEL	Prine	dBm			77,44	la de		7.1			
2	te.m.f.l	9619	ц8р						1		i	
\$	INTERNAL NOISE LEVEL	Prol	վցր			100				1.6		
ALCU	NOISE INCREASE	Δα	48		<u> </u>				1	200		
7	TOTAL RECEIVING NOISE POWER LEVEL	Prn	dBm			4 5 3	i	11 11/2				
4	THRESHOLD LEVEL	Pth	d8m	11 0	-110				7.5	-110	-110	
ş	CRESTFACTOR	Cf	ďВ	9	9			1	1	9	9	
<u>^</u>	THRESHOLD MARGIN	Mih	ďΒ	42.9	52.9				[5.5	29.9	39.9	
f	S/N IMPROVEMENT	I	dB	12	12	1				12	12	
- [STANDARD S/N	S/N	dВ	63.9	73.9					50.9	60.9	
퓜	FADING VALUE PRESUMED	LF	₫₿	-4	.9					– 4	9	
	(MI) > LF3		dB.	38	48				1	25	35	
gi											+	
100 100 100 100	S/N AT FADING	-	δB	59	69					46	56	

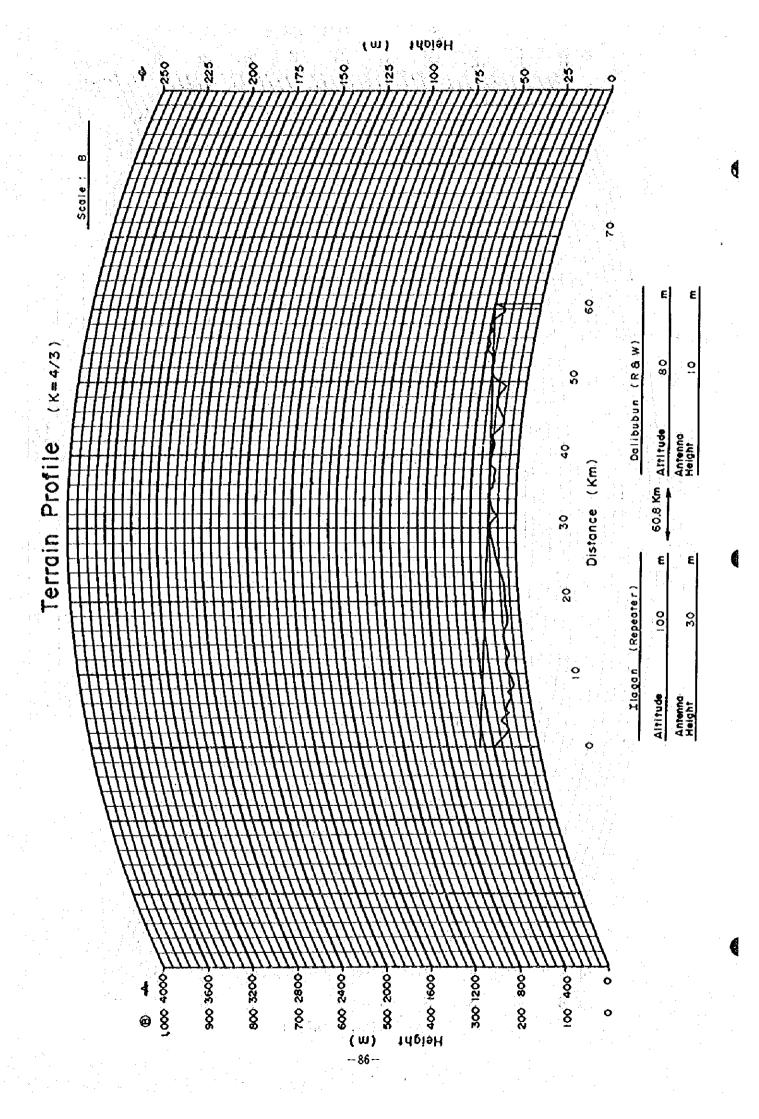


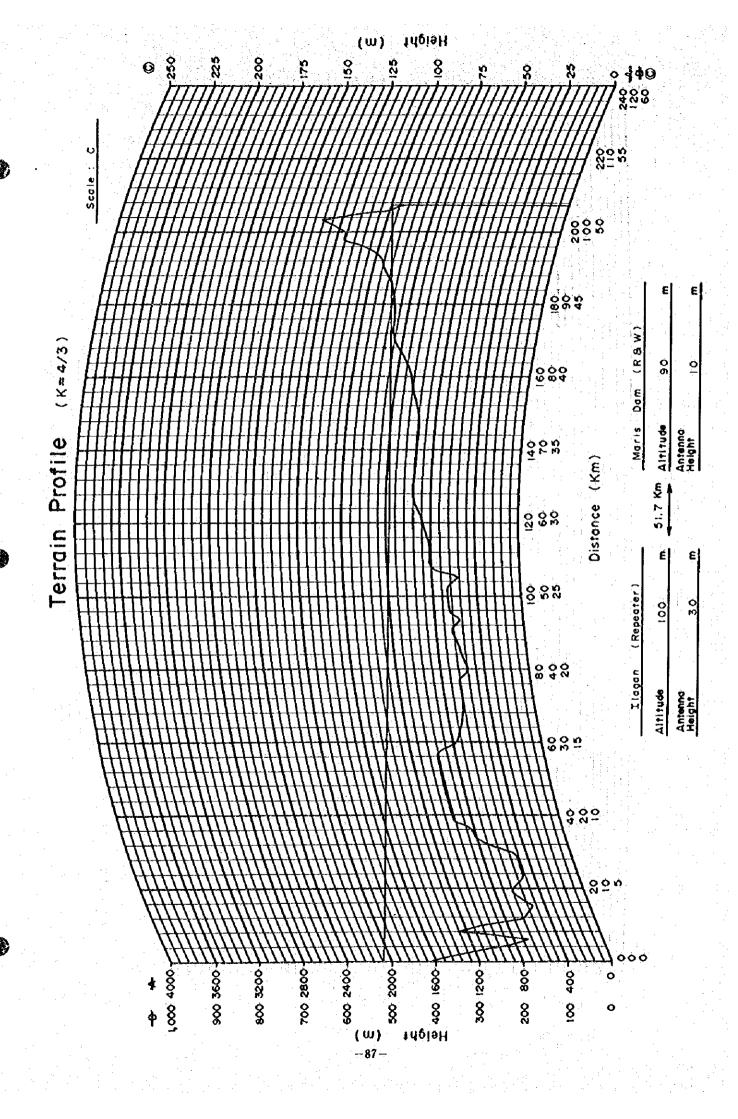
Scole:

(K=4/3)

Terrain Profile







Scale: B

(K#4/3)

Terrain Profile