ANNEX-5 MATRICES FOR REQUIRED NO. OF CIRCUITS (1994-2004)

Matrix for Required No. of Circuits (1994) (1/2)

	JKT(21)	BD (22)	CBN(23)	SM (24)	YK (27)	PWT(28)	SB (31)	JR (33)	ML (34)	MN (35)	DPR(36)	SBW(37)	END(38)	KP (39)	UP (41)	PRE(42)	MD (43)	PAL(45)	KDI(40)	BJM(51)	SPT(53)
JKT(21)																					
BD (22)																					
CBN(23)																					
SM (24)																					
YK (27)																					
PWT(28)																					
SB (31)																					
JR (33)																					
ML (34)																					
MN (35)																					
DPR(36)																					
SBW(37)																					
END(38)																					
KP (39)																					
UP (41)																					
PRE(42)																					
MD (43)																					
PAL(45)																					
KDI(40)																					
BJM(51)																					
SPT(53)																					
SMR(54)																					
TAR(55)																					
PTK(56)																					
MDN(61)	663	14	0	0	0	0	107	0	0	0	0	0	0	0	49	0	0	0	0	49	0
SBG(63)	17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LSM(64)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BNA(65)	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PG (71)	340	0	0	0	0	0	112	0	0	0	0	0	0	0	46	0	0	0	0	51	0
TJK(72)	257	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LT (73)	98	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JB (74)	49	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PD (75)	148	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PBR(76)	59	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SKN(77)	41	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AB (91)																					
TT (92)																					
SON(95)																					
JAP(96)																					
MRK(97)																					
TOTAL	1,684	14	0	0	0	0	219	0	0	0	0	0	0	0	95	0	0	0	0	100	0

Matrix for Required No. of Circuits (1994) (2/2)

	SMR(54)	TAR(55)	PTK(56)	MDN(61)	SBG(63)	LSM(64)	BNA(65)	PG (71)	TJK(72)	LT (73)	JB (74)	PD (75)	PBR(76)	SKN(77)	AB (91)	TT (92)	SGN(95)	JAP(96)	MRK(97)	TOTAL
JKT(21)				663	17	0	13	342	257	98	49	148	59	41						1,687
BD (22)				13	0	0	0	0	0	0	0	0	0	0						13
CBN(23)				0	0	0	0	0	0	0	0	0	0	0						0
SM (24)				0	0	0	0	0	0	0	0	0	0	0						0
YK (27)				0	0	0	0	0	0	0	0	0	0	0						0
PWT(28)				0	0	0	0	0	0	0	0	0	0	0						0
SB (31)				107	0	0	0	112	0	0	0	0	0	0						219
JR (33)				0	0	0	0	0	0	0	0	0	0	0						0
ML (34)				0	0	0	0	0	0	0	0	0	0	0						0
MN (35)				0	0	0	0	0	0	0	0	0	0	0						0
DPR(36)				0	0	0	0	0	0	0	0	0	0	0						0
SBW(37)				0	0	0	0	0	0	0	0	0	0	0						0
END(38)				0	0	0	0	0	0	0	0	0	0	0						0
KP (39)				0	0	0	0	0	0	0	0	0	0	0						0
UP (41)				49	0	0	0	46	0	0	0	0	0	0						95
PRE(42)				0	0	0	0	0	0	0	0	0	0	0						0
MD (43)				0	0	0	0	0	0	0	0	0	0	0						0
PAL(45)				0	0	0	0	0	0	0	0	0	0	0						0
KDI(40)				0	0	0	0	0	0	0	0	0	0	0						0
BJM(51)				49	0	0	0	50	0	0	0	0	0	0						99
SPT(53)				0	0	0	0	0	0	0	0	0	0	0						0
SMR(54)				0	0	0	0	0	0	0	0	0	0	0						0
TAR(55)				0	0	0	0	0	0	0	0	0	0	0						0
PTK(56)				0	0	0	0	0	0	0	0	0	0	0						0
MDN(61)	0	0	0	0	35	173	75	57	0	0	0	38	20	14	10	0	0	0	0	1,304
SBG(63)	0	0	0	35	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	52
LSM(64)	0	0	0	173	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	181
BNA(65)	0	0	0	75	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	95
PG (71)	0	0	0	57	0	0	0	0	58	37	39	70	40	35	11	0	0	0	0	896
TJK(72)	0	0	0	0	0	0	0	58	0	0	0	0	0	0	0	0	0	0	0	315
LT (73)	0	0	0	0	0	0	0	37	0	0	0	0	0	0	0	0	0	0	0	135
JB (74)	0	0	0	0	0	0	0	39	0	0	0	0	0	0	0	0	0	0	0	88
PD (75)	0	0	0	38	0	0	0	70	0	0	0	0	9	5	0	0	0	0	0	270
PBR(76)	0	0	0	20	0	0	0	40	0	0	0	9	0	4	0	0	0	0	0	132
SKN(77)	0	0	0	14	0	0	0	35	0	0	0	5	4	0	0	0	0	0	0	99
AB (91)				11	0	0	0	10	0	0	0	0	0	0						21
TT (92)				0	0	0	0	0	0	0	0	0	0	0						0
SGN(95)				0	0	0	0	0	0	0	0	0	0	0						0
JAP(96)				0	0	0	0	0	0	0	0	0	0	0						0
MRK(97)				0	0	0	0	0	0	0	0	0	0	0						0
TOTAL	0	0	0	1,304	52	181	96	896	315	135	88	270	132	99	21	0	0	0	0	5,701

Matrix for Required No. of Circuits (1999) (1/2)

	JKT(21)	BD (22)	CBN(23)	SM (24)	YK (27)	PWT(28)	SB (31)	JR (33)	ML (34)	MN (35)	DPR(36)	SBW(37)	END(38)	KP (39)	UP (41)	PRE(42)	MD (43)	PAL(45)	KDI(40)	BJM(51)	SPT(53)
JKT(21)																					
BD (22)																					
CBN(23)																					
SM (24)																					
YK (27)																					
PWT(28)																					
SB (31)																					
JR (33)																					
ML (34)																					
MN (35)																					
DPR(36)																					
SBW(37)																					
END(38)																					
KP (39)																					
UP (41)																					
PRE(42)																					
MD (43)																					
PAL(45)																					
KDI(40)																					
BJM(51)																					
SPT(53)																					
SMR(54)																					
TAR(55)																					
PTK(56)																					
MDN(61)	1,035	20	0	0	0	0	209	0	0	0	0	0	0	0	93	0	0	0	0	92	0
SBG(63)	27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LSM(64)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BNA(65)	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PG (71)	490	0	0	0	0	0	194	0	0	0	0	0	0	0	85	0	0	0	0	91	0
TJK(72)	370	0	0	0	0	0	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LT (73)	154	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JB (74)	80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PD (75)	226	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PBR(76)	95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SKN(77)	71	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AB (91)																					
TT (92)																					
SON(95)																					
JAP(96)																					
MRK(97)																					
TOTAL	2,568	20	0	0	0	0	431	0	0	0	0	0	0	0	178	0	0	0	0	183	0

Matrix for Required No. of Circuits (1999) (2/2)

	SMR(54)	TAR(55)	PTK(56)	MDN(61)	SBG(63)	LSM(64)	BNA(65)	PG (71)	TJK(72)	LT (73)	JB (74)	PD (75)	PBR(76)	SKN(77)	AB (91)	TT (92)	SON(95)	JAP(96)	MRK(97)	TOTAL
JKT(21)				1,035	27	0	20	490	370	154	80	226	96	71						2,569
BD (22)				20	0	0	0	0	0	0	0	0	0	0						20
CBN(23)				0	0	0	0	0	0	0	0	0	0	0						0
SM (24)				0	0	0	0	0	0	0	0	0	0	0						0
YK (27)				0	0	0	0	0	0	0	0	0	0	0						0
PWT(28)				0	0	0	0	0	0	0	0	0	0	0						0
SB (31)				209	0	0	0	194	28	0	0	0	0	0						431
JR (33)				0	0	0	0	0	0	0	0	0	0	0						0
ML (34)				0	0	0	0	0	0	0	0	0	0	0						0
MN (35)				0	0	0	0	0	0	0	0	0	0	0						0
DPR(36)				0	0	0	0	0	0	0	0	0	0	0						0
SBW(37)				0	0	0	0	0	0	0	0	0	0	0						0
END(38)				0	0	0	0	0	0	0	0	0	0	0						0
KP (39)				0	0	0	0	0	0	0	0	0	0	0						0
UP (41)				93	0	0	0	85	0	0	0	0	0	0						178
PRE(42)				0	0	0	0	0	0	0	0	0	0	0						0
MD (43)				0	0	0	0	0	0	0	0	0	0	0						0
PAL(45)				0	0	0	0	0	0	0	0	0	0	0						0
KDI(40)				0	0	0	0	0	0	0	0	0	0	0						0
BJM(51)				92	0	0	0	91	0	0	0	0	0	0						183
SPT(53)				0	0	0	0	0	0	0	0	0	0	0						0
SMR(54)				0	0	0	0	0	0	0	0	0	0	0						0
TAR(55)				0	0	0	0	0	0	0	0	0	0	0						0
PTK(56)				0	0	0	0	0	0	0	0	0	0	0						0
MDN(61)	0	0	0	0	60	256	130	107	0	0	0	69	35	24	32	0	0	0	0	2,162
SBG(63)	0	0	0	60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	87
LSM(64)	0	0	0	256	0	0	12	0	0	0	0	0	0	0	0	0	0	0	0	268
BNA(65)	0	0	0	130	0	12	0	0	0	0	0	0	0	0	0	0	0	0	0	162
PG (71)	0	0	0	107	0	0	0	0	95	75	63	118	65	57	28	0	0	0	0	1,468
TJK(72)	0	0	0	0	0	0	0	95	0	0	0	0	0	0	0	0	0	0	0	493
LT (73)	0	0	0	0	0	0	0	75	0	0	0	0	0	0	0	0	0	0	0	229
JB (74)	0	0	0	0	0	0	0	63	0	0	0	8	0	0	0	0	0	0	0	151
PD (75)	0	0	0	69	0	0	0	118	0	0	8	0	15	8	0	0	0	0	0	444
PBR(76)	0	0	0	35	0	0	0	65	0	0	0	15	0	6	0	0	0	0	0	216
SKN(77)	0	0	0	24	0	0	0	57	0	0	0	8	6	0	0	0	0	0	0	166
AB (91)				32	0	0	0	28	0	0	0	0	0	0						60
TT (92)				0	0	0	0	0	0	0	0	0	0	0						0
SON(95)				0	0	0	0	0	0	0	0	0	0	0						0
JAP(96)				0	0	0	0	0	0	0	0	0	0	0						0
MRK(97)				0	0	0	0	0	0	0	0	0	0	0						0
TOTAL	0	0	0	2,162	87	268	162	1,468	493	229	151	444	217	166	60	0	0	0	0	9,287

Matrix for Required No. of Circuits (2004) (1/2)

	JKT(21)	BD (22)	CBN(23)	SM (24)	YK (27)	PWT(28)	SB (31)	JR (33)	ML (34)	MN (35)	DPR(36)	SBW(37)	END(38)	KP (39)	UP (41)	PRE(42)	MD (43)	PAL(45)	KDI(40)	BJM(51)	SPT(53)
JKT(21)																					
BD (22)																					
CBN(23)																					
SM (24)																					
YK (27)																					
PWT(28)																					
SB (31)																					
JR (33)																					
ML (34)																					
MN (35)																					
DPR(36)																					
SBW(37)																					
END(38)																					
KP (39)																					
UP (41)																					
PRE(42)																					
MD (43)																					
PAL(45)																					
KDI(40)																					
BJM(51)																					
SPT(53)																					
SMR(54)																					
TAR(55)																					
PTK(56)																					
MDN(61)	1,463	28	0	0	0	0	313	0	0	15	0	0	0	0	142	0	0	0	0	143	0
SBG(63)	38	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LSM(64)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BNA(65)	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PG (71)	633	0	0	0	0	0	270	0	0	0	0	0	0	0	127	0	0	0	0	137	0
TJK(72)	502	0	0	0	0	0	42	0	0	13	0	0	0	0	0	0	0	0	0	0	0
LT (73)	216	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JB (74)	114	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PD (75)	345	0	0	0	0	0	23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PBR(76)	136	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SKN(77)	104	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AB (91)																					
TT (92)																					
SDN(95)																					
JAP(96)																					
MRK(97)																					
TOTAL	3,581	28	0	0	0	0	648	0	0	28	0	0	0	0	269	0	0	0	0	280	0

Matrix for Required No. of Circuits (2004) (2/2)

	SMR(54)	TAR(55)	PTK(56)	MDN(61)	SBG(63)	LSM(64)	BNA(65)	PG (71)	TJK(72)	LT (73)	JB (74)	PD (75)	PBR(76)	SKN(77)	AB (91)	TT (92)	SDN(95)	JAP(96)	MRK(97)	TOTAL
JKT(21)				1,465	38	0	30	633	502	217	114	345	136	104						3,582
BD (22)				28	0	0	0	0	0	0	0	0	0	0						28
CBN(23)				0	0	0	0	0	0	0	0	0	0	0						0
SM (24)				0	0	0	0	0	0	0	0	0	0	0						0
YK (27)				0	0	0	0	0	0	0	0	0	0	0						0
PWT(28)				0	0	0	0	0	0	0	0	0	0	0						0
SB (31)				313	0	0	0	270	42	0	0	23	0	0						648
JR (33)				0	0	0	0	0	0	0	0	0	0	0						0
ML (34)				0	0	0	0	0	0	0	0	0	0	0						0
MN (35)				15	0	0	0	0	13	0	0	0	0	0						28
DPR(36)				0	0	0	0	0	0	0	0	0	0	0						0
SBW(37)				0	0	0	0	0	0	0	0	0	0	0						0
END(38)				0	0	0	0	0	0	0	0	0	0	0						0
KP (39)				0	0	0	0	0	0	0	0	0	0	0						0
UP (41)				142	0	0	0	127	0	0	0	0	0	0						269
PRE(42)				0	0	0	0	0	0	0	0	0	0	0						0
MD (43)				0	0	0	0	0	0	0	0	0	0	0						0
PAL(45)				0	0	0	0	0	0	0	0	0	0	0						0
KOI(46)				0	0	0	0	0	0	0	0	0	0	0						0
BJM(51)				144	0	0	0	137	0	0	0	0	0	0						281
SPT(53)				0	0	0	0	0	0	0	0	0	0	0						0
SMR(54)				0	0	0	0	0	0	0	0	0	0	0						0
TAR(55)				0	0	0	0	0	0	0	0	0	0	0						0
PTK(56)				0	0	0	0	0	0	0	0	0	0	0						0
MDN(61)	0	0	0	0	88	351	193	143	18	0	0	103	51	35	47	0	0	0	0	3,133
SBG(63)	0	0	0	88	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	126
LSM(64)	0	0	0	351	0	0	16	0	0	0	0	0	0	0	0	0	0	0	0	367
BNA(65)	0	0	0	193	0	16	0	0	0	0	0	0	0	0	0	0	0	0	0	239
PG (71)	0	0	0	143	0	0	0	0	123	120	95	126	93	79	42	0	0	0	0	1,988
TJK(72)	0	0	0	18	0	0	0	123	0	0	0	0	0	0	0	0	0	0	0	698
LT (73)	0	0	0	0	0	0	0	120	0	0	0	0	0	0	0	0	0	0	0	336
JB (74)	0	0	0	0	0	0	0	95	0	0	0	11	0	0	0	0	0	0	0	220
PD (75)	0	0	0	104	0	0	0	126	0	0	11	0	22	11	0	0	0	0	0	642
PBR(76)	0	0	0	51	0	0	0	93	0	0	0	22	0	8	0	0	0	0	0	310
SKN(77)	0	0	0	35	0	0	0	79	0	0	0	11	8	0	0	0	0	0	0	237
AB (91)				48	0	0	0	42	0	0	0	0	0	0						90
TT (92)				0	0	0	0	0	0	0	0	0	0	0						0
SDN(95)				0	0	0	0	0	0	0	0	0	0	0						0
JAP(96)				0	0	0	0	0	0	0	0	0	0	0						0
MRK(97)				0	0	0	0	0	0	0	0	0	0	0						0
TOTAL	0	0	0	3,136	126	367	239	1,988	698	337	220	641	310	237	89	0	0	0	0	13,222

ANNEX-6 CIRCUIT ALLOCATION (TERRESTRIAL/ SATELLITE)

Circuit Allocation to Terrestrial/Satellite System - 1994

O-EXCT	EXC	CCT-TERR	CCT-TOTAL	CCCT-MOD	CONDITION	LENGTH	RATIO	CCT-SAT	EXIST-FDM	EXIST-TDM	EXIST-TTL	SAT-TTL	SAT(TDMA)	2Mb/s Base	2Mb/s (10%up)
JKT	MDN	627	1,326	1,459	2	1,640	0.43	832	60	160	176	832	784	21	24
JKT	SBG	37	34	37	1	1,470	1	0	0	0	0	0	0	2	3
JKT	BNA	0	25	28	2	2,120	1	0	48	0	38	28	0	0	0
JKT	PG	625	682	750	2	610	0.9	75	36	120	125	125	96	21	24
JKT	TJK	508	514	565	2	210	0.9	57	0	0	0	57	57	17	19
JKT	LT	216	196	216	1	500	1	0	0	0	0	0	0	8	9
JKT	JB	108	98	108	2	870	0.815	20	0	0	0	0	0	4	5
JKT	PD	236	296	326	2	1,050	0.725	90	0	60	48	90	90	8	9
JKT	PBR	60	118	130	2	1,300	0.6	52	36	52	70	70	41	2	3
JKT	SKN	4	82	90	2	1,600	0.45	50	108	0	86	86	0	1	2
BD	MDN	4	27	30	2	1,770	0.365	19	0	32	26	26	26	1	2
SB	MDN	23	214	235	2	2,450	0.1	212	0	50	40	212	212	1	2
SB	PG	133	224	246	2	1,420	0.54	113	36	30	53	113	84	5	6
UP	MDN	11	98	108	2	3,710	0.1	97	0	0	0	97	97	1	2
UP	PG	10	92	101	2	2,680	0.1	91	0	0	0	91	91	1	2
BJM	MDN	11	98	108	2	2,980	0.1	97	0	0	0	97	97	1	2
BJM	PG	31	101	111	2	1,950	0.275	80	0	0	0	80	80	2	3
MDN	SBG	77	70	77	1	230	1	0	0	0	0	0	0	3	4
MDN	LSM	381	346	381	1	280	1	0	0	0	0	0	0	13	15
MDN	BNA	165	150	165	2	480	0.9	17	0	0	0	0	0	6	7
MDN	PG	74	114	125	2	1,310	0.595	51	0	24	19	51	51	3	4
MDN	PD	54	76	84	2	590	0.9	8	0	38	30	30	30	2	3
MDN	PBR	25	40	44	2	700	0.9	4	0	24	19	19	19	1	2
MDN	SKN	0	28	31	2	1,000	0.75	8	48	0	38	31	0	0	0
MDN	AB	23	21	23	2	4,690	1	0	0	0	0	0	0	1	2
LSM	BNA	18	16	18	1	220	1	0	0	0	0	0	0	1	2
PG	TJK	128	116	128	2	420	0.9	13	0	0	0	0	0	5	6
PG	LT	81	74	81	1	170	1	0	0	0	0	0	0	3	4
PG	JB	86	78	86	2	540	0.9	9	0	0	0	0	0	3	4
PG	PD	133	140	154	2	720	0.89	17	0	26	21	21	21	5	6
PG	PBR	88	80	88	2	970	0.765	21	0	0	0	0	0	3	4
PG	SKN	47	70	77	2	1,270	0.615	30	0	0	0	30	30	2	3
PG	AB	23	21	23	2	3,660	1	0	0	0	0	0	0	1	2
PD	PBR	0	18	20	2	250	1	0	24	24	38	20	1	0	0
PD	SKN	11	10	11	2	550	1	0	0	0	0	0	0	1	2
PBR	SKN	0	8	9	2	300	1	0	24	0	19	9	0	0	0
TOTAL		4,058	5,701	6,273				2,063	420	640	846	2,215	1,907	149	187

Circuit Allocation to Terrestrial/Satellite System - 1999

O-EXC	T-EXC	CCT-TERR	CCT-TOTAL	CCCT-MOD	CONDITION	LENGTH	RATIO	CCT-SAT	EXIST-FDM	EXIST-TDM	EXIST-TTL	SAT-TTL	SAT(TDMA)	2Mb/s Base	2Mb/s (10%up)
JKT	MDN	1,441	2,070	2,277	2	1,640	0.633	836	60	160	176	836	788	49	54
JKT	SBG	59	54	59	1	1,470	1	0	0	0	0	0	0	2	3
JKT	BNA	6	40	44	2	2,120	0.489	22	48	0	38	38	0	1	2
JKT	PG	953	980	1,078	2	610	0.9	108	36	120	125	125	96	32	36
JKT	TJK	733	740	814	2	210	0.9	81	0	0	0	81	81	25	28
JKT	LT	339	308	339	1	500	1	0	0	0	0	0	0	12	14
JKT	JB	176	160	176	2	870	0.864	24	0	0	0	0	0	6	7
JKT	PD	403	452	497	2	1,050	0.81	94	0	60	48	94	94	14	16
JKT	PBR	140	191	210	2	1,300	0.735	56	36	52	70	70	41	5	6
JKT	SKN	70	142	156	2	1,600	0.645	55	108	0	86	86	0	3	4
BD	MDN	18	40	44	2	1,770	0.594	18	0	32	26	26	26	1	2
SB	MDN	179	418	460	2	2,450	0.39	281	0	50	40	281	281	6	7
SB	PG	298	388	427	2	1,420	0.699	129	36	30	53	129	100	10	11
SB	TJK	62	56	62	2	1,020	0.819	11	0	0	0	0	0	3	4
UP	MDN	20	186	205	2	3,710	0.1	185	0	0	0	185	185	1	2
UP	PG	60	170	187	2	2,680	0.321	127	0	0	0	127	127	2	3
BJM	MDN	47	184	202	2	2,980	0.231	155	0	0	0	155	155	2	3
BJM	PG	108	182	200	2	1,950	0.54	92	0	0	0	92	92	4	5
MDN	SBG	132	120	132	1	230	1	0	0	0	0	0	0	5	6
MDN	LSM	563	512	563	1	280	1	0	0	0	0	0	0	19	21
MDN	BNA	286	260	286	2	480	0.9	29	0	0	0	0	0	10	11
MDN	PG	172	214	235	2	1,310	0.732	63	0	24	19	63	63	6	7
MDN	PD	122	138	152	2	590	0.9	15	0	38	30	30	30	5	6
MDN	PBR	58	70	77	2	700	0.915	7	0	24	19	19	19	2	3
MDN	SKN	15	48	53	2	1,000	0.825	9	48	0	38	38	0	1	2
MDN	AB	7	64	70	2	4,690	0.1	63	0	0	0	63	63	1	2
LSM	BNA	26	24	26	1	220	1	0	0	0	0	0	0	1	2
PG	TJK	209	190	209	2	420	0.9	21	0	0	0	0	0	7	8
PG	LT	165	150	165	1	170	1	0	0	0	0	0	0	6	7
PG	JB	139	126	139	2	540	0.9	14	0	0	0	0	0	5	6
PG	PD	260	236	260	2	720	0.909	24	0	26	21	0	0	9	10
PG	PBR	143	130	143	2	970	0.834	24	0	0	0	0	0	5	6
PG	SKN	93	114	125	2	1,270	0.744	32	0	0	0	32	32	4	5
PG	AB	6	56	62	2	3,660	0.1	56	0	0	0	56	56	1	2
JB	PD	18	16	18	2	500	1	0	0	0	0	0	0	1	2
PD	PBR	0	30	33	2	250	0.9	3	24	24	38	33	14	0	0
PD	SKN	18	16	18	2	550	1	0	0	0	0	0	0	1	2
PBR	SKN	0	12	13	2	300	1	0	24	0	19	13	0	0	0
TOTAL		7,544	9,287	10,216				2,634	420	640	846	2,672	2,343	267	315

Circuit Allocation to Terrestrial/Satellite System - 2004

O-EXCT-EXC		CCT-TERR	CCT-TOTAL	CCCT-MOD	CONDITION	LENGTH	RATIO	CCT-SAT	EXIST-FDM	EXIST-TDM	EXIST-TTL	SAT-TTL	SAT(TDMA)	2Mb/s Base	2Mb/s (10%up)
JKT	MDN	2,379	2,926	3,219	2	1,640	0.7392	840	60	160	176	840	792	80	88
JKT	SBG	84	76	84	1	1,470	1	0	0	0	0	0	0	3	4
JKT	BNA	28	60	66	2	2,120	0.6336	24	48	0	38	38	0	1	2
JKT	PG	1,254	1,266	1,393	2	610	0.9	139	36	120	125	139	110	42	47
JKT	TJK	994	1,004	1,104	2	210	0.9	110	0	0	0	110	110	34	38
JKT	LT	476	433	476	1	500	1	0	0	0	0	0	0	16	18
JKT	JB	251	228	251	2	870	0.9	25	0	0	0	0	0	9	10
JKT	PD	660	690	759	2	1,050	0.869	99	0	60	48	99	99	22	25
JKT	PBR	229	272	299	2	1,300	0.814	56	36	52	70	70	41	8	9
JKT	SKN	143	208	229	2	1,600	0.748	58	108	0	86	86	0	5	6
BD	MDN	36	56	62	2	1,770	0.7106	18	0	32	26	26	26	2	3
SB	MDN	387	626	689	2	2,450	0.561	302	0	50	40	302	302	13	15
SB	PG	468	540	594	2	1,420	0.7876	126	36	30	53	126	97	16	18
SB	TJK	92	84	92	2	1,020	0.8756	11	0	0	0	0	0	4	5
SB	PD	51	46	51	2	1,860	0.6908	16	0	0	0	0	0	2	3
MN	MDN	33	30	33	1	2,330	1	0	0	0	0	0	0	2	3
MN	TJK	29	26	29	1	900	1	0	0	0	0	0	0	1	2
UP	MDN	89	284	312	2	3,710	0.2838	223	0	0	0	223	223	3	4
UP	PG	142	254	279	2	2,680	0.5104	137	0	0	0	137	137	5	6
BJM	MDN	140	287	316	2	2,980	0.4444	176	0	0	0	176	176	5	6
BJM	PG	202	274	301	2	1,950	0.671	99	0	0	0	99	99	7	8
MDN	SBG	194	176	194	1	230	1	0	0	0	0	0	0	7	8
MDN	LSM	772	702	772	1	280	1	0	0	0	0	0	0	26	29
MDN	BNA	382	386	425	2	480	0.9	43	0	0	0	43	43	13	15
MDN	PG	256	286	315	2	1,310	0.8118	59	0	24	19	59	59	9	10
MDN	TJK	40	36	40	2	1,450	0.781	9	0	0	0	0	0	2	3
MDN	PD	198	207	228	2	590	0.9	23	0	38	30	30	30	7	8
MDN	PBR	93	102	112	2	700	0.9	11	0	24	19	19	19	4	5
MDN	SKN	39	70	77	2	1,000	0.88	9	48	0	38	38	0	2	3
MDN	AB	10	95	105	2	4,690	0.1	95	0	0	0	95	95	1	2
LSM	BNA	35	32	35	1	220	1	0	0	0	0	0	0	2	3
PG	TJK	271	246	271	2	420	0.9	27	0	0	0	0	0	10	11
PG	LT	264	240	264	1	170	1	0	0	0	0	0	0	9	10
PG	JB	209	190	209	2	540	0.9	21	0	0	0	0	0	7	8
PG	PD	277	252	277	2	720	0.9	28	0	26	21	0	0	10	11
PG	PBR	205	186	205	2	970	0.8866	23	0	0	0	0	0	7	8
PG	SKN	143	158	174	2	1,270	0.8206	31	0	0	0	31	31	5	6
PG	AB	27	84	92	2	3,660	0.2948	65	0	0	0	65	65	1	2
JB	PD	24	22	24	2	500	1	0	0	0	0	0	0	1	2
PD	PBR	10	44	48	2	250	0.9	5	24	24	38	38	19	1	2
PD	SKN	24	22	24	2	550	1	0	0	0	0	0	0	1	2
PBR	SKN	0	16	18	2	300	1	0	24	0	19	18	0	0	0
TOTAL		11,640	13,222	14,547				2,908	420	640	846	2,907	2,573	405	468

ANNEX-7 PC AREA-BASED SUPPLY VOLUME AND DEMAND

Supply Volume and Total Demand by Primary Area (WITEL I)

No.	Exchange Name	REPELITA-V (1994) Capacity (1994) Auto	Manual	Total	DEMAND	During REPELITA-VI Remove	Supply	End of REPELITA-VI (1999) Capacity	DEMAND	During REPELITA VII Supply	End of REPELITA-VII (2004) Capacity	DEMAND	Area Code
1	MEDAN	123,000	6	123,006	151,011	-6	99,400	222,400	249,537	116,000	338,400	377,887	061
2	TEBING TINGGI	3,200	180	3,380	4,150	-180	2,880	6,080	6,822	3,200	9,280	10,363	0621
3	PEMATANG SIANTAR	14,000	270	14,270	17,519	-270	11,850	25,850	29,004	13,400	39,250	43,850	0622
4	KISARAN	4,000	100	4,100	5,033	-100	3,400	7,400	8,303	3,800	11,200	12,507	0623
5	RANTAU PRAPAT	3,400	280	3,680	4,518	-280	3,290	6,690	7,506	3,500	10,190	11,379	0624
6	PARAPAT	1,000	0	1,000	1,228	0	800	1,800	2,020	1,000	2,800	3,127	0625
7	PANGURURAN	200	0	200	246	0	200	400	449	200	600	670	0626
8	SIDIKALANG	1,000	0	1,000	1,228	0	800	1,800	2,020	1,000	2,800	3,127	0627
9	KABANJAHE	2,600	50	2,650	3,253	-50	2,150	4,750	5,330	2,500	7,250	8,096	0628
10	KOTA CANE	1,600	0	1,600	1,964	0	1,300	2,900	3,254	1,500	4,400	4,913	0629
11	PANGKALAN BRANDAN	1,600	250	1,850	2,271	-250	1,730	3,330	3,736	1,800	5,130	5,729	0620
	TOTAL (MEDAN)	155,600	1,136	156,736	192,420	-1,136	127,800	283,400	317,980	147,900	431,300	481,628	
12	SIBOLGA	2,000	50	2,050	2,517	-50	1,750	3,750	4,208	1,900	5,650	6,309	0631
13	BALIGE	400	340	740	908	-340	950	1,350	1,515	700	2,050	2,289	0632
14	TARUTUNG	800	0	800	982	0	600	1,400	1,571	800	2,200	2,457	0633
15	PADANG SIDEMPUAN	2,000	30	2,030	2,492	-30	1,650	3,650	4,095	1,900	5,550	6,198	0634
16	PANYABUNGAN	200	50	250	307	-50	250	450	505	200	650	726	0636
17	GUNUNG SITOLI	1,000	0	1,000	1,228	0	800	1,800	2,020	1,000	2,800	3,127	0639
	TOTAL (SIBOLGA)	6,400	470	6,870	8,434	-470	6,000	12,400	13,913	6,500	18,900	21,105	
18	LANGSA	2,600	100	2,700	3,315	-100	1,400	4,000	4,488	1,600	5,600	6,253	0641
19	BLANGKEJEREN	200	0	200	246	0	100	300	337	100	400	447	0642
20	TAKENGON	1,000	0	1,000	1,228	0	500	1,500	1,683	600	2,100	2,345	0643
21	BIREUN	1,400	250	1,650	2,026	-250	1,100	2,500	2,805	900	3,400	3,797	0644
22	LHOKSEUMAWE	10,400	200	10,600	13,013	-200	5,400	15,800	17,728	6,100	21,900	24,455	0645
23	IDI	400	0	400	491	0	200	600	673	200	800	893	0646
	TOTAL (LANGSA)	16,000	550	16,550	20,318	-550	8,700	24,700	27,714	9,500	34,200	38,191	
						0	0						
24	BANDA ACEH	10,400	20	10,420	12,792	-20	8,720	19,120	21,453	10,200	29,320	32,741	0651
25	SABANG	2,400	0	2,400	2,946	0	2,000	4,400	4,937	2,300	6,700	7,482	0652
26	SIGLI	1,000	400	1,400	1,719	-400	1,600	2,600	2,917	1,400	4,000	4,467	0653
27	CALANG	0	100	100	123	-100	200	200	224	100	300	335	0654
28	MEULABOH	896	100	996	1,223	-100	950	1,846	2,071	1,000	2,846	3,178	0655
29	TAPAKTUAN	600	160	760	933	-160	750	1,350	1,515	750	2,100	2,345	0656
30	BAKONGAN	0	30	30	37	-30	80	80	90	50	130	145	0657
31	SINGKIL	0	100	100	123	-100	200	200	224	100	300	335	0658
32	SINABANG	0	100	100	123	-100	200	200	224	100	300	335	0650
	TOTAL (BANDA ACEH)	15,296	1,010	16,306	20,018	-1,010	14,700	29,996	33,656	16,000	45,996	51,363	
	TOTAL (WITEL-I)	193,296	3,166	196,462	241,191	-3,166	157,200	350,496	393,263	179,900	530,396	592,287	
	Teleshone Density			(1.27)				(2.04)			(2.79)		

Supply Volume and Total Demand by Primary Area (WITEL II)

No.	Exchange Name	REPELITA-V (1994) Capacity (1994) Auto	Manual	Total	DEMAND	During REPELITA-VI Remove	Supply	End of REPELITA-VI (1999) Capacity	DEMAND	During REPELITA VII Supply	End of REPELITA-VII (2004) Capacity	DEMAND	Area Code
1	PADANG CENTRUM	21,000	0	21,000	28,254	0	14,200	35,200	43,516	16,600	51,800	63,345	0751
2	BUKITTINGGI	8,200	40	8,240	11,086	-40	5,650	13,850	17,122	6,500	20,350	24,885	0752
3	LUBUK SIKAPING	800	0	800	1,076	0	550	1,350	1,669	650	2,000	2,446	0753
4	SIJUNJUNG	1,400	200	1,600	2,153	-200	1,300	2,700	3,338	1,300	4,000	4,891	0754
5	SOLOK	2,400	0	2,400	3,229	0	1,600	4,000	4,945	1,900	5,900	7,215	0755
6	PAINAN	1,200	0	1,200	1,615	0	800	2,000	2,472	900	2,900	3,546	0756
7	MUARA SIBERUT	0	50	50	67	-50	100	100	124	50	150	183	0759
	TOTAL (PADANG)	35,000	290	35,290	47,480	-290	24,200	59,200	73,185	27,900	87,100	106,512	
8	PAKANBARU CENTRUM	13,000	0	13,000	17,491	0	10,100	23,100	28,557	11,800	34,900	42,678	0761
9	BANGKINANG	400	0	400	538	0	300	700	865	400	1,100	1,345	0762
10	DUMAI	3,000	0	3,000	4,036	0	2,300	5,300	6,552	2,700	8,000	9,783	0765
11	BENGKALIS	1,000	0	1,000	1,345	0	800	1,800	2,225	900	2,700	3,302	0766
12	BAGAN SIAPIAPI	996	40	1,036	1,394	-40	900	1,896	2,344	900	2,796	3,419	0767
13	TEMBILAHAN	2,000	0	2,000	2,691	0	1,600	3,600	4,450	1,800	5,400	6,604	0768
14	RENGAT	1,200	0	1,200	1,615	0	900	2,100	2,596	1,100	3,200	3,913	0769
15	TELUK KUANTAN	400	0	400	538	0	300	700	865	400	1,100	1,345	0760
	TOTAL (PAKANBARU)	21,996	40	22,036	29,648	-40	17,200	39,196	48,456	20,000	59,196	72,389	
16	TANJUNG PINANG	5,000	0	5,000	6,727	0	4,100	9,100	11,250	4,800	13,900	16,998	0771
17	RANAI (P.Natuna)	0	200	200	269	-200	400	400	494	200	600	734	0773
18	DABO SINGKEP	0	200	200	269	-200	400	400	494	200	600	734	0776
19	T.B.KARIMUN	1,256	0	1,256	1,690	0	1,000	2,256	2,789	1,200	3,456	4,226	0777
20	BATAM SEKUPANG	2,000	0	2,000	2,691	0	1,700	3,700	4,574	2,000	5,700	6,970	0778
21	BATAM BATU AMPAR	3,000	0	3,000	4,036	0	2,500	5,500	6,799	3,000	8,500	10,394	0778
22	TANJUNGBATU	0	200	200	269	-200	400	400	494	200	600	734	0779
23	SELAT PANJANG	1,000	0	1,000	1,345	0	800	1,800	2,225	900	2,700	3,302	0770
	TOTAL(SEKUPANG)	12,256	600	12,856	17,297	-600	11,300	23,556	29,121	12,500	36,056	44,092	
	Total (WITEL II)	69,252	930	70,182	94,425	-930	52,700	121,952	150,762	60,400	182,352	222,993	
	Telephone Density			(0.94)				(1.48)			(2.00)		

Supply Volume and Total Demand by Primary Area (WITEL III)

No.	Exchange Name	REPELITA-V (1994) Capacity (1994) Auto	Manual	Total	DEMAND	During REPELITA-VI Remove	Supply	End of REPELITA-VI (1999) Capacity	DEMAND	During REPELITA VII Supply	End of REPELITA-VII (2004) Capacity	DEMAND	Area Code
1	PALEMBANG	44,000	20	44,020	66,842	-20	28,020	72,020	104,116	32,700	104,720	151,979	0711
2	KAYU AGUNG	600	100	700	1,063	-100	580	1,180	1,706	500	1,680	2,438	0712
3	PRABUMULIH	600	0	600	911	0	400	1,000	1,446	400	1,400	2,032	0713
4	SEKAYU	600	0	600	911	0	400	1,000	1,446	400	1,400	2,032	0714
5	MENTOK	200	0	200	304	0	100	300	434	200	500	726	0716
6	PANGKAL PINANG	5,600	0	5,600	8,503	0	3,600	9,200	13,300	4,200	13,400	19,447	0717
7	TOBOALI	200	0	200	304	0	100	300	434	200	500	726	0718
8	TANJUNG PANDAN	800	0	800	1,215	0	500	1,300	1,879	600	1,900	2,757	0719
	TOTAL(PALEMBANG)	52,600	120	52,720	80,052	-120	33,700	86,300	124,760	39,200	125,500	182,137	
9	TANJUNG KARANG	35,400	50	35,450	53,829	-50	19,550	54,950	79,439	22,700	77,650	112,693	0721
10	KOTAAGUNG	600	200	800	1,215	-200	600	1,200	1,735	500	1,700	2,467	0722
11	KRUI	0	100	100	152	-100	250	250	361	100	350	508	0723
12	KOTABUMI	1,200	0	1,200	1,822	0	600	1,800	2,602	800	2,600	3,773	0724
13	METRO	4,200	0	4,200	6,377	0	2,300	6,500	9,397	2,700	9,200	13,352	0725
	TOTAL(TANJUNG KARANG)	41,400	350	41,750	63,395	-350	23,300	64,700	93,534	26,800	91,500	132,793	
14	LAHAT	3,413	0	3,413	5,182	0	2,700	6,113	8,837	3,100	9,213	13,371	0731
15	CURUP	1,600	0	1,600	2,430	0	1,300	2,900	4,192	1,500	4,400	6,386	0732
16	LUBUK LINGGAU	4,000	200	4,200	6,377	-200	3,500	7,500	10,842	3,900	11,400	16,545	0733
17	MUARA ENIM	2,600	100	2,700	4,100	-100	2,200	4,800	6,939	2,500	7,300	10,594	0734
18	BATURAJA	1,600	200	1,800	2,733	-200	1,600	3,200	4,626	1,700	4,900	7,111	0735
19	BENGKULU	7,000	100	7,100	10,781	-100	5,800	12,800	18,504	6,600	19,400	28,155	0736
20	MUARA AMAN	200	0	200	304	0	200	400	578	200	600	871	0737
21	MANNA	400	100	500	759	-100	500	900	1,301	500	1,400	2,032	0739
22	BARHAU (P.Enggano)	0	50	50	76	-50	200	200	289	100	300	435	0730
	TOTAL(LAHAT)	20,813	750	21,563	32,742	-750	18,000	38,813	56,110	20,100	58,913	85,500	
23	JAMBI	12,000	0	12,000	18,221	0	9,600	21,600	31,226	11,200	32,800	47,602	0741
24	KUALA TUNGKAL	1,200	0	1,200	1,822	0	900	2,100	3,036	1,100	3,200	4,644	0742
25	BANGKO	600	0	600	911	0	500	1,100	1,590	600	1,700	2,467	0746
26	MUARA BUNGO	1,000	0	1,000	1,518	0	800	1,800	2,602	900	2,700	3,918	0747
27	SUNGAIPENUH	1,200	0	1,200	1,822	0	1,000	2,200	3,180	1,100	3,300	4,789	0748
	TOTAL(JAMBI)	16,000	0	16,000	24,295	0	12,800	28,800	41,635	14,900	43,700	63,421	
	Total (WITEL-III)	130,813	1,220	132,033	200,485	-1,220	87,800	218,613	316,039	101,000	319,613	463,852	
	Telephone Density			(0.65)				(0.89)			(1.06)		

ANNEX-8 PC-SC TERRESTRIAL CIRCUIT REQUIREMENT

Trunk Switch Type and Transmission Media Assumed (MEDAN Tertiary Area)

SC	PC	Area Code	Service In	Trunk SW. Type 1989	1994	1999	Trans. Media	Remarks
MEDAN	(MEDAN)	061	'77	A/D	D	D	T/S	MW/SBB existing
	TEBING TINGGI	0621	'80	A	A	D	T	Spur Route existing
	PEMATANG SIANTAR	0622	'77	A	A	D	T	MW/Spur Route existing
	KISARAN	0623	'80	A	A	D	T	Spur Route existing
	RANTAU PRAPAT	0624	('77)	D	D	D	T	OECF Remote Pro.
	PARAPAT	0625	'80	A	A	D	T	Spur Route existing
	PANGURURAN	0626	('66)	D	D	D	S	100 SBK Pro.
	SIDIKALANG	0627	'79	A	A	D	T	OECF Remote Pro.
	KABANJAHE	0628	'79	A	A	D	T	OECF Remote Pro.
	KOTA CANE	0629	('66)	(M)	D	D	S	SBK existing
	PANGKALAN BRANDAN	0620	'86	A	A	D	T	MW existing
SIBOLGA	(SIBOLGA)	0631	'81	A	A	D	T	MW existing
	BALIGE	0632	('52)	D	D	D	S	100 SBK Pro.
	TARUTUNG	0633	'87	A	A	D	T	OECF Remote Pro.
	PADANG SIDEMPUAN	0634	('63)	D	D	D	T	OECF Remote Pro.
	PANYABUNGAN	0636	('66)	D	D	D	S	100 SBK Pro.
	GUNUNG SITOLI	0639	'87	D	D	D	S	SBK existing
	LANGSA	0641	'82	A	A	D	T	MW existing
	BLANGKEJEREN	0642	('77)	D	D	D	S	100 SBK Pro.
	TAKENGON	0643	('81)	(M)	D	D	S	SBK existing
	BIREUN	0644	'81	A	A	D	T	MW existing
LHOKSEUMAWE	(LHOKSEUMAWE)	0645	'81	A	A	D	T	MW existing
	IDI	0646	'80	A	A	D	T	MW existing
BANDA ACEH	(BANDA ACEH)	0651	'81	A	A	D	T/S	MW/SBB existing
	SABANG	0652	'80	A	A	D	T	MW existing
	SIGLI	0653	'80	A	A	D	T	MW existing
	CALANG	0654	('54)	(M)	(M)	D	(T)	(Non-transmission media)
	MEULABOH	0655	'87	A	A	D	S	SBK existing
	TAPAKTUAN	0656	('54)	(M)	D	D	S	SBK existing
	BAKONGAN	0657	('54)	(M)	(M)	D	S	100 SBK Pro.
	SINGKIL	0658	('66)	(M)	(M)	D	S	SBK existing
	SINABANG	0650	(?)	(M)	(M)	D	S	SBK existing

Note A : Analogue Automatic Switch
D : Digital Switch
(M): Manual Switch
T : Terrestrial Transmission System
S : Satellite Transmission System

Trunk Switch Type and Transmission Media Assumed (PALEMBANG Tertiary Area)

SC	PC	Area Code	Service In	Trunk SW. Type 1989	1994	1999	Trans. Media	Remarks
PALEMBANG	(PALEMBANG)	0711	'66	D	D	D	T/S	MW/SBB existing
	KAYU AGUNG	0712	(?)	(M)	D	D	(T)	(Non-transmission media)
	PRABUMULIH	0713	('59)	D	D	D	T	OECF Remote Pro.
	SEKAYU	0714	(?)	(M)	D	D	T	OECF Remote Pro.(Additional)
	MENTOK	0716	-	D	D	D	S	100 SBK Pro.
	PANGKAL PINANG	0717	'81	A	A	D	(T)	(SBS existing)
	KOBA	0718	-	-	-	-	S	100 SBK Pro.
	TANJUNG PANDAN	0719	(?)	(M)	D	D	S	SBK existing
TANJUNG KARANG	(TANJUNG KARANG)	0721	'74	A	A	D	T/S	MW/SBS existing
	KOTAAGUNG	0722	(?)	D	D	D	S	100 SBK Pro.
	KRUI	0723	(?)	(M)	(M)	D	S	SBK existing
	KOTABUMI	0724	(?)	D	D	D	T	OECF Remote Pro.
	METRO	0725	'81	A	A	D	T	MW existing
LAHAT	(LAHAT)	0731	'81	A	A	D	T	MW existing
	CURUP	0732	(?)	D	D	D	T	OECF Remote Pro.
	LUBUK LINGGAU	0733	('85)	D	D	D	T	OECF Remote Pro.
	MUARA ENIM	0734	('84)	(M)	D	D	T	French Pro.
	BATURAJA	0735	('58)	D	D	D	T	MW existing
	BENGKULU	0736	'80	A	A	D	T	French Pro.(SBS existing)
	MUARA AMAN	0737	(?)	D	D	D	S	100 SBK Pro.
	MANNA	0739	(?)	(M)	D	D	S	SBK existing
	BARHAU	0730	(?)	(M)	(M)	D	S	100 SBK Pro.
JAMBI	(JAMBI)	0741	'76	A/D	D	D	T/S	MW/SBB existing
	KUALA TUNGKAL	0742	(?)	D	D	D	S	SBK existing
	BANGKO	0746	(?)	D	D	D	S	100 SBK Pro.
	MUARA BUNGO	0747	(?)	(M)	D	D	S	SBK existing
	SUNGAIPENUH	0748	(?)	(M)	D	D	S	SBK existing
PADANG	(PADANG)	0751	'82	A/D	A/D	D	T/S	MW/SBB existing
	BUKITTINGGI	0752	'76	A/D	D	D	T	MW existing
	LUBUK SIKAPING	0753	('71)	D	D	D	S	100 SBK Pro.
	SIJUNJUNG	0754	('57)	D	D	D	S	100 SBK Pro.
	SOLOK	0755	(?)	D	D	D	T	OECF Remote Pro.
	PAINAN	0756	('82)	(M)	D	D	S	SBK existing
	MUARA SIBERUT	0759	('82)	(M)	(M)	D	S	SBK existing
PAKANBARU	(PAKANBARU)	0761	'78	A/D	D	D	T/S	French Pro./SBB existing
	BANGKINANG	0762	('77)	D	D	D	T	French Pro.(100 SBK Pro.)
	DUMAI	0765	'80	A	A	D	T	??? Pro.(SBK existing)
	BENGKALIS	0766	(?)	(M)	D	D	S	SBK existing
	BAGAN SIAPIAPI	0767	'84	A	A	D	T	OECF Remote Pro.(Additional)
	TEMBILAHAN	0768	('71)	(M)	D	D	S	SBK existing
	RENGAT	0769	('71)	(M)	D	D	S	SBK existing
	TELUK KUANTAN	0760	('75)	D	D	D	S	100 SBK Pro.
	TANJUNG PINANG	0771	'80	A	A	D	T	French Pro.
	RANAI (P.Natuna)	0773	(?)	(M)	(M)	D	S	SBK existing
	DABO SINGKEP	0776	(?)	(M)	(M)	D	S	SBK existing
	T.B.KALIMUN	0777	?	A	A	D	T	French Pro.(SBK existing)
BATAM SEKUPANG	(BATAM SEKUPANG)	0778	?	D	D	D	T/S	French Pro./SBS existing
	TANJUNG BATU	0779	(?)	(M)	(M)	D	S	SBK existing
	SELAT PANJANG	0770	(?)	A	A	D	T	French Pro.

Traffic and Circuit between Primary Centre and Secondary Centre *WITEL I)

SC Area	PC Area	End Of REPELITA-V				End Of REPELITA-VI				End Of REPELITA-VII			
		Capacity	(D.A)	Traffic	Circuit	Capacity	(D.A)	Traffic	Circuit	Capacity	(D.A)	Traffic	Circuit
MDN	MDN	123,906		680.23	J	222,400		1265.46	J	338,400		1949.19	J
	TBT	3,180	(200)	17.59	27x2	5,730	(350)	32.61	45x2	8,730	(550)	50.29	64x2
	PMS	14,270		78.92	95x2	25,850		147.09	167x2	39,250		226.08	248x2
	KIS	4,100		22.68	33x2	7,400		42.11	55x2	11,200		64.52	80x2
	RAP	3,420	(260)	18.92	29x2	6,190	(500)	35.23	48x2	9,490	(700)	54.67	69x2
	PPT	1,000		5.53	12x2	1,800		10.25	18x2	2,800		16.13	26x2
	PGR	0	(200)	0	0	0	(400)	0	0	0	(600)	0	0
	SDK	1,000		5.53	12x2	1,800		10.25	18x2	2,800		16.13	26x2
	KBJ	2,650		14.66	24x2	4,750		27.03	38x2	7,250		41.76	55x2
	KTN	0	(1,600)	0	0	0	(2,900)	0	0	0	(4,400)	0	0
	PBD	1,250	(600)	6.92	14x2	2,230	(1,100)	12.69	21x2	3,430	(1,700)	19.76	30x2
Sub-Total		153,876	(2,860)	5.53 [mE]		278,150	(5,250)	5.69 [mE]		423,350	(7,950)	5.76 [mE]	
SBG	SBG	2,050		20.11	J	3,750		37.84	J	5,650		57.86	J
	BLG	0	(740)	0	0	0	(1,350)	0	0	0	(2,050)	0	0
	TRT	800		7.85	15x2	1,400		14.13	23x2	2,200		22.53	33x2
	PSP	2,030		19.92	30x2	3,650		36.83	49x2	5,550		56.84	71x2
	PYB	0	(250)	0	0	0	(450)	0	0	0	(650)	0	0
	GST	0	(1,000)	0	0	0	(1,800)	0	0	0	(2,800)	0	0
Sub-Total		4,880	(1,990)	9.81 [mE]		8,800	(3,600)	10.09 [mE]		13,400	(5,500)	10.24 [mE]	
LSM	LGS	2,700		35.62	48x2	4,000		54.24	68x2	5,600		77.06	93x2
	BLK	0	(200)	0	0	0	(300)	0	0	0	(400)	0	0
	TKN	0	(1,000)	0	0	0	(1,500)	0	0	0	(2,100)	0	0
	BIR	1,650		21.77	32x2	2,500		33.90	46x2	3,400		46.79	60x2
	LSM	10,600		139.82	J	15,800		214.25	J	21,900		301.35	J
	ID	400		5.28	12x2	600		8.14	16x2	800		11.01	19x2
Sub-Total		15,350	(1,200)	13.19 [mE]		22,900	(1,200)	13.56 [mE]		31,700	(1,200)	13.76 [mE]	
BNA	BNA	10,020	(400)	64.23	J	18,370	(750)	121.43	J	28,220	(1,100)	189.08	J
	SAB	2,400		15.39	25x2	4,400		29.09	41x2	6,700		44.89	58x2
	SGI	1,400		8.98	17x2	2,600		17.19	27x2	4,000		26.80	38x2
	CAG	100		0.65	4x2	200		1.33	5x2	300		2.01	7x2
	MBO	0	(996)	0	0	0	(1,846)	0	0	0	(2,846)	0	0
	TTN	0	(760)	0	0	0	(1,350)	0	0	0	(2,100)	0	0
	BAK	0	(30)	0	0	0	(80)	0	0	0	(130)	0	0
	SKL	0	(100)	0	0	0	(200)	0	0	0	(300)	0	0
	SNB	0	(100)	0	0	0	(200)	0	0	0	(300)	0	0
Sub-Total		13,920	(2,386)	6.41 [mE]		25,570	(4,426)	6.61 [mE]		39,220	(6,776)	6.70 [mE]	

Traffic and Circuit between Primary Centre and Secondary Centre (WITEL II)

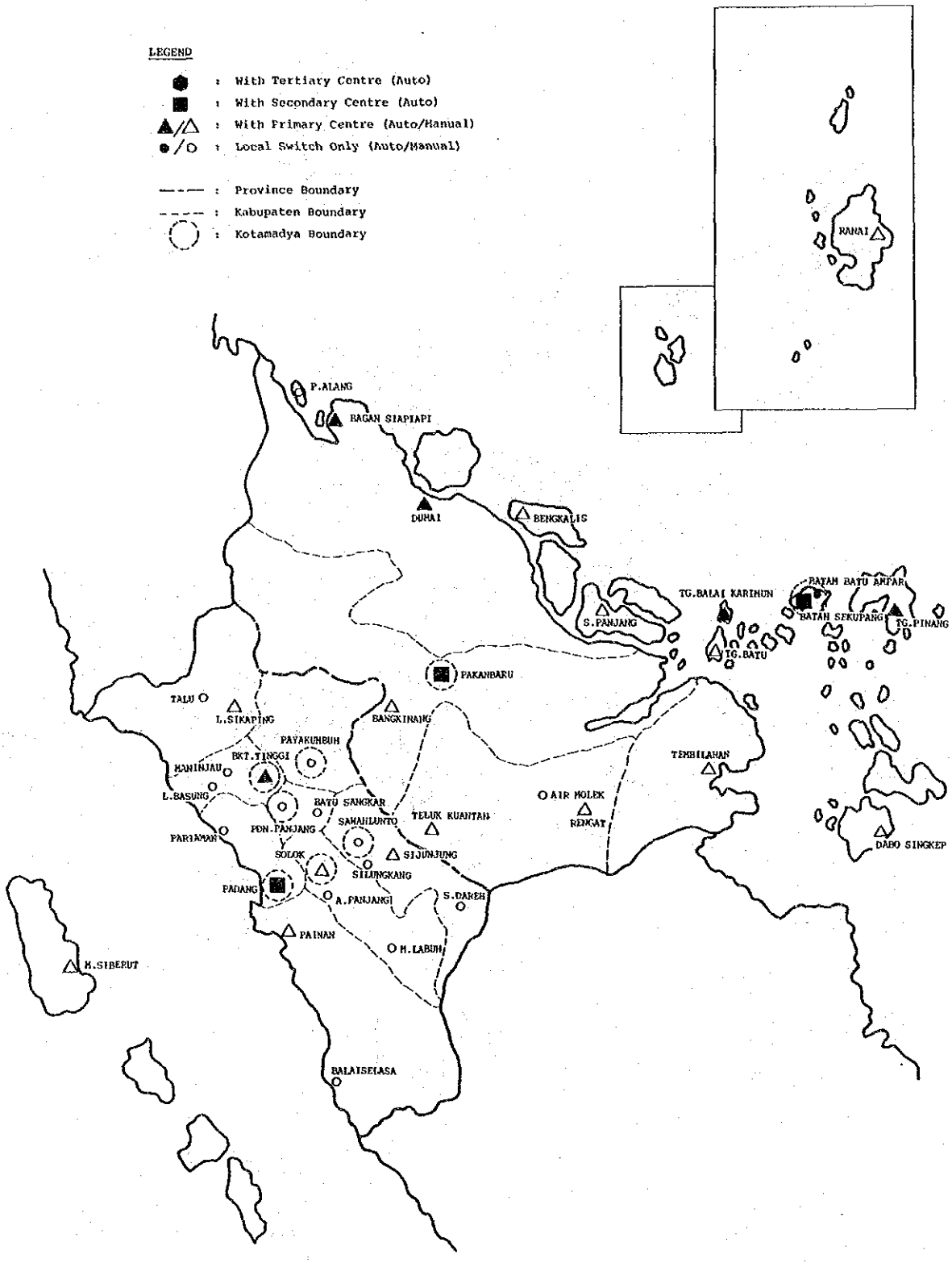
SC Area	PC Area	End Of REPELITA-V Capacity	(D.A)	Traffic	Circuit	End Of REPELITA-VI Capacity	(D.A)	Traffic	Circuit	End Of REPELITA-VII Capacity	(D.A)	Traffic	Circuit
PD	PD	21,000		183.33	J	35,200		316.45	J	51,800		472.42	J
	BKT	8,040	(200)	70.19	86x2	13,500	(350)	121.37	140x2	19,850	(500)	181.04	202x2
	LBS	0	(800)	0	0	0	(1,350)	0	0	0	(2,000)	0	0
	SJJ	0	(1,600)	0	0	0	(2,700)	0	0	0	(4,000)	0	0
	SLK	2,000	(400)	17.46	27x2	3,350	(650)	30.12	42x2	4,900	(1,000)	44.69	58x2
	PAI	0	(1,200)	0	0	0	(2,000)	0	0	0	(2,900)	0	0
	MBT	0	(50)	0	0	0	(100)	0	0	0	(150)	0	0
Sub-Total		31,040	(4,250)	8.73 [mE]		52,050	(7,150)	8.99 [mE]		76,550	(10,550)	9.12 [mE]	
PBR	PBR	13,000		83.33	J	23,100		152.70	J	34,900		233.83	J
	BGK	400		2.57	8x2	700		4.63	11x2	1,100		7.37	15x2
	DMI	3,000		19.23	29x2	5,300		35.04	47x2	8,000		53.60	68x2
	BS	0	(1,000)	0	0	0	(1,800)	0	0	0	(2,700)	0	0
	BAG	1,036		6.64	14x2	1,896		12.54	21x2	2,796		18.74	29x2
	TBN	0	(2,000)	0	0	0	(3,600)	0	0	0	(5,400)	0	0
	PGT	0	(1,200)	0	0	0	(2,100)	0	0	0	(3,200)	0	0
	TLK	0	(400)	0	0	0	(700)	0	0	0	(1,100)	0	0
Sub-Total		17,436	(4,600)	6.41 [mE]		30,996	(8,200)	6.61 [mE]		46,796	(12,400)	6.70 [mE]	
SKN	TPI	5,000		32.05	51x2	9,100		60.16	75x2	13,900		93.13	110x2
	RAI	0	(200)	0	0	0	(400)	0	0	0	(600)	0	0
	DBS	0	(200)	0	0	0	(400)	0	0	0	(600)	0	0
	TBK	1,256		8.05	15x2	2,256		14.92	24x2	3,456		23.16	34x2
	SKN	5,000		32.05	J	9,200		60.82	J	14,200		95.14	J
	TJT	0	(200)	0	0	0	(400)	0	0	0	(600)	0	0
	SLP	1,000		6.41	13x2	1,800		11.90	20x2	2,700		18.09	28x2
Sub-Total		12,256	(600)	6.41 [mE]		22,356	(1,200)	6.61 [mE]		34,256	(1,800)	6.70 [mE]	

Traffic and Circuit between Primary Centre and Secondary Centre (WITEL III)

SC Area	PC Area	End Of REPELITA-V				End Of REPELITA-VI				End Of REPELITA-VII			
		Capacity	(D.A)	Traffic	Circuit	Capacity	(D.A)	Traffic	Circuit	Capacity	(D.A)	Traffic	Circuit
PG	PG	44,020		353.48	J	72,020		594.89	J	104,720		877.56	J
	KAY	700		5.63	12x2	1,180		9.75	18x2	1,680		14.08	23x2
	PBN	600		4.82	11x2	1,000		8.26	16x2	1,400		11.74	20x2
	SKY	600		4.82	11x2	1,000		8.26	16x2	1,400		11.74	20x2
	MTK	0	(200)	0	0	0	(300)	0	0	0	(500)	0	0
	PGP	5,600		44.97	58x2	9,200		76.00	92x2	13,400		112.30	130x2
	KBA	0	(200)	0	0	0	(300)	0	0	0	(500)	0	0
	TJN	0	(800)	0	0	0	(1,300)	0	0	0	(1,900)	0	0
Sub-Total		51520	(1,200)	8.03 [mE]		84,400	(1,900)	8.26 [mE]		122,600	(2,900)	8.38 [mE]	
TJK	TJK	35,050	(400)	305.99	J	54,350	(600)	488.61	J	76,750	(900)	699.96	J
	KTA	0	(800)	0	0	0	(1,200)	0	0	0	(1,700)	0	0
	KUR	0	(100)	0	0	0	(250)	0	0	0	(350)	0	0
	KB	1,200		10.48	19x2	1,800		16.19	26x2	2,600		23.72	34x2
	MET	4,000	(200)	34.92	47x2	6,200	(300)	55.74	70x2	8,750	(450)	79.80	96x2
Sub-Total		40,250	(1,500)	8.73 [mE]		62,350	(2,350)	8.99 [mE]		88,100	(3,400)	9.12 [mE]	
LT	LT	3,013	(400)	20.43	J	5,413	(700)	37.33	J	8,113	(1,100)	57.28	J
	CRP	1,000	(600)	6.78	14x2	1,800	(1,100)	12.55	21x2	2,800	(1,600)	19.77	30x2
	LLG	4,200		28.48	40x2	7,500		52.28	66x2	11,400		80.49	97x2
	MAE	2,700		18.31	28x2	4,800		33.46	46x2	7,300		51.54	66x2
	BTA	1,400	(400)	9.50	17x2	2,500	(700)	17.43	27x2	3,800	(1,100)	26.83	38x2
	BN	7,100		48.14	62x2	12,800		89.22	106x2	19,400		136.97	156x2
	MAM	0	(200)	0	0	0	(400)	0	0	0	(600)	0	0
	MNA	0	(500)	0	0	0	(900)	0	0	0	(1,400)	0	0
	BRH	0	(50)	0	0	0	(200)	0	0	0	(300)	0	0
Sub-Total		19,413	(2,150)	6.78 [mE]		34,813	(4,000)	6.96 [mE]		52,813	(6,100)	7.06 [mE]	
JB	JB	12,000		81.36	J	21,600		150.56	J	32,800		231.57	J
	KTL	0	(1,200)	0	0	0	(2,100)	0	0	0	(3,200)	0	0
	BKO	0	(600)	0	0	0	(1,100)	0	0	0	(1,700)	0	0
	MAB	0	(1,000)	0	0	0	(1,800)	0	0	0	(2,700)	0	0
	SPN	0	(1,200)	0	0	0	(2,200)	0	0	0	(3,300)	0	0
Sub-Total		12,000	(4,000)	6.78 [mE]		21,600	(7,200)	6.97 [mE]		32,800	(10,900)	7.06 [mE]	

ANNEX-9 LOCATION MAP OF EXCHANGES IN SUMATERA

Location Map of Exchanges (WITEL I)



Location Map of Exchanges (WITEL II)

Location Map of Exchanges
(WITEL III)

ANNEX-10 LIST OF LOCAL EXCHANGES IN SUMATERA

Local Exchange List by SC Area (WITEL I) (1/5)

No.	Exchange Name	Type	Area Code	Existing Capacity Auto	Existing Capacity Manual	No. of Sub.	Waiting Lists	PELITA-IV Auto	PELITA-IV Manual	Capacity (1989) Auto	Capacity (1989) Manual	Remarks	REPELITA-V Auto	REPELITA-V Manual	Capacity (1994) Auto	Capacity (1994) Manual	Exchange Total	PC Area Total	KAB/ KODYA Code
1	MEDAN-I	UR-49a	061	8,000				-1,000		7,000	0	* REALOKASI to SIDIKALANG (-1,000)			7,000	0			1275
2	MEDAN-II	ARF-102	061	7,000						7,000	0				7,000	0			1275
3	MEDAN-III	MC-10C	061	10,000						10,000	0				10,000	0			1275
4	MEDAN-IV	MC-10C	061	10,000		28,455	19,943			10,000	0				10,000	0			1275
5	MEDAN-V	EWSD	061					10,000		10,000	0	Ph-IV(1,000),Ph-VI(9,000)	19,000		29,000	0			1275
6	MEDAN PULAU BRAYAN	EWSD	061					11,000		11,000	0	Ph-IV(3,000),Ph-Vb(8,000)			11,000	0			1275
7	MEDAN SUKA RAMAI	EWSD	061					12,000		12,000	0	Ph-IV(7,000),Ph-VI(5,000)			12,000	0			1275
8	MEDAN PADANG BULAN	EWSD	061					8,000		8,000	0	Ph-Vb(5,000),Ph-VI(3,000)			8,000	0			1275
9	MEDAN CINTA DAMAI	EWSD	061					7,000		7,000	0	Ph-Vb(7,000)			7,000	0			1275
10	MEDAN SIMPANG LIMUN	EWSD	061					7,000		7,000	0	Ph-Vb(3,000),Ph-VI(4,000)			7,000	0			1275
11	MEDAN TANJUNG MULIA	EWSD	061					3,000		3,000	0	Ph-Vb(3,000)			3,000	0	111,000		1275
12	BELAWAN-I	PC-1000C	0619	1,000		823	296	2,000		3,000	0	PC-1000C(2,000)			3,000	0			1275
13	BELAWAN-II	EWSD	0619					3,000		3,000	0	Ph-IV(1,000),Ph-Vb(2,000)			3,000	0	6,000		1275
14	LUBUK PAKAM	ABK-206	0619		400	284	3		-400	0	0				0	0			1210
15	LUBUK PAKAM	EWSD	0619					1,000		1,000	0	Ph-VI(1,000)			1,000	0	1,000		1210
16	BINJAI-I	PC-1000C	0619	1,000		959	387	2,000		3,000	0	PC-1000C(2,000)			3,000	0			1276
17	BINJAI-II	EL-BE	0619		6	5	0			0	6				0	6			1276
18	BINJAI-III	EWSD	0619					2,000		2,000	0	Ph-Vb(2,000)			2,000	0	5,006	123,006	1276
19	TEBING TINGGI	PC-1000C	0621	1,000		952	31	2,000		3,000	0	PC-1000C(2,000)			3,000	0	3,000		1274
20	GALANG	ABH-1610	0621		100	52	0			0	100				0	100	100		1210
21	SUNGAI RAMPAH	ABK-206	0621		80	36	0			0	80				0	80	80		1210
22	DOLOK MERANGIR	DSM	0621		70	18	0		-70	0	0				0	0			1210
23	DOLOK MERANGIR	EWSD	0621					200		200	0	100 SBK (200)			200	0	(200)	3,180	1210
24	PEMATANG SIANTAR-I	PC-1000C	0622	4,000		3,939	247	3,000		7,000	0	PC-1000C(3,000)			7,000	0			1273
25	PEMATANG SIANTAR-II	EWSD	0622					4,000		4,000	0	Ph-Vb(4,000)			4,000	0			1273
26	P.S.RAMBUNG MERAH	EWSD	0622					2,000		2,000	0	Ph-Vb(2,000)			2,000	0	13,000		1273
27	PERLANAAN	ABK-205	0622		70	19	0			0	70				0	70	70		1207
28	PERDAGANGAN	ABK-206	0622		200	100	1			0	200				0	200	200		1207
29	INALUM / NEW TOWN	N-230L	0622	1,000		218	0			1,000	0				1,000	0	1,000	14,270	1206
30	KISARAN	ABK-205	0623		80	26	0			0	80			-80	0	0			1206
31	KISARAN	PC-1000C	0623	1,000		685	41	1,000		2,000	0	PC-1000C(1,000)			2,000	0	2,000		1206
32	TANJUNG BALAI	DSM	0623		570	567	17		-570	0	0				0	0			1272
33	TANJUNG BALAI	EWSD	0623					1,000		1,000	0	Ph-IV(1,000)	1,000		2,000	0	2,000		1272
34	LABUHAN RUKU	ABH-1610	0623		50	31	0			0	50				0	50	50		1206
35	PULAU RAKYAT	ABH-1602	0623		50	18	0			0	50				0	50	50	4,100	1206
36	RANTAU PRAPAT	ABK-2022	0624		600	583	108		-600	0	0				0	0			1205
37	RANTAU PRAPAT	EWSD	0624					3,000		3,000	0	Ph-IV(1,000),Ph-Vb(2,000)			3,000	0	3,000		1205
38	AEKKANOPAN	ABK-205	0624		100	74	0		-100	0	0				0	0			1205
39	AEKKANOPAN	EWSD	0624					200		200	0	100 SBK (200)			200	0	(200)		1205
40	KOTA PINANG	ABK-205	0624		60	46	0		-60	0	0				0	0			1205
41	KOTA PINANG	EWSD	0624					200		200	0	100 SBK (200)			200	0	200		1205

Local Exchange List by SC Area (WITEL I) (2/5)

No.	Exchange Name	Type	Area Code	Existing Capacity Auto	Existing Capacity Manual	No. of Sub.	Waiting Lists	PELITA-IV Auto	PELITA-IV Manual	Capacity (1989) Auto	Capacity (1989) Manual	Remarks	REPELITA-V Auto	REPELITA-V Manual	Capacity (1994) Auto	Capacity (1994) Manual	Exchange Total	PC Area Total	KAB/ KODYA Code
42	AEK NABARA	ABH-1610	0624		100	54	0			0	100				0	100	100		1205
43	LABUHAN BILIK	ABK-205	0624		60	29	0			0	60				0	60	(60)		1205
44	NEGERIBARU	ABH-1610	0624		30	18	0			0	30				0	30	30		1205
45	LINGGA PAYUNG	ABH-1610	0624		50	16	0			0	50				0	50	50		1205
46	MERBAU	ABK-205	0624		40	21	0			0	40				0	40	40	3,420	1205
47	PARAPAT	PC-1000C	0625	1,000		189	0			1,000	0				1,000	0	1,000	1,000	1207
48	PANGURURAN	ABH-1610	0626		100	50	5		-100	0	0				0	0			1204
49	PANGURURAN	EWSD	0626					200		200	0	100 SBK (200)			200	0	(200)	0	1204
50	SIDIKALANG	ABK-2021	0627		400	369	6		-400	0	0				0	0			1208
51	SIDIKALANG	UR-49a	0627					1,000		1,000	0	* REALOKASI from MEDAN (1,000)			1,000	0	1,000	1,000	1208
52	KABANJAHE-I	UR-49a	0628	1,000		596	5			1,000	0				1,000	0			1209
53	KABANJAHE-II	EL-8E	0628		30	7	0			0	30			-30	0	0			1209
54	KABANJAHE-II	EWSD	0628							0	0		1000		1,000	0	2,000		1209
55	BERAS TAGI	ABK-206	0628		400	223	8		-400	0	0				0	0			1209
56	BERAS TAGI	EWSD	0628					600		600	0	Ph-IV(600)			600	0	600		1209
57	TIGA BINANGA	ABH-1610	0628		50	22	2			0	50				0	50	50	2,650	1209
58	KOTA CANE	ABK-2011	0629		300	162	0			0	300			-300	0	0			1102
59	KOTA CANE	EWSD	0629							0	0		1600		1,600	0	(1,600)	0	1102
60	PANGKALAN BRANDAN	UR-49a	0620	1,000		577	?			1,000	0				1,000	0	1,000		1211
61	KUALA	ABH-1610	0620		50	38	23		-50	0	0				0	0			1211
62	KUALA	EWSD	0620					200		200	0	100 SBK (200)			200	0	(200)		1211
63	PANGKALAN SUSU	ABH-1602	0620		50	34	2			0	50				0	50	50		1211
64	TANJUNGPURA	ABK-206	0620		200	90	104			0	200				0	200	200		1211
65	STABAT	EWSD	0620					400		400	0	100 SBK (400)			400	0	(400)	1,250	1211
	TOTAL(MEDAN)			47000	4296	40385	21229	86000	-2750	133000	1546 134546		22600	-410	155,600	1,136 156,736	153,876	153,876 2,860	

Local Exchange List by SC Area (WITEL I) (3/5)

No.	Exchange Name	Type	Area Code	Existing Capacity Auto	Existing Capacity Manual	No. of Sub.	Waiting Lists	PELITA-IV Auto	PELITA-IV Manual	Capacity (1989) Auto	Capacity (1989) Manual	Remarks	REPELITA-V Auto	REPELITA-V Manual	Capacity (1994) Auto	Capacity (1994) Manual	Exchange Total	PC Area Total	KAB/ KODYA Code
66	SIBOLGA-I	PC-1000C	0631	2,000		1,005	43			2,000	0				2,000	0			1271
67	SIBOLGA-II	EL-BE	0631		50	8	0			0	50				0	50	2,050	2,050	1271
68	BALIGE	ABK-205	0632		140	114	7		-140	0	0				0	0			1204
69	BALIGE	EWSD	0632					400		400	0	100 SBK (400)			400	0	(400)		1204
70	DOLOK SANGGUL	ABK-205	0632		140	104	1			0	140				0	140	(140)		1204
71	PORSEA	ABK-205	0632		100	85	2			0	100				0	100	(100)		1204
72	SIBORONG BORONG	ABH-162	0632		100	79	2			0	100				0	100	(100)	0	1204
73	TARUTUNG	ABK-205	0633		250	235	7		-250	0	0				0	0			1204
74	TARUTUNG	UR-49	0633	800						800	0				800	0	800	800	1204
75	PADANG SIDEMPUAN	ABK-205	0634		600	553	12		-600	0	0				0	0			1202
76	PADANG SIDEMPUAN	EWSD	0634					1,000		1,000	0	Ph-VI(1,000)	1,000		2,000	0	2,000		1202
77	BATANG TORU	ABH-162	0634		30	20	1			0	30				0	30	30	2,030	1202
78	PANYABUNGAN	ABH-162	0636		100	81	14		-100	0	0				0	0			1202
79	PANYABUNGAN	EWSD	0636					200		200	0	100 SBK (200)			200	0	(200)		1202
80	KOTANOPAN	ABH-162	0636		50	20	1			0	50				0	50	(50)	0	1202
81	GUNUNG SITOLI	ABK-205	0639		600	395	22		-600	0	0				0	0			1201
82	GUNUNG SITOLI	EWSD	0639	1,000						1,000	0				1,000	0	(1,000)	0	1201
	TOTAL(SIBOLGA)			3800	2160	2699	112	1600	-1690	5400	470		1000	0	6,400	470	4,880	4,880	
											5870					6,870		1,990	

Local Exchange List by SC Area (WITEL I) (4/5)

No.	Exchange Name	Type	Area Code	Existing Capacity		No. of Sub.	Waiting Lists	PELITA-IV		Capacity (1989)		Remarks	REPELITA-V		Capacity (1994)		Exchange Total	PC Area Total	KAB/ KODYA Code
				Auto	Manual			Auto	Manual	Auto	Manual		Auto	Manual	Auto	Manual			
83	LANGSA	EMD-F6a	0641	800		788	112			800	0		1,200		2,000	0	2,000		1103
84	KUALA SIMPANG	ARF-102	0641	400		332	9			400	0		200		600	0	600		1103
85	PEUREULAK	ABK-205	0641		100	52	0			0	100				0	100	100	2,700	1103
86	BLANGKEJEREN	ABH-1610	0642		50	13	0		-50	0	0				0	0			1102
87	BLANGKEJEREN	EWSD	0642					200		200	0	100 SBK (200)			200	0	(200)	0	1102
88	TAKENGON	ABK-206	0643		500	244	33			0	500			-500	0	0			1104
89	TAKENGON		0643							0	0		1000		1,000	0	(1,000)	0	1104
90	BIREUN-I	ARF-102	0644	400		324	317			400	0				400	0			1108
91	BIREUN-II	EWSD	0644					1,000		1,000	0	Ph-Vb(1,000)			1,000	0	1,400		1108
92	MATANGGLUMPANG DUA	ABK-206	0644		200	149	15			0	200				0	200	200		1108
93	SAMALANGA	ABH-1610	0644		50	45	0			0	50				0	50	50	1,650	1108
94	LHOKSEUMAWE-I	ARF-102	0645	2,000		1,541	417			2,000	0				2,000	0			1108
95	LHOKSEUMAWE-II	EWSD	0645					2,000		2,000	0	Ph-VI(2,000)	6,000		8,000	0	10,000		1108
96	LHOKSUKON	ARF-102	0645	400		205	10			400	0				400	0	400		1108
97	PANTONLABU	ABK-206	0645		200	169	20			0	200				0	200	200	10,600	1108
98	IDI	ARF-102	0646	400		127	4			400	0				400	0	400	400	1103
	TOTAL(LHOKSEUMAWE)			4400	1100	3989	937	3200	-50	7600	1050 8650		8400	-500	16,000	550 16,550	15,350	15,350 1,200	

Local Exchange List by SC Area (WITEL I) (5/5)

No.	Exchange Name	Type	Area Code	Existing Capacity Auto	Existing Capacity Manual	No. of Sub.	Waiting Lists	PELITA-IV Auto	PELITA-IV Manual	Capacity (1989) Auto	Capacity (1989) Manual	Remarks	REPELITA-V Auto	REPELITA-V Manual	Capacity (1994) Auto	Capacity (1994) Manual	Exchange Total	PC Area Total	KAB/ KODYA Code
99	BANDA ACEH -I	ARF-102	0651	3,000		2,590	1,792			3,000	0		!		3,000	0			1171
100	BANDA ACEH -II	ARF	0651					4,000		4,000	0	* REALOKASI Ph-V(4,000))	1,000		5,000	0			1171
101	B.A.LHOKNGA	EWSD	0651					2,000		2,000	0	Ph-VI(2,000)	!		2,000	0	10,000		1171
102	JANTHOI	EWSD	0651					400		400	0	100 SBK(400)			400	0	(400)		1106
103	SEULIMEUM	ABH-1611	0651		20	10	0			0	20				0	20	20	10,020	1106
104	SABANG-I	ARF-102	0652	400		381	100			400	0				400	0			1172
105	SABANG-II	EWSD	0652					2,000		2,000	0	Ph-Vb(2,000)			2,000	0	2,400	2,400	1172
106	SIGLI	ARF-102	0653	600		425	4			600	0		400		1,000	0	1,000		1107
107	BEUREUNUN	ABH-1611	0653		200	180	0			0	200				0	200	200		1107
108	MEUREUDU	ABK-206	0653		200	54	0			0	200				0	200	200	1,400	1107
109	CALANG	ABH-1611	0654		50	39	0			0	50				0	50	50		1105
110	LAMNO	ABH-1610	0654		50	43	0			0	50				0	50	50	100	1105
111	MEULABOH	ABK-205	0655		350	343	4		-350	0	0				0	0			1105
112	MEULABOH	MCR	0655	896						896	0				896	0	(896)		1105
113	JEURAM	KELLOG	0655		50	8	0			0	50				0	50	(50)		1105
114	ALUR BILIE	ABH-1610	0655		50	?	?			0	50				0	50	(50)	0	1105
115	TAPAKTUAN	ABK-205	0656		240	234	4			0	240			-240	0	0			1101
116	TAPAKTUAN	EWSD	0656							0	0		600		600	0	(600)		1101
117	BLANG PIDIE	ABK-205	0656		160	159	11			0	160				0	160	(160)	0	1101
118	BAKONGAN	ABH-1611	0657		30	23	0			0	30				0	30	(30)	0	1101
119	SINGKIL	ABJ-10101	0658		100	60	4			0	100				0	100	(100)	0	1101
120	SINABANG	ABJ-10101	0650		100	95	0			0	100				0	100	(100)	0	1105
	TOTAL(BANDA ACEH)			4896	1600	4644	1919	8400	-350	13296	1250 14546		2000	-240	15,296	1,010 16,306	13,920	13,920 2,386	
	Total (WITEL I)			60,096	9,156	51,717	24,197	99,200	-4,840	159,296	4,316		34,000	-1,150	193,296	3,166 196,462	188,026	188,026 8,436	

Local Exchange List by SC Area (WITEL II) (1/3)

No.	Exchange Name	Type	Area Code	Existing Capacity		No.of Sub.	Waiting Lists	PELITA-IV		Capacity (1989)		Remarks	REPELITA-V		Capacity (1994)		Exchange Total	PC Area Total	KAB/ KODYA Code
				Auto	Manual			Auto	Manual	Auto	Manual		Auto	Manual	Auto	Manual			
1	PADANG CENTRUM-I	ARF-101/2	0751	8,000		7,174	3,777			8,000	0		!		8,000	0			1371
2	PADANG CENTRUM-II	EWSD	0751					2,000		2,000	0	Ph-IV(2,000)	4,000		6,000	0			1371
3	PADANG ULA KARANG	EWSD	0751					3,000		3,000	0	Ph-Vb(3,000)	!		3,000	0			1371
4	PADANG BANDAR BUAT	EWSD	0751					2,000		2,000	0	Ph-Vb(2,000)	!		2,000	0			1371
5	PADANG TELUK BAYUR	EWSD	0751					1,000		1,000	0	Ph-Vb(1,000)	!		1,000	0	20,000		1371
6	PARIAMAN	ABK-162	0751		400	213	28		-400	0	0				0	0			1305
7	PARIAMAN	EWSD	0751					1,000		1,000	0	Ph-Vb(1,000)			1,000	0	1,000	21,000	1305
8	BUKITTINGGI	ARF-102	0752	2,000		1,986	49			2,000	0		2,000		4,000	0	4,000		1375
9	PADANG PANJANG-I	ABK-2021	0752		200				-200	0	0				0	0			1374
10	PADANG PANJANG-II	ABH-2021	0752		200	310	64		-200	0	0				0	0			1374
11	PADANG PANJANG	EWSD	0752					1,000		1,000	0	Ph-IV(1,000)			1,000	0	1,000		1374
12	PAYAKUMBUH	ADX-513	0752		800	781	91		-800	0	0				0	0			1376
13	PAYAKUMBUH	EWSD	0752					1,000		1,000	0	Ph-IV(1,000)	1,000		2,000	0	2,000		1376
14	LUBUK BASUNG	ABK-2021	0752		100	88	1		-100	0	0				0	0			1306
15	LUBUK BASUNG	EWSD	0752					200		200	0	100 SBK(200)			200	0	(200)		1306
16	MANINJAU	ABK-2021	0752		40	32	1			0	40				0	40	40		1306
17	BATU SANGKAR	ABK-2021	0752		300	266	18			0	300			-300	0	0			1304
18	BATU SANGKAR		0752							0	0		1,000		1,000	0	1,000	8,040	1304
19	LUBUK SIKAPING	ABK-2021	0753		200	155	18		-200	0	0				0	0			1308
20	LUBUK SIKAPING	EWSD	0753					400		400	0	100 SBK(400)	200		600	0	(600)		1308
21	TALU	ABK-2021	0753		30	25	4		-30	0	0				0	0			1308
22	TALU	EWSD	0753					200		200	0	100 SBK(200)			200	0	(200)	0	1308
23	SIJUNJUNG	ABK-2021	0754		200	78	18		-200	0	0				0	0			1303
24	SIJUNJUNG	EWSD	0754					200		200	0	100 SBK(200)	400		600	0	(600)		1303
25	SAWAH LUNTO	ABK-2021	0754		200	129	25		-200	0	0				0	0			1373
26	SAWAH LUNTO	EWSD	0754					400		400	0	100 SBK(400)	200		600	0	(600)		1373
27	SILUNGKANG	ABK-2021	0754		200	162	0			0	200				0	200	(200)		1303
28	SUNGAI DAREH	ABK-2021	0754		200	40	3		-200	0	0				0	0			1303
29	SUNGAI DAREH	EWSD	0754					200		200	0	100 SBK(200)			200	0	(200)	0	1303
30	SOLOK	ABK	0755		800	727	149		-800	0	0				0	0			1372
31	SOLOK	EWSD	0755					1,000		1,000	0	Ph-IV(1,000)	1,000		2,000	0	2,000		1372
32	ALAHAN PANJANG	ABK-2021	0755		200	32	7		-200	0	0				0	0			1302
33	ALAHAN PANJANG	EWSD	0755					200		200	0	100 SBK(200)			200	0	(200)		1302
34	MUARALABUH	ABH-162	0755		200	49	5		-200	0	0				0	0			1302
35	MUARALABUH	EWSD	0755					200		200	0	100 SBK(200)			200	0	(200)	2,000	1302
36	PAINAN	ABJ-101	0756		640	156	29			0	640			-640	0	0			1301
37	PAINAN		0756							0	0		1,000		1,000	0	(1,000)		1301
38	BALAISELASA	ABK-162	0756		100	47	0		-100	0	0				0	0			1301
39	BALAISELASA	EWSD	0756					200		200	0	100 SBK(200)			200	0	(200)	0	1301
40	MUARA SIBERUT	ABJ-101	0759		50	27	0			0	50				0	50	(50)	0	1305
	TOTAL(PADANG)			10,000	5,060	12,397	4,287	14,200	-3,830	24,200	1,230 25430		10,800	-940	35,000	290 35,290	31,040	31,040 4,250	

Local Exchange List by SC Area (WITEL II) (2/3)

No.	Exchange Name	Type	Area Code	Existing Capacity Auto	Existing Capacity Manual	No.of Sub.	Waiting Lists	PELITA-IV Auto	PELITA-IV Manual	Capacity (1989) Auto	Capacity (1989) Manual	Remarks	REPELITA-V Auto	REPELITA-V Manual	Capacity (1994) Auto	Capacity (1994) Manual	Exchange Total	PC Area Total	KAB/ KODYA Code
41	PAKANBARU CENTRUM-I	ARF-102	0761	5,000		4,070	3,025			5,000	0				5,000	0			1471
42	PAKANBARU CENTRUM-II	EWSD	0761					5,000		5,000	0	Ph-IV(2,000),Ph-Vb(3,000)			5,000	0			1471
43	PAKANBARU ARENGKA	EWSD	0761					1,000		1,000	0	Ph-Vb(1,000)			1,000	0			1471
44	PAKANBARU RUMBAI	EWSD	0761					2,000		2,000	0	Ph-Vb(2,000)			2,000	0	13,000	13,000	1471
45	BANGKINANG	ABK-206	0762		200	151	0		-200	0	0				0	0			1404
46	BANGKINANG	EWSD	0762					400		400	0	100 SBK(400)			400	0	400	400	1404
47	DUMAI-I	ARF-102	0765	600		598	885			600	0				600	0			1405
48	DUMAI-II	EWSD	0765					1,000		1,000	0	Ph-Vb(1,000)	1,400		2,400	0	3,000	3,000	1405
49	BENGKALIS	ABK-206	0766		550	413	0			0	550			-550	0	0			1405
50	BENGKALIS		0766							0	0		1,000		1,000	0	(1,000)	0	1405
51	BAGAN SIAPIAPI	MCR11-B-3	0767	896		564	4			896	0		100		996	0	996		1405
52	PULAU ALANG	ABK-205	0767		40	11	0			0	40				0	40	40	1,036	1405
53	TEMBILAHAN	ADK-513	0768		800	545	180			0	800			-800	0	0			1402
54	TEMBILAHAN		0768							0	0		2,000		2,000	0	(2,000)	0	1402
55	RENGAT-I	ABK-206	0769		200					0	200			-200	0	0			1401
56	RENGAT-II	ABJ-10101	0769		100	254	0			0	100			-100	0	0			1401
57	RENGAT		0769							0	0		1,000		1,000	0	(1,000)		1401
58	AIR MOLEK-I	ABH-1650	0769		50				-50	0	0				0	0			1401
59	AIR MOLEK-II	ABJ-10101	0769		80	59	0		-80	0	0				0	0			1401
60	AIR MOLEK	EWSD	0769					200		200	0	100 SBK(200)			200	0	(200)	0	1401
61	TELUK KUANTAN	ABK-206	0760		200	81	0		-200	0	0				0	0			1401
62	TELUK KUANTAN	EWSD	0760					400		400	0	100 SBK(400)			400	0	(400)	0	1401
	TOTAL(PAKANBARU)			6,496	2,220	6,746	4,094	10,000	-530	16,496	1,690 18186		5,500	-1,650	21,996	40 22,036	17,436	17,436 4,600	

Local Exchange List by SC Area (WITEL II) (3/3)

No.	Exchange Name	Type	Area Code	Existing Capacity Auto	Existing Capacity Manual	No.of Sub.	Waiting Lists	PELITA-IV Auto	PELITA-IV Manual	Capacity (1989) Auto	Capacity (1989) Manual	Remarks	REPELITA-V Auto	REPELITA-V Manual	Capacity (1994) Auto	Capacity (1994) Manual	Exchange Total	PC Area Total	KAB/ KODYA Code
63	TANJUNG PINANG	PC-1000C	0771	2,000		980	1,461	2,000		4,000	0	PC-1000C(2,000)	1,000		5,000	0	5,000	5,000	1403
64	RANAI (P.Natuna)	ABH-162	0773		200	36	42			0	200				0	200	(200)	0	1403
65	DABO SINGKEP	ABK-206	0776		200	47	59			0	200				0	200	(200)	0	1403
66	T.B.KARIMUN	AKD	0777	256		241	111	600		856	0	* REALOKASI from BATAM(600)	400		1,256	0	1,256	1,256	1403
67	BATAM SEKUPANG	EWSD	0778	2,000		552	47	-2,000		0	0	* REALOKASI to ??? (2,000)			0	0			1472
68	BATAM SEKUPANG	EWSD	0778					2,000		2,000	0	STO BATAM(2,000)			2,000	0	2,000		1472
69	BATAM BATU AMPAR	EWSD	0778	1,000		695	254	-1,000		0	0	* REALOKASI to ??? (1,000)			0	0			1472
70	BATAM BATU AMPAR	EWSD	0778					3,000		3,000	0	STO BATAM(3,000)			3,000	0	3,000	5,000	1472
71	TANJUNGBATU	ABK-206	0779		200	180	59			0	200				0	200	(200)	0	1403
72	SELAT PANJANG	ABK-206	0770		400	375	7		-400	0	0				0	0			1405
73	SELAT PANJANG	AKD	0770					900		900	0	* REALOKASI from BATAM(900)	100		1,000	0	1,000	1,000	1405
	TOTAL(SEKUPANG)			5,256	1,000	3,106	2,040	5,500	-400	10,756	600 11356		1,500	0	12,256	600 12,856	12,256	12,256 600	
	Total (WITEL II)			21,752	8,280	22,249	10,421	29,700	-4,760	51,452	3,520		17,800	-2,590	69,252	930 70,182	60,732	60,732 9,450	

Local Exchange List by SC Area (WITEL III) (1/4)

No.	Exchange Name	Type	Area Code	Existing Capacity Auto	Existing Capacity Manual	No. of Sub.	Waiting Lists	PELITA-IV Auto	PELITA-IV Manual	Capacity (1989) Auto	Capacity (1989) Manual	Remarks	REPELITA-V Auto	REPELITA-V Manual	Capacity (1994) Auto	Capacity (1994) Manual	Exchange Total	PC Area Total	KAB/ KODYA Code
1	PALEMBANG CENTRUM-I	ARF101/2	0711	9,000		8,454	9,776			9,000	0				9,000	0			1671
2	PALEMBANG CENTRUM-II	EWSD	0711					10,000		10,000	0	Ph-Vb(10,000)	15,000		25,000	0			1671
3	PG. KENTEN UJUNG	EWSD	0711					2,000		2,000	0	Ph-IV(2,000)			2,000	0			1671
4	PG. TALANG KELAPA	EWSD	0711					2,000		2,000	0	Ph-IV(2,000)			2,000	0			1671
5	PG. SEBERANG ULU	EWSD	0711					3,000		3,000	0	Ph-IV(3,000)			3,000	0			1671
6	PG. SUNGAI BUAH	EWSD	0711					3,000		3,000	0	Ph-Vb(1,000),Ph-VI(2,000)			3,000	0	44,000		1671
7	SUNGAI PAIT	ABJ-101	0711		20	11	3			0	20				0	20	20	44,020	1606
8	KAYU AGUNG	ABK-2012	0712		200	127	137			0	200			-200	0	0			1602
9	KAYU AGUNG		0712							0	0		600		600	0	600		1602
10	TANJUNG RAYA	ABK-2012	0712		100	36	17			0	100				0	100	100	700	1602
11	PRABUMULIH	ABK-2012	0713		400	272	52		-400	0	0				0	0			1603
12	PRABUMULIH	EWSD	0713					600		600	0	Ph-IV(600)			600	0	600	600	1603
13	SEKAYU	ABK-2012	0714		150	144	152			0	150			-150	0	0			1606
14	SEKAYU		0714							0	0		600		600	0	600	600	1606
15	MENTOK	EWSD	0716					200		200	0	100 SBK(200)			200	0	(200)	0	1607
16	PANGKAL PINANG	PC-1000C	0717	2,000		1,996	178	2,000		4,000	0	PC 1000C(2,000)	1,000		5,000	0	5,000		1672
17	SUNGAI LIAT	ABK-2012	0717		200	107	68		-200	0	0				0	0			1607
18	SUNGAI LIAT	EWSD	0717					600		600	0	Ph-IV(600)			600	0	600	5,600	1607
19	TOBOALI	EWSD	0718					200		200	0	100 SBK(200)			200	0	(200)	0	1607
20	TANJUNG PANDAN	ABK-206	0719		400	320	64			0	400			-400	0	0			1608
21	TANJUNG PANDAN		0719							0	0		600		600	0	(600)		1608
22	MANGGAR	EWSD	0719					200		200	0	100 SBK(200)			200	0	(200)	0	1608
	TOTAL(PALEMBANG)			11,000	1,470	11,467	10,447	23,800	-600	34,800	870 35,670		17,800	-750	52,600	120 52,720	51,520	51,520 1,200	

Local Exchange List by SC Area (WITEL III) (2/4)

No.	Exchange Name	Type	Area Code	Existing Capacity Auto	Existing Capacity Manual	No. of Sub.	Waiting Lists	PELITA-IV Auto	PELITA-IV Manual	Capacity (1989) Auto	Capacity (1989) Manual	Remarks	REPELITA-V Auto	REPELITA-V Manual	Capacity (1994) Auto	Capacity (1994) Manual	Exchange Total	PC Area Total	KAB/ KODYA Code
23	TANJUNG KARANG	ARF-102	0721	4,000		2,940	4,677	600		4,600	0	* STO ARF/ARM (600)			4,600	0			1871
24	TG. KARANG KEDATON	EWSD	0721					6,000		6,000	0	Ph-IV(4,000),Ph-VI(2,000)	17,000		23,000	0	27,600		1871
25	PANJANG	ARK-521	0721	400		399	97			400	0				400	0			1871
26	PANJANG	EWSD	0721					2,000		2,000	0	Ph-IV(1,000),Ph-Vb(1,000)			2,000	0	2,400		1871
27	TELUK BETUNG	ARF-102	0721	5,000		2,484	2,412			5,000	0				5,000	0	5,000		1871
28	GEDONG TATAAN	ABK-162	0721		50	41	0			0	50				0	50	50		1801
29	KALIANDA	ABK-215	0721		200	154	30		-200	0	0				0	0			1801
30	KALIANDA	EWSD	0721					200		200	0	100 SBK(200)	200		400	0	(400)	35,050	1801
31	KOTAAGUNG	ABK-215	0722		100	100	55		-100	0	0				0	0			1801
32	KOTAAGUNG	EWSD	0722					200		200	0	100 SBK(200)			200	0	(200)		1801
33	TALANGPADANG	ABK-205	0722		200	131	3			0	200				0	200	(200)		1801
34	PRINGSEWU	ABK-205	0722		200	148	53		-200	0	0				0	0			1801
35	PRINGSEWU	EWSD	0722					400		400	0	100 SBK(400)			400	0	(400)	0	1801
36	KRUI	ABK-215	0723		100	52	15			0	100				0	100	(100)	0	1803
37	KOTABUMI	ABK-205	0724		600	444	124		-600	0	0				0	0			1803
38	KOTABUMI	EWSD	0724					1,000		1,000	0	Ph-IV(1,000)	200		1,200	0	1,200	1,200	1803
39	METRO-I	PC-1000C	0725	1,000		751	487	2,000		3,000	0	PC 1000C(2,000)			3,000	0			1802
40	METRO-II	EWSD	0725					1,000		1,000	0	Ph-Vb(1,000)			1,000	0	4,000		1802
41	BANDAR JAYA	EWSD	0725					200		200	0	100 SBK(200)			200	0	(200)	4,000	1802
	TOTAL(TANJUNG KARANG)			10,400	1,450	7,644	7,953	13,600	-1,100	24,000	350		17,400	0	41,400	350	40,250	40,250	
											24,350					41,750		1,500	

Local Exchange List by SC Area (WITEL III) (3/4)

No.	Exchange Name	Type	Area Code	Existing Capacity Auto	Existing Capacity Manual	No. of Sub.	Waiting Lists	PELITA-IV Auto	PELITA-IV Manual	Capacity (1989) Auto	Capacity (1989) Manual	Remarks	REPELITA-V Auto	REPELITA-V Manual	Capacity (1994) Auto	Capacity (1994) Manual	Exchange Total	PC Area Total	KAB/ KODYA Code
42	LAHAT	PC-1000C	0731	1,213		998	137	1,000		2,213	0	PC 1000C(1,000)			2,213	0	2,213		1604
43	PAGAR ALAM	ABK-2012	0731		600	537	137			0	600			-600	0	0			1604
44	PAGAR ALAM		0731							0	0		800		800	0	800		1604
45	TEBINGTINGGI	ABK-2012	0731		200	121	11		-200	0	0				0	0			1604
46	TEBINGTINGGI	EWSD	0731					400		400	0	100 SBK(400)			400	0	(400)	3,013	1604
47	CURUP	ABK-206	0732		600	548	92		-600	0	0				0	0			1702
48	CURUP	EWSD	0732					1,000		1,000	0	Ph-IV(1,000)			1,000	0	1,000		1702
49	ARGA MAKMUR	ABJ-101	0732		200	120	102			0	200			-200	0	0			1703
50	ARGA MAKMUR		0732							0	0		600		600	0	(600)	1,000	1703
51	LUBUK LINGGAU	AOK-503	0733		1,120	915	267		-1,120	0	0				0	0			1605
52	LUBUK LINGGAU	EWSD	0733					2,000		2,000	0	Ph-IV(2,000)	2,000		4,000	0	4,000		1605
53	MUARARUPIT	ABK-2012	0733		200	59	1			0	200				0	200	200	4,200	1605
54	MUARA ENIM	ABK-2012	0734		400	224	47			0	400			-400	0	0			1603
55	MUARA ENIM		0734							0	0		600		600	0	600		1603
56	TANJUNG ENIM	ABK-2012	0734		200	94	22		-200	0	0				0	0			1603
57	TANJUNG ENIM	NEC	0734					1,000		1,000	0	* REALOKASI from GANDARIA(1,000)			1,000	0			1603
58	TANJUNG ENIM	EWSD	0734					1,000		1,000	0	Ph-Vb(1,000)			1,000	0	2,000		1603
59	PENDOPO	ABK-2012	0734		100	41	3			0	100				0	100	100	2,700	1603
60	BATURAJA	ABK-2012	0735		600	590	117		-600	0	0				0	0			1601
61	BATURAJA	EWSD	0735					1,000		1,000	0	Ph-IV(1,000)	200		1,200	0	1,200		1601
62	MARTAPURA	ABK-2012	0735		200	129	3			0	200				0	200	200		1601
63	BELITANG	EWSD	0735					200		200	0	100 SBK(200)			200	0	(200)		1601
64	MUARA DUA	ABK-2012	0735		100	75	2		-100	0	0				0	0			1601
65	MUARA DUA	EWSD	0735					200		200	0	100 SBK(200)			200	0	(200)	1,400	1601
66	BENGKULU CENTRUM-I	PC-1000C	0736	2,000		960	1,404	2,000		4,000	0				4,000	0			1771
67	BENGKULU CENTRUM-II	EWSD	0736					2,000		2,000	0	Ph-Vb(2,000)			2,000	0			1771
68	BENGKULU PULAU BEY	EWSD	0736					1,000		1,000	0	Ph-Vb(1,000)			1,000	0	7,000		1771
69	KEPAHIYANG	ABK-206	0736		100	64	13			0	100				0	100	100	7,100	1702
70	MUARA AMAN	ABK-205	0737		100	29	2		-100	0	0				0	0			1702
71	MUARA AMAN	EWSD	0737					200		200	0	100 SBK(200)			200	0	(200)	0	1702
72	MANNA	ABK-205	0739		150	119	82			0	150			-150	0	0			1701
73	MANNA		0739							0	0		400		400	0	(400)		1701
74	BINTUHAN	ABK-205	0739		100	44	19			0	100				0	100	(100)	0	1701
75	BARHAU (P.Enggano)	ABH-16	0730		50	?	?			0	50				0	50	(50)	0	1701
	TOTAL(LAHAT)			3,213	5,020	5,667	2,461	13,000	-2,920	16,213	2,100 18,313		4,600	-1,350	20,813	750 21,563	19,413	19,413 2,150	

Local Exchange LIst by SC Area (WITEL III) (4/4)

No.	Exchange Name	Type	Area Code	Existing Capacity Auto	Existing Capacity Manual	No. of Sub.	Waiting Lists	PELITA-IV Auto	PELITA-IV Manual	Capacity (1989) Auto	Capacity (1989) Manual	Remarks	REPELITA-V Auto	REPELITA-V Manual	Capacity (1994) Auto	Capacity (1994) Manual	Exchange Total	PC Area Total	KAB/ KODYA Code
76	JAMBI CENTRUM-I	ARF-102	0741	5,000		3,729	2,905			5,000	0		!		5,000	0			1571
77	JAMBI CENTRUM-II	EWSD	0741					2,000		2,000	0	Ph-Vb(2,000)	1,000		3,000	0			1571
78	JAMBI TELENAIPURA	EWSD	0741					3,000		3,000	0	Ph-Vb(3,000)	!		3,000	0			1571
79	JAMBI KOTABARU	EWSD	0741					1,000		1,000	0	Ph-Vb(1,000)	!		1,000	0	12,000	12,000	1571
80	KUALA TUNGKAL	ADK-513	0742		650	405	29		-650	0	0				0	0			1504
81	KUALA TUNGKAL	EWSD	0742					1,000		1,000	0	Ph-Vb(1,000)	200		1,200	0	(1,200)	0	1504
82	BANGKO	ABG-1503	0746		20	0	0		-20	0	0				0	0			1502
83	BANGKO	EWSD	0746					600		600	0	100 SBK(600)			600	0	(600)	0	1502
84	MUARA BUNGO	ABJ-101	0747		200	83	161			0	200			-200	0	0			1505
85	MUARA BUNGO		0747							0	0		1,000		1,000	0	(1,000)	0	1505
86	SUNGAIPENUH	ADK-513	0748		800	614	69			0	800			-800	0	0			1501
87	SUNGAIPENUH		0748							0	0		1,200		1,200	0	(1,200)	0	1501
	TOTAL(JAMBI)			5,000	1,670	4,831	3,164	7,600	-670	12,600	1,000 13,600		3,400	-1,000	16,000	0 16,000	12,000	12,000 4,000	
	Total (WITEL-III)			29,613	9,610	29,609	24,025	58,000	-5,290	87,613	4,320		43,200	-3,100	130,813	1,220 132,033	123,183	123,183 8,850	

ANNEX-11 RADIO PATH CLEARANCE AND ANTENNA HEIGHT

ANNEX-11 RADIO PATH CLEARANCE AND ANTENNA HEIGHT

Choice of radio-path clearance largely affects to system performances, tower height and number of hops.

Since the clearance criteria employed in Indonesia have not always been standardized, three (3) types of the clearance rules applied to Trans-Sumatera analog microwave system, and Sulawesi microwave system and also that mentioned in CCIR Report 338-5, are compared with respect to hop length (10 to 60 km) and necessary antenna height at frequency of 6770 MHz for the radio paths over smooth spherical earth. Results of this comparison are given in Table 1.

In this table it is assumed that antenna heights at both ends are the same and tree height in the center of the path is 20 m except for wet rice field or swampy to which 10 m tree is assumed.

Necessary antenna heights according to CCIR Report 338-5 is for tropical climate and it gives most relaxed figures for the path longer than 50 km while that for the Trans-Sumatera analog system, most stringent figures.

Items (1) and (2) for Trans-Sumatera analog system should not be applied to the smooth-spherical-earth path and the figures shown are only for reference.

In this report the clearance criterion applied to Sulawesi microwave project is employed.

Clearance Rules and Required Antenna Heights (over smooth spherical earth)

Relevant Document	Clearance Rule	Formula	Required antenna height (m) for each hop length					
			10 km	20 km	30 km	40 km	50 km	60 km
CCIR Report 338-	1. 1.0 F1 for 50% value of the point K	For K = 1.52 $H = D^2/77.5 + 3.33\sqrt{D} + 20^*$	31.8	40.1	49.9	61.7	75.8	92.3
	2. 0.6 F1 for path length ≧ 40 km 40 km: K = 0.75 50 km: K = 0.8 60 km: K = 0.83	K = 0.75 $H = D^2/38.2 + 2.0\sqrt{D} + 20^*$ K = 0.8 $H = D^2/40.8 + 2.0\sqrt{D} + 20^*$ k = 0.83 $H = D^2/42.8 + 2.0\sqrt{D} + 20^*$				74.5	95.4	120.6
Sulawesi Microwave System Project (Digital)	1. 1.0 F1 for K = 4/3	$H = D^2/67.9 + 3.33\sqrt{D} + 20^*$	32.0	40.8	51.8	64.6	80.4	98.8
	2. 0.3 F1 for K = 2/3	$H = D^2/34.0 + \sqrt{D} + 20^*$	26.1	36.2	52.0	73.4	100.6	133.6
Trans Sumatera Microwave System Project (Analog)	1. Mountainous area 0.6 F1 for K = 1.0	$H = D^2/51.0 + 2.0\sqrt{D} + 20^*$	28.3	36.8	48.6	64.0	83.2	106.1
	2. Normal broken type country 0.6 F1 for K = 0.8	$H = D^2/40.8 + 2.0\sqrt{D} + 20^*$	28.8	38.8	53.0	71.9	94.0	123.8
	3. Wet rice field, swampy 0.6 F1 for K = 0.6	$H = D^2/30.6 + 2.0\sqrt{D} + 10^*$	19.6	32.0	50.4	75.0	105.9	143.2

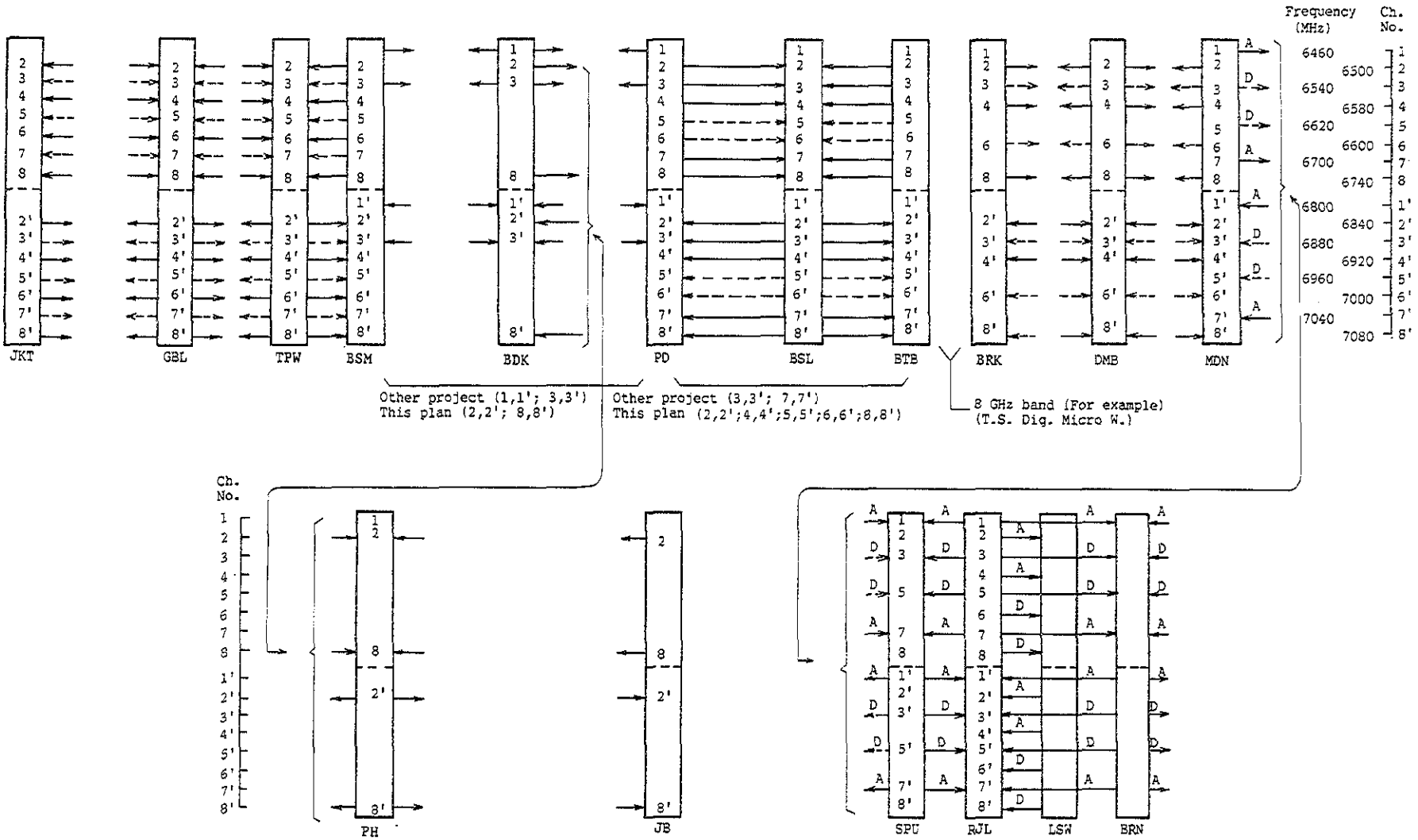
Note: F1: First Fresnel zone radius K: Effective earth radius factor D: Hop length (km)
*: Assumed tree height H: Required antenna height

ANNEX-12 FREQUENCY ARRANGEMENT PLAN

ANNEX-12 FREQUENCY ARRANGEMENT PLAN

Criteria for Frequency Arrangement by POSTEL

System	Connection	Capacity	Freq. Band
Backbone	TC - TC TC - SC SC - SC	>= 140 Mb/s 34 Mb/s	Upper 6 GHz 8 GHz
Ring Belt	SC - PC PC - PC	34 - 140 Mb/s	2 GHz 8 GHz 11 GHz
Terminal Trans. (Spur Route)	PC - Local Exc.	8 - 34 Mb/s	1.5 GHz 7 GHz
Subscriber Trans.	Local Exc. - Sub.	2 Mb/s	0.8 GHz 1.5 GHz
Multi-Exc. Area		>= 140 Mb/s	>=11 GHz



Frequency Assignment Plan

ANNEX-13 PERFORMANCE OF DIGITAL RADIO TRANSMISSION

ANNEX-13 PERFORMANCE OF DIGITAL RADIO TRANSMISSION SYSTEM

(1) Model performance calculation was carried out for sixteen (16) hops including Gn. Pinang - Rajabase and Cikupa - Gn. Pinang paths.

The performance was examined by predicted outage defined as total time the bit error rate (BER) exceeds $1x10^{-3}$ under the following condiitons:

1) Radio frequency band : Upper 6 GHz band (center freq: 6,770 MHz)
2) Transmission capacity: 140 Mb/s
3) Modulation : 16 QAM
4) No. of RF channels : As required
5) Equalizers for frequency and time domains : Employed in all stations
6) Space diversity (SD) : Co-phase type

In the calculation, effects caused by flat fading and by dispersive fading due to reflection over the ground and multipath propagation in radio duct have been considered.

(2) Summary of model calculations is shown in Table 1. the table explains the followings:

1) Existing paths, i.e., Cikupa - G. Pinang and G. Pinang - Rajabasa are not likely to satisfy the digital performance objectives, while use of Mancak site in place of G. Pinang seems to improve the performance considerably.

2) In this study it is assumed that the radio path of 30 km or longer needs space diversity. According to this table, Pedukuh - Pauh hop (29 km) does not need the space diversity while B. Sulasih - B. Tambulun hop (25.7 km) needs the space diversity. This suggests that further refinement will be necessary based on detailed survey to be made in the implementation stage.

However, the "30 km" criteria seems to be appropriate for application of the space diversity in general.

3) The figures to follow the table shows the general performance of 16 QAM transmission systems.

Table 1 Performance of Typical Radio Paths

Item	Path	Cikupa G. Pinang	G. Pinang Rajabasa	Cikupa Mancak	Mancak Rajabasa	Rajabasa G. Balau	T. Tangkas S. Perikanan	Bejubang Jambi	Padang B. Sulasih
Path length	(km)	49.9	57.7	57.1	54.5	54.4	32.7	39.7	44.6
Path type		Plain	Sea	Plain	Sea	Mountain	Plain	Plain	Sea
Ant. average height	(m)	169	242.5	225	302.9	173.5	195	99	138
Transmit power	(dBm)	30	30	30	30	28	28	28	30
Antenna diameter-1	(m)	3.0	3.6	3.0	3.6	3.0	3.0	3.0	3.6
Antenna diameter-2	(m)	3.0	3.6	3.0	3.6	3.0	3.0	3.0	3.6
Outage, EQL. only	(%)	0.00643	0.12260	0.01235	0.02178	0.00562	0.00163	0.00210	0.02436
Outage, SD + EQL	(%)	0.00010	0.00623	0.00025	0.00030	0.00014	0.00003	0.00002	0.00045
Outage objective	(%)	0.00108	0.00125	0.00123	0.00118	0.00118	0.00071	0.00086	0.00096

Item	Path	B.Sulasih B.Tambulun	B.Sarik Lubuk Arau	Lubuk Arau B.Bapagar	Pagarantorga Uluairsilaia	D.Sibohi D.Martimbang	D.Tolong D.Simarjarunjung	D.Singkut Medan	Pedukuh Pauh
Path length	(km)	25.7	60.9	15.4	49.7	55.7	63.8	45.4	29.0
Path type		Mountain	Plain	Mountain	Plain	Plain	Mountain	Mountain	Plain
Ant. average height	(m)	826	320.5	245	380.5	855.5	716	580.1	65.5
Transmit power	(dBm)	28	30	24	28	28	28	28	28
Antenna diameter-1	(m)	3.0	3.6	2.4	3.0	3.0	3.0	3.0	3.0
Antenna diameter-2	(m)	3.0	3.6	2.4	3.0	3.0	3.0	3.0	3.0
Outage, EQL. only	(%)	0.00014	0.02304	0.00008	0.01190	0.01981	0.01220	0.00278	0.00020
Outage, SD + EQL	(%)	0.00000	0.00070	0.00000	0.00036	0.00079	0.00043	0.00007	0.00000
Outage objective	(%)	0.00056	0.00132	0.00033	0.00107	0.00120	0.00138	0.00098	0.00063

Outage Probability

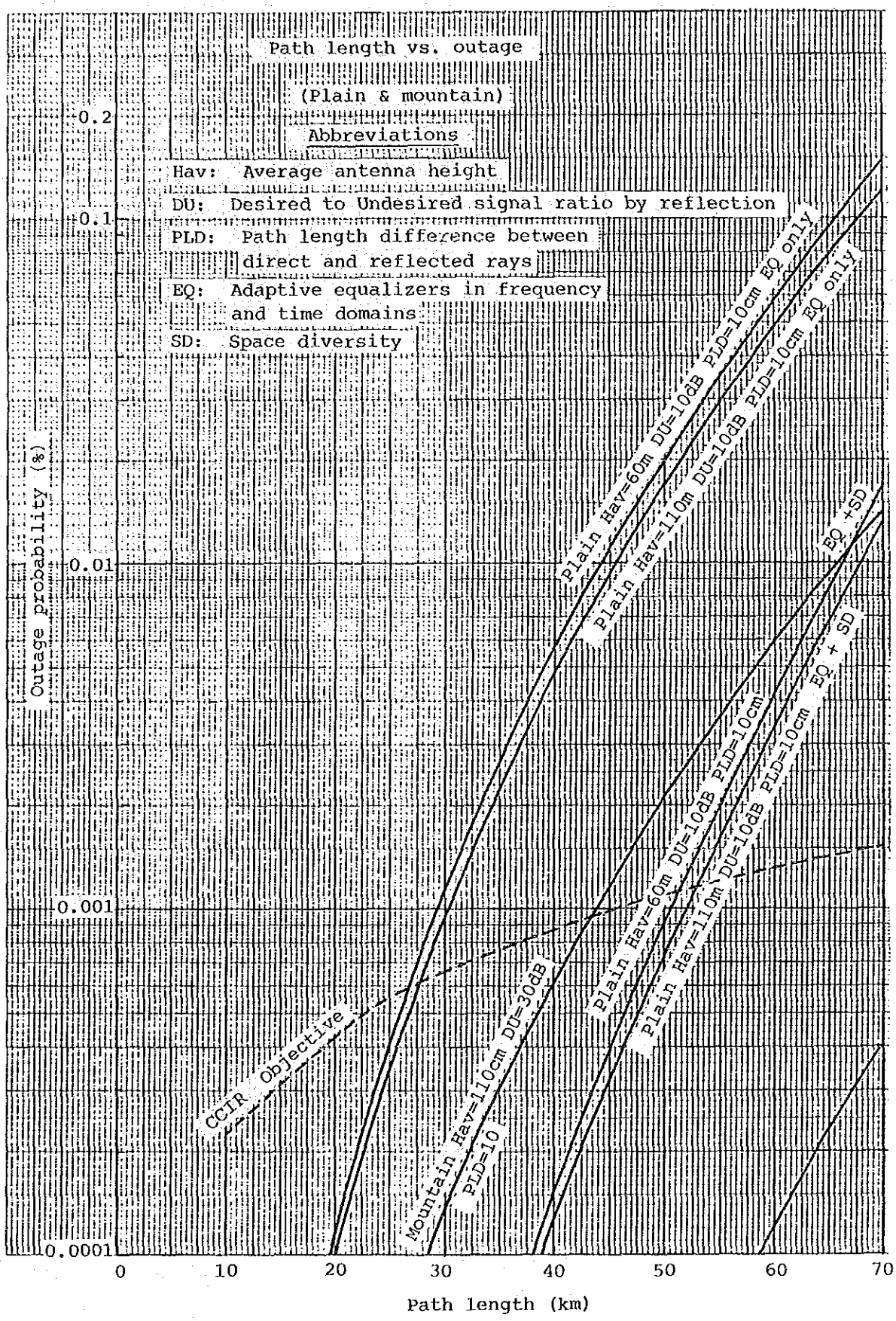
vs.

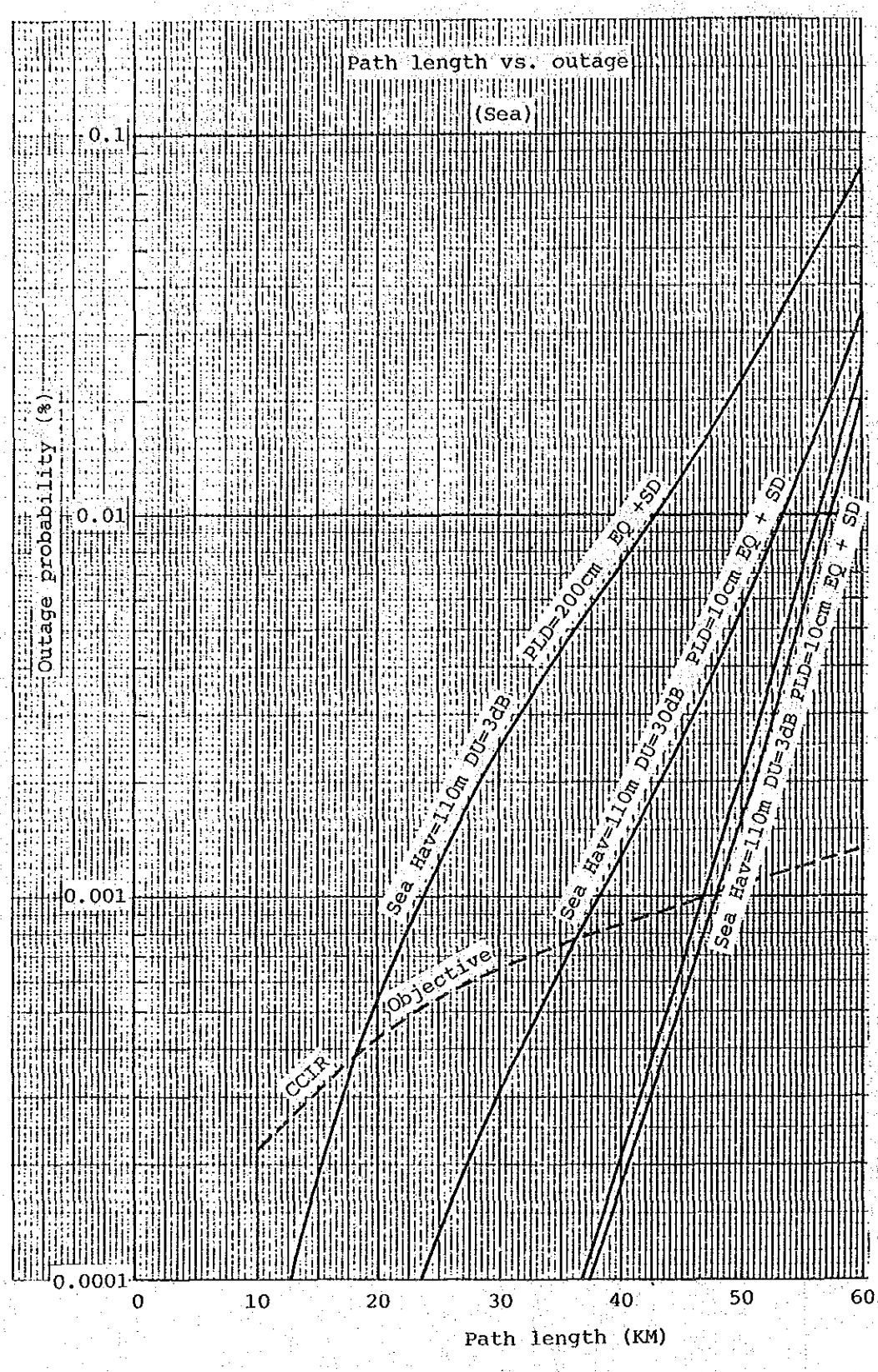
Path Length, Path Length Difference ' Average Antenna Height

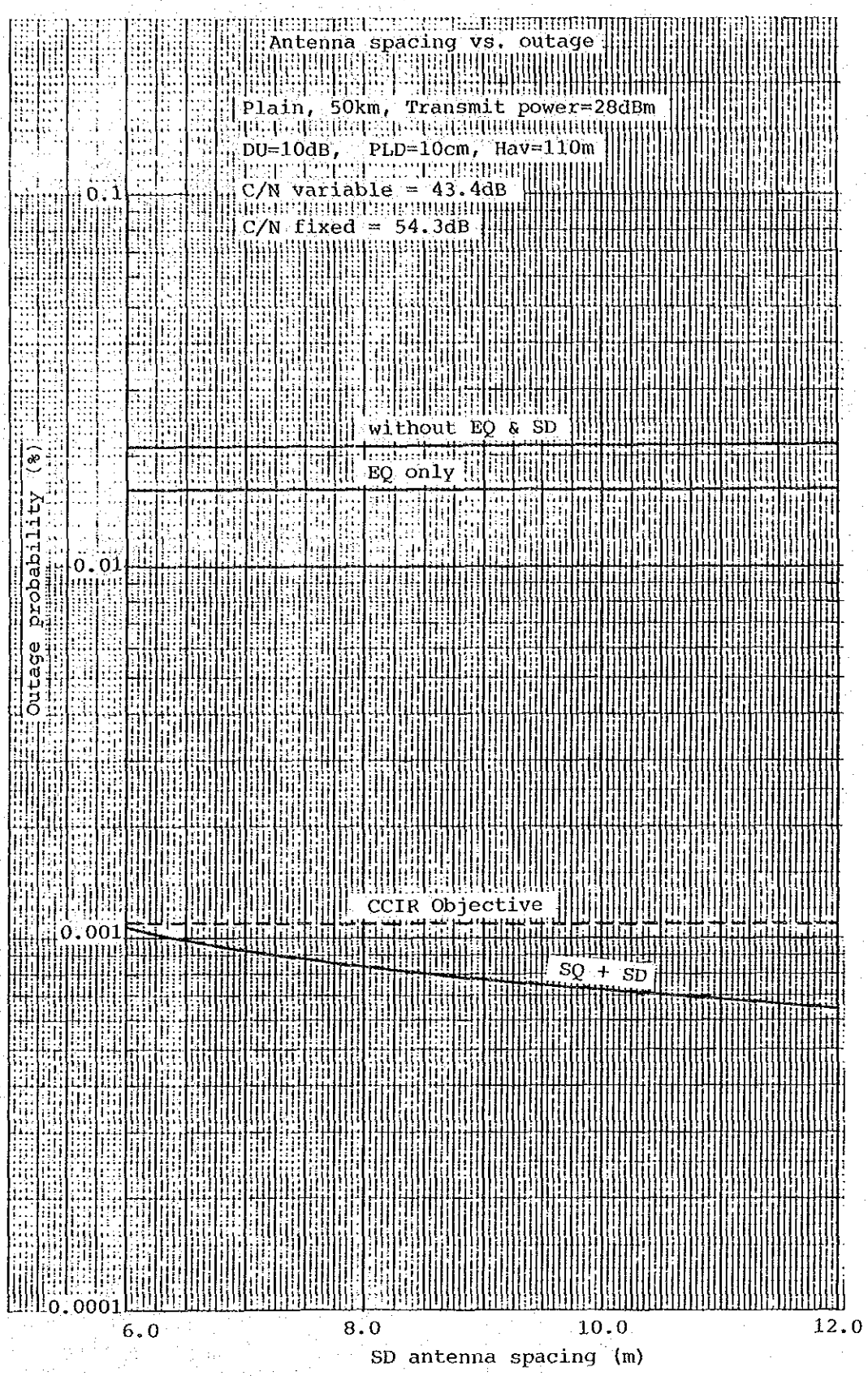
over Typical Path

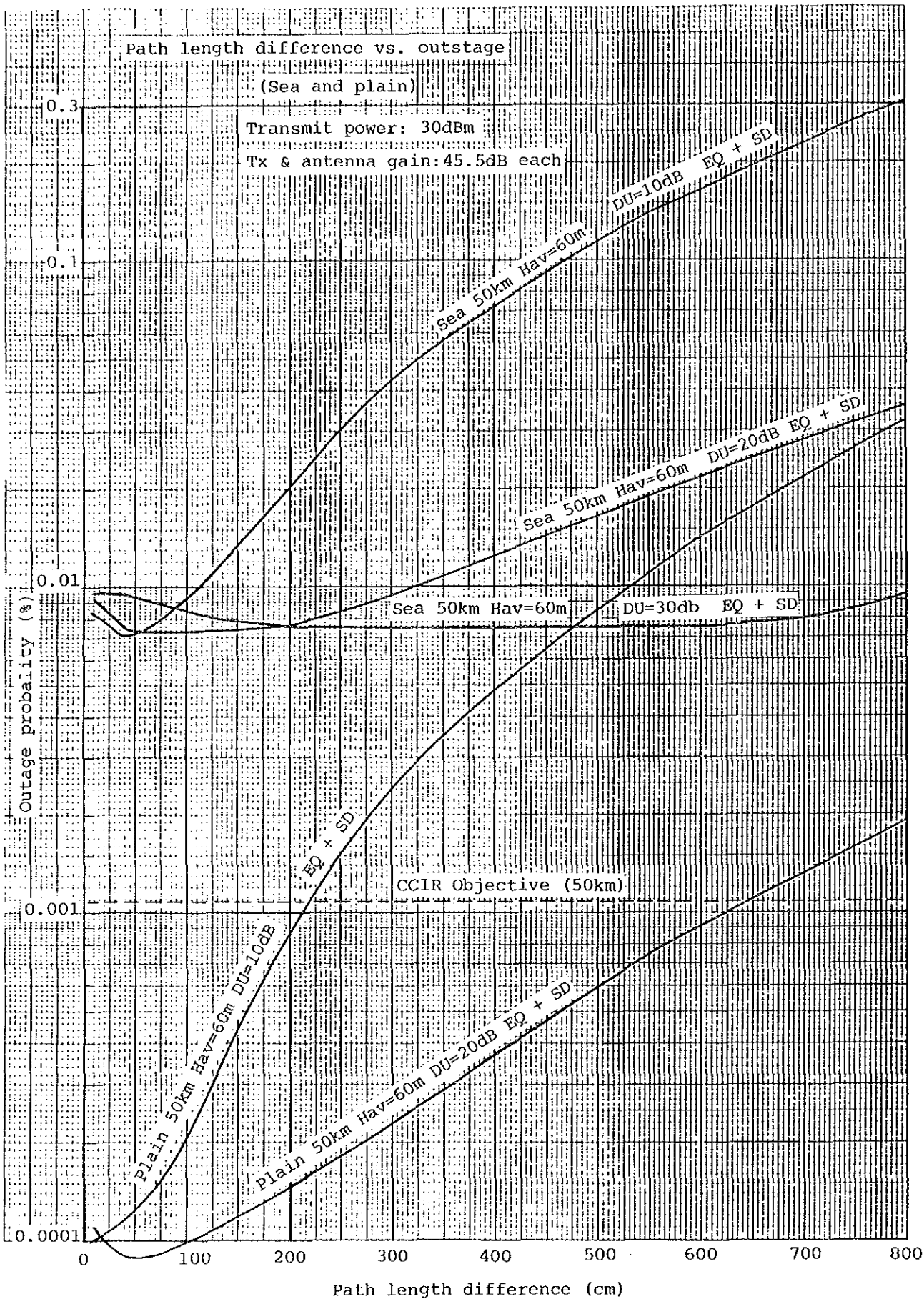
Typical Conditions

Frequency:	6770 MHz	Path type:	Sea, Plain, Mountain
Bit rate:	140 Mb/s		
Modulation:	16 QAM	Transmit power:	28 dBm
Noise figure:	3 dB	TX, RX antenna gain:	44.0 dB each
KTBF:	-95.6 dBm	Antenna spacing:	6 - 12 m
Branch filter loss:	4 dB	D/U for reflect. ray (DU):	10 - 30 dB
Feeder loss:	0.045 dB/m	Path length difference (PLD) for reflected ray:	10 cm - 800 cm
Feeder length (TX+RX):	200 m		
Average antenna height (Hav):	60 m/110 m	C/N variable:	43.4 dB
Path length:	10 - 70 km	C/N fixed:	54.3 dB


Path length vs. outage
(Plain & mountain)
Abbreviations
Hav: Average antenna height
DU: Desired to Undesired signal ratio by reflection
PLD: Path length difference between direct and reflected rays
EQ: Adaptive equalizers in frequency and time domains
SD: Space diversity
Outage probability (%)
0.2
0.1
0.01
0.001
0.0001
0
10
20
30
40
50
60
70
Path length (km)
Plain Hav=60m DU=10dB PLD=10cm EQ only
Plain Hav=110m DU=10dB PLD=10cm EQ only
EQ +SD
Plain Hav=60m DU=10dB PLD=10cm EQ + SD
Plain Hav=110m DU=10dB PLD=10cm EQ + SD
CCIR Objective
Mountain Hav=110cm DU=30dB
PLD=10


Path length vs. outage
(Sea)
Outage probability (%)
0.1
0.01
0.001
0.0001
0
10
20
30
40
50
60
Path length (KM)
CCIR
Objective
Sea Hav=110m DU=3dB PLD=200cm EQ +SD
Sea Hav=110m DU=30dB PLD=10cm EQ + SD
Sea Hav=110m DU=3dB PLD=10cm EQ + SD


Antenna spacing vs. outage
Plain, 50km, Transmit power=28dBm
DU=10dB, PLD=10cm, Hav=110m
C/N variable = 43.4dB
C/N fixed = 54.3dB
without EQ & SD
EQ only
CCIR Objective
SQ + SD
Outage probability (%)
0.1
0.01
0.001
0.0001
6.0
8.0
10.0
12.0
SD antenna spacing (m)


Path length difference vs. outstage
(Sea and plain)
Transmit power: 30dBm
Tx & antenna gain:45.5dB each
Sea 50km Hav=60m DU=10dB EQ + SD
Sea 50km Hav=60m DU=20dB EQ + SD
Sea 50km Hav=60m
DU=30db EQ + SD
CCIR Objective (50km)
Plain 50km Hav=60m DU=10dB EQ + SD
Plain 50km Hav=60m DU=20dB EQ + SD
Outage probality (%)
0.3
0.1
0.01
0.001
0.0001
0
100
200
300
400
500
600
700
800
Path length difference (cm)

ANNEX-14 PRESENT STATE OF POWER SUPPLY SYSTEM IN SUMATERA

ANNEX-14 PRESENT STATE OF POWER SUPPLY SYSTEM IN SUMATERA

No.	Site Name	Power Supply System	AC Mains (KVA)	DEG Set Q'ty (Pc)	DEG Set Cap (KVA)	Rectifer or SID Q'ty (Pc)	Rectifer or SID DC (V)	Rectifer or SID Cap (A)	Battery Q'ty (Pc)	Battery Cap (AH)	DC Load (W)	Sea Level (m)	Remarks
1	Jakarta (SMG-II)	SS	48	1	76	2	48	400	2	1,400	4,160	14	
2	Kalibata	SS	41	2	80	5	48	60	3	1,300	4,320	25	
3	Cikupa	DP	23	2	10	2	24	90	2	500	880	28	
4	Mancak											350	New Station
5	Rajabasa	CD		2	2	2	24	33	2	700	1,060	150	
6	Gn. Balau	CD		2	15	2	24	175	2	1,000	1,702	380	
7	Negara Bumihilir	CD		2	2	2	24	25	2	600	880	54	
8	Bkt. Kemuning	CD		2	2	2	24	25	2	600	880	322	
9	Tb. Tangkas	CD		2	2	2	24	25	2	600	880	277	
10	Simpang Perikanan	CD		2	2	2	24	25	2	600	880	108	
11	Tb. Pelawi	CD		2	2	2	24	33	2	800	1,135	217	
12	Bkt. Asam	SS	20	1	20	2	24	225	2	1,400	2,243	277	
13	Panggung Pinang	CD		2	2	2	24	25	2	600	880	56	
14	Lorok	CD		2	2	2	24	33	2	700	1,060	12	
15	Palembang	SS	160	1	225	4	48	315	2	2,000	28,080	4.5	
16	G. Gadjah	SS	6	1	6	2	24	90	2	500	890	185	
17	Tebing Tinggi	CD		2	2	2	24	25	2	600	900	140	
18	Bkt. Sulap	CD		2	2	2	24	25	2	600	880	240	
19	G. Padan	CD		2	2	2	24	25	2	600	880	327	
20	Surulangun Rawas	CD		2	2	2	24	25	2	600	880	97	
21	Bkt. Pedukuh	CD		2	2	2	24	42	2	1,200	1,820	53	
22	Pauh	CD		2	2	2	24	25	2	600	880	38	
23	Muara Ketalo	CD		2	2	2	24	25	2	600	880	49	
24	Bkt. Paku	CD		2	2	2	24	25	2	600	890	65	
25	Bejubang	CD		2	2	2	24	25	2	600	890	90	
26	Jambi	SS	76	2	100	4	48	100	2	600	8,880	15	
27	Bangko	CD		2	2	2	24	25	2	600	880	110	
28	Panjang	CD		2	2	2	24	25	2	600	880	198	
29	AMPELU	CD		2	2	2	24	25	2	600	880	114	
30	G. Medan	CD		2	2	2	24	25	2	600	890	299	
31	Rasamtapanggang	CD		2	2	2	24	25	2	600	900	900	
32	Ngalau Basurat	CD		2	2	2	24	25	2	600	900	800	
33	Bkt. Subang	CD		2	2	2	24	25	2	600	880	1,223	
34	Padang	SS	160	1	200	2	48	400	2	1,875	2,910	5	
35	Bkt. Sulasih	CD		2	2	2	24	33	2	700	1,060	196	
36	Bkt. Tambulun	CD		2	2	2	24	33	2	800	1,145	1,530	
37	Bkt. Sarik	CD		2	2	2	24	25	2	600	880	747	
38	Lubuk Arau	CD		2	2	2	24	25	2	600	890	306	
39	Bkt. Bapagar	CD		2	2	2	24	25	2	600	880	1,019	
40	Pagarantonga	CD		2	2	2	24	25	2	600	890	970	

No.	Site Name	Power Supply System	AC Mains (KVA)	DEG Set Q'ty (Pc)	DEG Set Cap (KVA)	Rectifer or SID Q'ty (Pc)	Rectifer or SID DC (V)	Rectifer or SID Cap (A)	Battery Q'ty (Pc)	Battery Cap (AH)	DC Load (W)	Sea Level (m)	Remarks
41	Uluair Silaia	CD		2	2	2	24	25	2	600	880	360	
42	Dk. Sibohi	CD		2	2	2	24	25	2	600	900	1,301	
43	Dk. Martinbang	CD		2	2	2	24	50	2	1,000	1,430	1,560	
44	Dk. Tolong	CD		2	2	2	24	25	2	600	890	1,513	
45	Dk. Simarjarunjung	CD		2	2	2	24	33	2	800	880	1,608	
46	Dk. Singkut	CD		2	2	2	24	33	2	800	1,165	1,650	
47	P. Brayan											22	New Station
48	Gohor Lama	CD		2	3.5		24		2	1,800	481	6	
49	P. Brandan	SS	25	1	12.5	2	24	70	2	400	1,300	5	
50	Bukit Batutiga	CD		2	3.5		24		2	1,600	433	75	
51	Langsa	DP	25	2	12.5	2	24	70	2	500	1,533	8	
52	Bukit Imum	CD		2	3.5		24		2	1,600	395	100	
53	Idi	SS	17	1		2	24	40	2	290	698	3	
54	Simpangulim	CD		2	3.5		24		2	1,800	481	2	
55	Rajalanang	DP		3	21	2	24	70	2	500	1,422	130	
56	Bireun	SS	17	1		2	24	40	2	290	838	10	
57	Glecut	CD		2	3.5		24		2	1,800	470	180	
58	Sigli	SS	17	1		2	24	40	2	290	779	5	
59	Bl. Basah	CD		2	3.5		24		2	1,400	358	473	
60	Cot Mineui	CD	17	2	3.5		24		2	1,600	414	135	
61	Banda Ache	SS	17	1	27	2	24	50	2	400	1,163	25	
62	Tanjung Karang	SS	215	1	225	4	48	160	2	1,300	12,720	100	
63	Lahat	SS	9.5	1	6	2	24	50	2	290	468	110	
64	T. Singali Ngali	SS					24					905	
65	Sibolga	SS	125	2	125	2	48	280	2	380	1,440	5	
66	Lhok Seumawe	SS	17	1	27	2	24	50	2	290	974	2	
67	Medan	SS	25	1	450	3	48	800	3	500	2,300	22	

(Note) SS: Single Stand-by DEG System
DP: Dual Prime DEG System
CD: Charge-Discharge System

ANNEX-15 REQUIRED CAPACITY OF POWER SUPPLY SYSTEM FOR TSDMS

ANNEX-15 REQUIRED CAPACITY OF POWER SUPPLY SYSTEM FOR TSDMS (Trans-Sumatera Digital Microwave Transmission System)

No.	Site Name	DC Load (W) 1994	1999	2004	Volt (V)	Code No.
1	Jakarta (SMG-II)	1,737	2,007	2,414	48	100
2	Kalibata	975	1,200	1,612	48	
3	Cikupa	1,499	1,847	2,543	24	110
4	Mancak	1,499	1,847	2,543	24	
5	Rajabasa	1,499	1,847	2,543	24	130
6	Gn. Balau	2,496	3,004	3,960	24	200
7	Negara Bumihilir	1,463	1,802	2,480	24	210
8	Bkt. Kemuning	1,583	1,922	2,600	24	220
9	Tb. Tangkas	1,499	1,847	2,543	24	230
10	Simpang Perikanan	1,499	1,847	2,543	24	240
11	Tb. Pelawi	1,619	1,967	2,663	24	250
12	Bkt. Asam	2,927	3,385	4,326	24	300
13	Panggung Pinang	1,151	1,151	1,499	24	310
14	Lorok	1,151	1,151	1,499	24	320
15	Palembang	1,253	1,253	1,427	48	400
16	G. Gadjah	1,124	1,463	2,141	24	410
17	Tebing Tinggi	1,151	1,499	2,195	24	420
18	Bkt. Sulap	1,151	1,499	2,195	24	430
19	G. Padan	1,151	1,499	2,195	24	440
20	Surulangun Rawas	1,151	1,499	2,195	24	450
21	Bkt. Pedukuh	1,692	2,046	2,789	24	500
22	Pauh	767	767	767	24	510
23	Muara Ketalo	785	785	785	24	520
24	Bkt. Paku	803	803	803	24	530
25	Bejubang	803	803	803	24	540
26	Jambi	1,199	1,224	1,224	48	600
27	Bangko	1,151	1,499	2,195	24	610
28	Panjang	1,151	1,499	2,195	24	620
29	Ampelu	1,151	1,499	2,195	24	630
30	G. Medan	1,151	1,499	2,195	24	640
31	Rasamtapanggang	1,151	1,499	2,195	24	650
32	Ngalau Basurat	1,151	1,499	2,195	24	660
33	Bkt. Subang	1,124	1,463	2,141	24	670
34	Padang	2,043	2,467	3,011	48	700
35	Bkt. Sulasih	1,124	1,463	1,802	24	710
36	Bkt. Tambulun	1,399	1,738	2,117	24	720
37	Bkt. Sarik	1,151	1,499	1,847	24	730
38	Lubuk Arau	1,124	1,463	1,802	24	740
39	Bkt. Bapagar	1,124	1,463	1,802	24	750
40	Pagarantonga	1,151	1,499	1,847	24	760

No.	Site Name	DC Load (W) 1994	1999	2004	Volt (V)	Code No.
41	Uluair Silaia	1,151	1,499	1,847	24	770
42	Dk. Sibohi	1,271	1,604	1,967	24	780
43	Dk. Martinbang	2,208	2,556	2,944	24	800
44	Dk. Tolong	1,151	1,499	1,847	24	810
45	Dk. Simarjarunjung	1,361	1,724	2,072	24	820
46	Dk. Singkut	1,256	1,739	2,087	24	830
47	P. Brayan	1,849	2,059	2,339	48	
48	Gohor Lama	995	1,035	1,075	24	
49	P. Brandan	785	785	785	24	
50	Bukit Batutiga	785	785	785	24	
51	Langsa	767	767	767	24	
52	Bukit Imum	767	767	767	24	
53	Idi	785	785	785	24	
54	Simpangulim	803	803	803	24	
55	Rajalanang	1,293	1,293	1,293	24	
56	Bireun	803	803	803	24	
57	Glecut	803	803	803	24	
58	Sigli	785	785	785	24	
59	Bl. Basah	767	767	767	24	
60	COT Mineui	786	785	785	24	
61	Banda Ache	455	455	455	24	
62	Tanjung Karang	988	1,003	1,003	48	201
63	Lahat	964	979	979	24	301
64	T. Singali Ngali	767	767	767	24	
65	Sibolga	676	686	686	48	801
66	Lhok Seumawe	437	437	437	24	
67	Medan	528	758	1,048	48	900

ANNEX-16 MODEL STRUCTURAL ANALYSIS (BKT. ASAM/RASAMTAPANGGANG)

ANNEX-16 MODEL STRUCTURAL ANALYSIS

1. Original Design for TSMS Towers

The towers on TSMS route were designed in 1973, based on "The Technical Requirements for Antenna Support Structure".

Originally designed loading conditions are as follows:

(1) Wind Velocity

V = 110 km/h (at ground level)

Wind Velocity should be increased with height, in accordance with Figure 1.

EX.;	Height (m)	Wind Velocity (km/h)
	90	133
	60	129
	30	121
	0	110

(2) Wind Pressure

$P = 0.005 \times Cd \times V^2 \ (kg/m^2)$

P : Wind Pressure (kg/m^2)
Cd: Coefficient of Wind force
1.6 for rolled steel section
1.35 for tubular steel section
V : Wind Velocity (km/h)

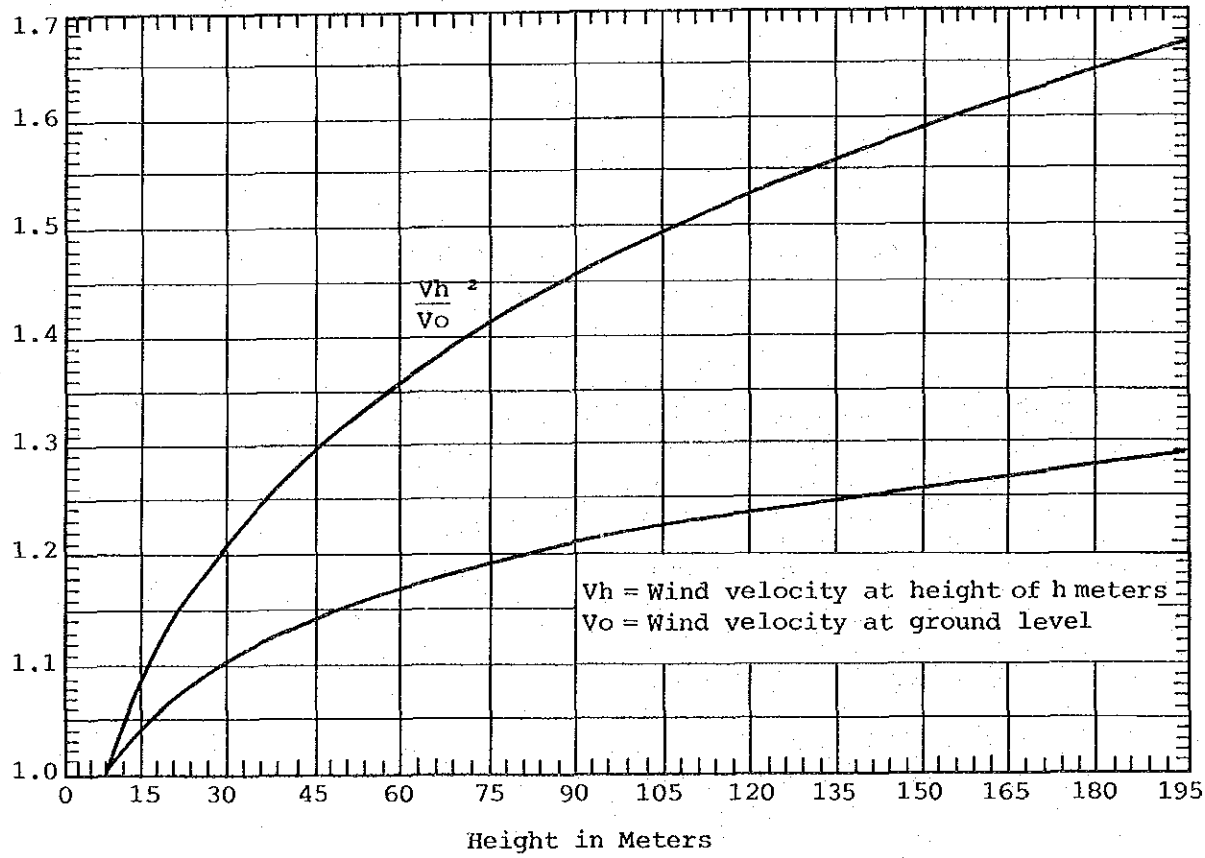
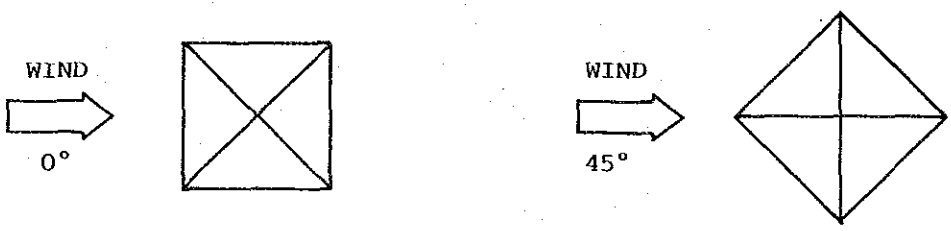


Figure 1 Wind Velocity

(3) Projected Area

The area on which the wind is blown shall be taken as 1.75 times stronger than that on the projected area of the face normal to the wind.

In addition, diagonal wind pressure on four-sided structures shall be assumed to be 1.1 times larger.



Projected Area : A
Projected Net Area: 1.75A (Normal)
Projected Net Area: 1.75A x 1.1 (Diagonal)

(4) Wind on Antenna

Single 4 m diameter plate parabolic antenna

$$P = 0.125 \times V^2 \text{ (kg)}$$

A group of two (2) 4 m diameter plate parabolic antenna

$$P = 0.185 \times V^2 \text{ (kg)}$$

A group of four (4) 4 m diameter plate parabolic antenna

$$P = 0.35 \times V^2 \text{ (kg)}$$

Antenna configuration for standard 90 m tower is shown on Figure 2.

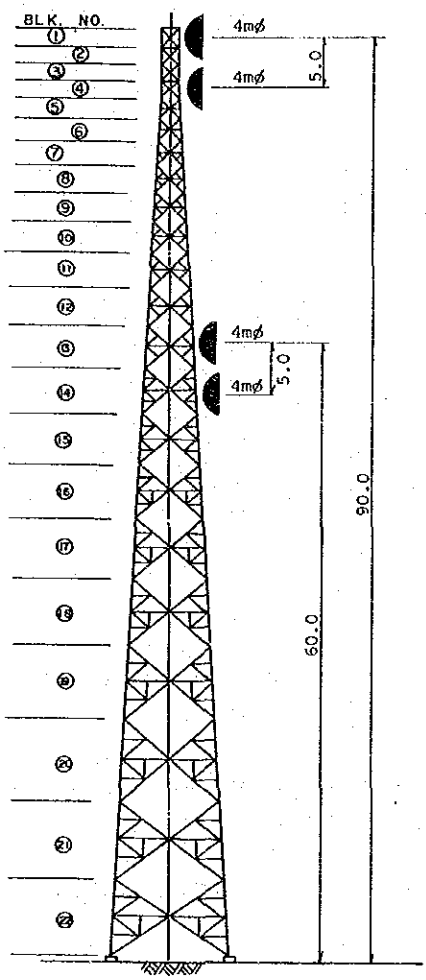


Figure 2 Antenna Configuration (Standard 90 m Tower)

2. General Condition of Model Structural Analysis

Calculation standard and conditions are based on the original design for TSMS.

Wind loading and allowable strength of the materials are also based on the original design.

Wind loading and weight of additional feeders, and weight of each additional antennas are disregarded in this calculations.

No analysis of foundation stability is done due to the lack of information.

3. Model Structural Analysis for the tower at Bkt. Asam

(1) Wind Load on Antenna

Wind load coefficient shall be considered based on the direction of wind and antennas.

Wind load coefficient to be used for calculation shall be assumed to be 1.84, and 1.03 for the antennas directed to Pg. Panggungpinang.

h = 89.6 m TB. PELAWI 3.3 mø P.P

$$Ha = 1.84 \times 0.059 \times \frac{3.3^2 \pi}{4} \times 1.46 = 1.36^t$$

h = 84.6 m TB. PELAWI 3.6 mø P.P

$$Ha = 1.84 \times 0.059 \times \frac{3.6^2 \pi}{4} \times 1.44 = 1.59^t$$

h = 74.6 m TB. PELAWI 3.6 mø P.P

$$Ha = 1.84 \times 0.059 \times \frac{3.6^2 \pi}{4} \times 1.41 = 1.56^t$$

h = 59.4 m LAHAT 3.3 mø P.P

$$Ha = 1.84 \times 0.059 \times \frac{3.3^2 \pi}{4} \times 1.36 = 1.26^t$$

h = 55.1 m GN. GAJAH 3.3 mø P.P and PG.PANGUPINANG 3.3 mø P.P

$$Ha = (1.84 + 1.03) \times 0.059 \times \frac{3.3^2 \pi}{4} \times 1.34 = 1.94^t$$

h = 22.0 m PG.PANGGUNGPINANG 3.0 mø P.P

$$Ha = 1.84 \times 0.059 \times \frac{3.0^2 \pi}{4} \times 1.14 = 0.87^t$$

h = 20 m TG. ENIM 2.0 mø P.P

$$Ha = 1.84 \times 0.059 \times \frac{2.0^2 \pi}{4} \times 1.13 = 0.39^t$$

h = 14.0 m MUARA ENIM 2.0 mø P.P and LAHAT 2.0 mø P.P

$$Ha = (1.84 + 1.03) \times 0.059 \times \frac{2.0^2 \pi}{4} \times 1.06 = 0.56^t$$

h = 12.0 m GN.GADJAH 3.0 mø P.P and PG.PANGGUNGPINANG 3.0 mø P.P

$$Ha = (1.84 + 1.03) \times 0.059 \times \frac{3.0^2 \pi}{4} \times 1.05 = 1.26^t$$

4. Model Structural Analysis for the Tower at RASAMTAPANGGANG

Structural analysis is carried out for the Tower Utilization Plan.

(1) Wind Load on Antenna

h = 32.3 m GN.MEDAN 3.3 mø P.P and N.BASULAT 3.3 mø P.P

$$Ha = (1.84 + 1.03) \times 0.059 \times \frac{3.3^2 \pi}{4} \times 1.23 = 1.79^t$$

h = 31.0 m GN.MEDAN 2.4 mø P.P and N.BASULAT 2.4 mø P.P

$$Ha = (1.84 + 1.03) \times 0.059 \times \frac{2.4^2 \pi}{4} \times 1.22 = 0.94^t$$

h = 21.0 m GN.MEDAN 2.4 mø P.P and N.BASULAT 2.4 mø P.P

$$Ha = (1.84 + 1.03) \times 0.059 \times \frac{2.4^2 \pi}{4} \times 1.14 = 0.88^t$$

(2) Check of Stability (BKT. ASAM)

Case 1 (Existing tower)
Main leg (Compression)

Block No.	Design load (t)	Member			Bolt			Remark
		Member	Allow. Strength (t)	S.F.	No Size	Allow. Strength (t)	S.F.	
1	0.59	L90x7						OK
2	1.58	L90x7						"
3	3.02	L90x7						"
4	4.72	L90x7	10.09		4-W7/8	D.S. 11.72		"
5	6.52	L100x7						"
6	8.09	L100x7	19.03		6-W7/8	D.S. 17.58		"
7	9.82	L120x8						"
8	11.62	L120x8	26.36		8-W7/8	D.S. 26.72		"
9	13.58	L130x9						"
10	15.58	L130x9	43.86		8-W7/8	D.S. 47.72		"
11	17.87	L130x9	41.96		8-W7/8	D.S. 47.72		"
12	20.29	L130x12						"
13	23.23	L130x12	50.50		10-W7/8	56.40		"
14	27.04	L150x12	74.93		10-W7/8	56.40		"
15	31.82	L150x12	73.89		10-W7/8	56.40		"
16	37.19	L150x12	72.88		10-W7/8	56.40		"
17	42.62	L150x12	71.04		12-W7/8	D.S. 67.68		"
18	48.57	L175x12	84.12		12-W7/8	D.S. 67.68		"
19	54.79	L175x15	100.32		14-W7/8	D.S. 78.96		"
20	61.82	L175x15	97.46		16-W7/8	D.S. 90.24		"
21	69.07	L175x15	100.00		16-W7/8	D.S. 90.24		"
22	75.88	L200x15	120.47		18-W7/8	101.52		"

Case 1 (Existing tower)
Diagonal (Compression)

Block No.	Design load (t)	Member			Bolt			Remark
		Member	Allow. Strength (t)	S.F.	No Size	Allow. Strength (t)	S.F.	
1	0.28	L60x5	3.45		2-W5/8	2.38		OK
2	0.58	L60x5	3.71		2-W5/8	2.38		"
3	0.66	L60x5	3.71		2-W5/8	2.38		"
4	0.82	L60x5	3.45		2-W5/8	2.38		"
5	0.66	L60x5	2.96		2-W5/8	2.38		"
6	0.69	L60x5	2.73		2-W5/8	2.38		"
7	0.71	L60x5	2.73		2-W5/8	2.38		"
8	0.74	L60x5	3.58		2-W5/8	2.38		"
9	0.79	L60x5	3.16		2-W5/8	2.38		"
10	0.88	L60x5	2.87		2-W5/8	2.38		"
11	0.96	L65x6	3.61		2-W5/8	2.38		"
12	1.08	L65x6	3.24		2-W5/8	2.38		"
13	1.39	L75x6	4.01		2-W5/8	2.38		"
14	2.03	L65x6	3.36		2-W3/4	3.52		"
15	2.44	L70x6	3.63		2-W3/4	3.52		"
16	2.47	L75x6	3.76		2-W3/4	3.52		"
17	2.61	L75x6	3.15		2-W3/4	3.52		"
18	2.74	L90x6	4.42		2-W7/8	4.32		"
19	2.93	L90x6	3.60		2-W7/8	4.32		"
20	3.12	L100x7	4.82		2-W7/8	5.04		"
21	2.53	L100x7	4.60		2-W7/8	5.04		"
22	3.30	L100x7	4.19		2-W7/8	5.04		"

Case 2 (Tower Utilization Plan 2)
Main leg (Compression)

Block No.	Design load (t)	Member			Bolt			Remark
		Member	Allow. Strength (t)	S.F.	No Size	Allow. Strength (t)	S.F.	
1	0.59	L90x7						OK
2	1.58	L90x7						"
3	3.02	L90x7						"
4	4.72	L90x7	10.09	2.14	4-W7/8	D.S. 11.72	2.48	"
5	6.52	L100x7						"
6	8.09	L100x7	19.03	2.35	6-W7/8	D.S. 17.58	2.17	"
7	9.82	L120x8						"
8	11.62	L120x8	26.36	2.27	8-W7/8	D.S. 26.72	2.30	"
9	13.58	L130x9						"
10	15.58	L130x9	43.86	2.82	8-W7/8	D.S. 47.72	2.74	"
11	17.87	L130x9	41.96	2.35	8-W7/8	D.S. 47.72	2.39	"
12	20.29	L130x12						"
13	23.23	L130x12	50.50	2.17	10-W7/8	56.40	2.43	"
14	27.04	L150x12	74.93	2.77	10-W7/8	56.40	2.09	"
15	32.09	L150x12	73.89	2.32	10-W7/8	56.40	1.77	"
16	38.20	L150x12	72.88	1.96	10-W7/8	56.40	1.52	"
17	44.68	L150x12	71.04	1.67	12-W7/8	D.S. 67.68	1.59	"
18	51.79	L175x12	84.12	1.73	12-W7/8	D.S. 67.68	1.39	"
19	59.18	L175x15	100.32	3.56	14-W7/8	D.S. 78.96	1.44	"
20	67.33	L175x15	97.46	1.57	16-W7/8	D.S. 90.24	1.45	"
21	75.80	L175x15	100.00	1.42	16-W7/8	D.S. 90.24	1.28	"
22	83.83	L200x15	120.47	1.54	18-W7/8	101.52	1.30	"

Case 2 (Tower Utilization Plan 2)
Diagonal (Compression)

Block No.	Design load (t)	Member			Bolt			Remark
		Member	Allow. Strength (t)	S.F.	No Size	Allow. Strength (t)	S.F.	
1	0.28	L60x5	3.45		2-W5/8	2.38		OK
2	0.58	L60x5	3.71		2-W5/8	2.38		"
3	0.66	L60x5	3.71		2-W5/8	2.38		"
4	0.82	L60x5	3.45		2-W5/8	2.38		"
5	0.66	L60x5	2.96		2-W5/8	2.38		"
6	0.69	L60x5	2.73		2-W5/8	2.38		"
7	0.71	L60x5	2.73		2-W5/8	2.38		"
8	0.74	L60x5	3.58		2-W5/8	2.38		"
9	0.79	L60x5	3.16		2-W5/8	2.38		"
10	0.88	L60x5	2.87		2-W5/8	2.38		"
11	0.96	L65x6	3.61		2-W5/8	2.38		"
12	1.08	L65x6	3.24		2-W5/8	2.38		"
13	1.39	L75x6	4.01		2-W5/8	2.38		"
14	2.03	L65x6	3.36		2-W3/4	3.52		"
15	2.72	L70x6	3.63		2-W3/4	3.52		"
16	3.01	L75x6	3.76		2-W3/4	3.52		"
17	3.22	L75x6	3.15		2-W3/4	3.52		"
18	3.42	L90x6	4.42		2-W7/8	4.32		"
19	3.55	L90x6	3.60		2-W7/8	4.32		"
20	3.74	L100x7	4.82		2-W7/8	5.04		"
21	3.33	L100x7	4.60		2-W7/8	5.04		"
22	4.02	L100x7	4.19		2-W7/8	5.04		"

Case 3 (Tower Utilization Plan 3)
Main leg (Compression)

Block No.	Design load (t)	Member			Bolt			Remark
		Member	Allow. Strength (t)	S.F.	No Size	Allow. Strength (t)	S.F.	
1	0.59	L90x7						OK
2	1.58	L90x7						"
3	3.02	L90x7						"
4	5.00	L90x7	10.09		4-W7/8	D.S. 11.72		"
5	7.60	L100x7						"
6	10.74	L100x7	19.03		6-W7/8	D.S. 17.58		"
7	12.70	L120x8						"
8	15.21	L120x8	26.36		8-W7/8	D.S. 26.72		"
9	18.27	L130x9						"
10	21.71	L130x9	43.86		8-W7/8	D.S. 47.72		"
11	25.27	L130x9	41.96		8-W7/8	D.S. 47.72		"
12	28.83	L130x12						"
13	32.77	L130x12	50.50		10-W7/8	56.40		"
14	37.49	L150x12	74.93		10-W7/8	56.40		"
15	43.33	L150x12	73.89		10-W7/8	56.40		"
16	50.15	L150x12	72.88		10-W7/8	56.40		"
17	57.27	L150x12	71.04		12-W7/8	D.S. 67.68		"
18	64.96	L175x12	84.12		12-W7/8	D.S. 67.68		"
19	72.88	L175x15	100.32		14-W7/8	D.S. 78.96		"
20	81.50	L175x15	97.46		16-W7/8	D.S. 90.24		"
21	90.37	L175x15	100.00		16-W7/8	D.S. 90.24		"
22	98.72	L200x15	120.47		18-W7/8	101.52		"

Case 3 (Tower Utilization Plan 3)
Diagonal (Compression)

Block No.	Design load (t)	Member			Bolt			Remark
		Member	Allow. Strength (t)	S.F.	No Size	Allow. Strength (t)	S.F.	
1	0.28	L60x5	3.45		2-W5/8	2.38		OK
2	0.58	L60x5	3.71		2-W5/8	2.38		"
3	0.66	L60x5	3.71		2-W5/8	2.38		"
4	0.10	L60x5	3.45		2-W5/8	2.38		"
5	1.17	L60x5	2.96		2-W5/8	2.38		"
6	1.13	L60x5	2.73		2-W5/8	2.38		"
7	1.10	L60x5	2.73		2-W5/8	2.38		"
8	1.08	L60x5	3.58		2-W5/8	2.38		"
9	1.59	L60x5	3.16		2-W5/8	2.38		"
10	1.59	L60x5	2.87		2-W5/8	2.38		"
11	1.60	L65x6	3.61		2-W5/8	2.38		"
12	1.64	L65x6	3.24		2-W5/8	2.38		"
13	1.91	L75x6	4.01		2-W5/8	2.38		"
14	2.48	L65x6	3.36		2-W3/4	3.52		"
15	2.85	L70x6	3.63		2-W3/4	3.52		"
16	2.84	L75x6	3.76		2-W3/4	3.52		"
17	2.95	L75x6	3.15		2-W3/4	3.52		"
18	3.05	L90x6	4.42		2-W7/8	4.32		"
19	3.21	L90x6	3.60		2-W7/8	4.32		"
20	3.70	L100x7	4.82		2-W7/8	5.04		"
21	3.43	L100x7	4.60		2-W7/8	5.04		"
22	4.30	L100x7	4.19	0.97	2-W7/8	5.04		OUT

(2) Check of Stability (RASAMTAPANGGANG)

Tower Utilization Plan
Main leg (Compression)

Block No.	Design load (t)	Member			Bolt			Remark
		Member	Allow. Strength (t)	S.F.	No Size	Allow. Strength (t)	S.F.	
1	0.53	L90x7						OK
2	1.73	L90x7						"
3	3.89	L90x7						"
4	6.51	L90x7	10.09	1.55	4-W7/8	D.S. 11.72	1.80	"
5	9.15	L100x7						"
6	11.36	L100x7	19.03	1.68	6-W7/8	D.S. 17.58	1.55	"
7	13.74	L120x8						"
8	16.37	L120x8	26.36	1.61	8-W7/8	D.S. 26.72	1.63	"
9	19.25	L130x9						"
10	22.04	L130x9	43.86	1.99	8-W7/8	D.S. 47.72	1.94	"
11	25.03	L130x9	41.96	1.68	8-W7/8	D.S. 47.72	1.71	"
12	28.08	L130x12						"
13	31.39	L130x12	50.50	1.61	10-W7/8	56.40	1.80	"

Tower Utilization Plan
Diagonal (Compression)

Block No.	Design load (t)	Member			Bolt			Remark
		Member	Allow. Strength (t)	S.F.	No Size	Allow. Strength (t)	S.F.	
1	0.22	L60x5	3.45	15.68	2-W5/8	2.38	10.82	OK
2	0.89	L60x5	3.71	4.17	2-W5/8	2.38	2.67	"
3	1.12	L60x5	3.71	3.31	2-W5/8	2.38	2.13	"
4	1.31	L60x5	3.45	2.63	2-W5/8	2.38	1.82	"
5	1.00	L60x5	2.96	2.96	2-W5/8	2.38	2.38	"
6	0.98	L60x5	2.73	2.79	2-W5/8	2.38	2.43	"
7	1.07	L60x5	2.73	2.55	2-W5/8	2.38	2.22	"
8	1.24	L60x5	3.58	2.89	2-W5/8	2.38	1.92	"
9	1.23	L60x5	3.16	2.57	2-W5/8	2.38	1.93	"
10	1.27	L60x5	2.87	2.26	2-W5/8	2.38	1.87	"
11	1.31	L65x6	3.61	2.76	2-W5/8	2.38	1.82	"
12	1.39	L65x6	3.24	2.33	2-W5/8	2.38	1.71	"
13	1.48	L75x6	4.01	2.71	2-W5/8	2.38	1.61	"

ANNEX-17 ANTENNA/TOWER ARRANGEMENT OVER EXISTING ROUTE

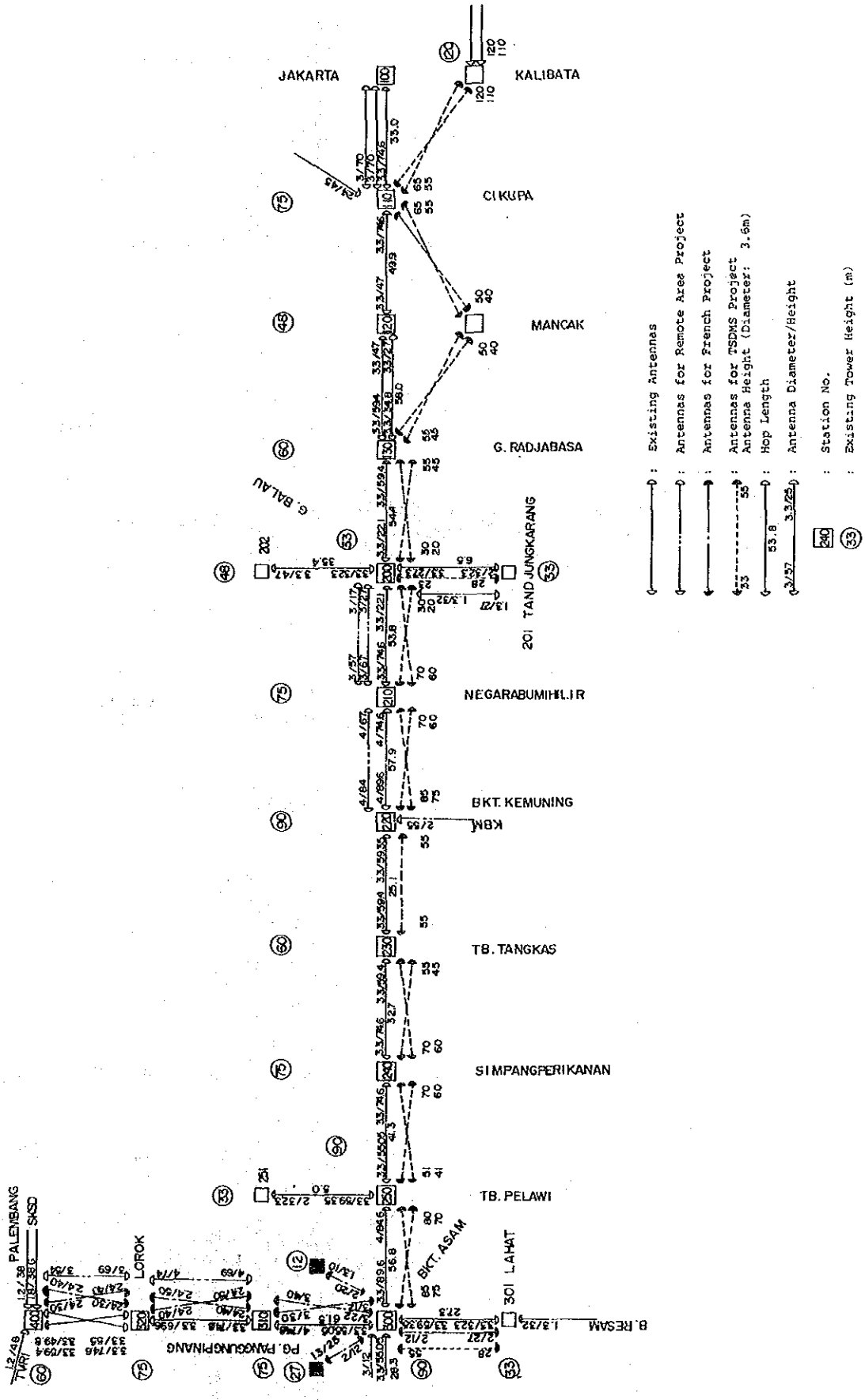


Figure 1 Antenna/Tower Arrangement over Existing Route (1/4)

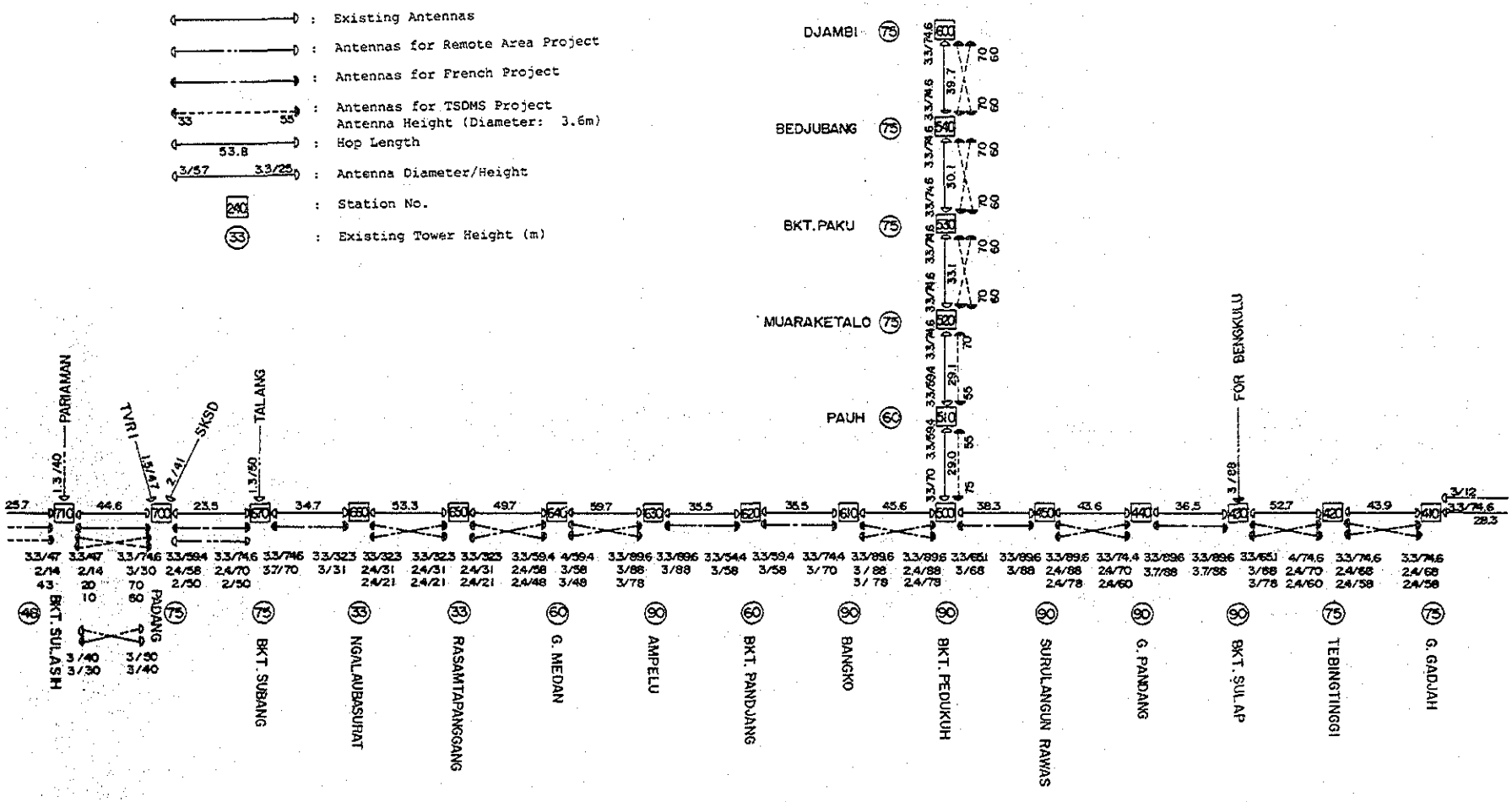


Figure 2 Antenna/Tower Arrangement over Existing Route (2/4)

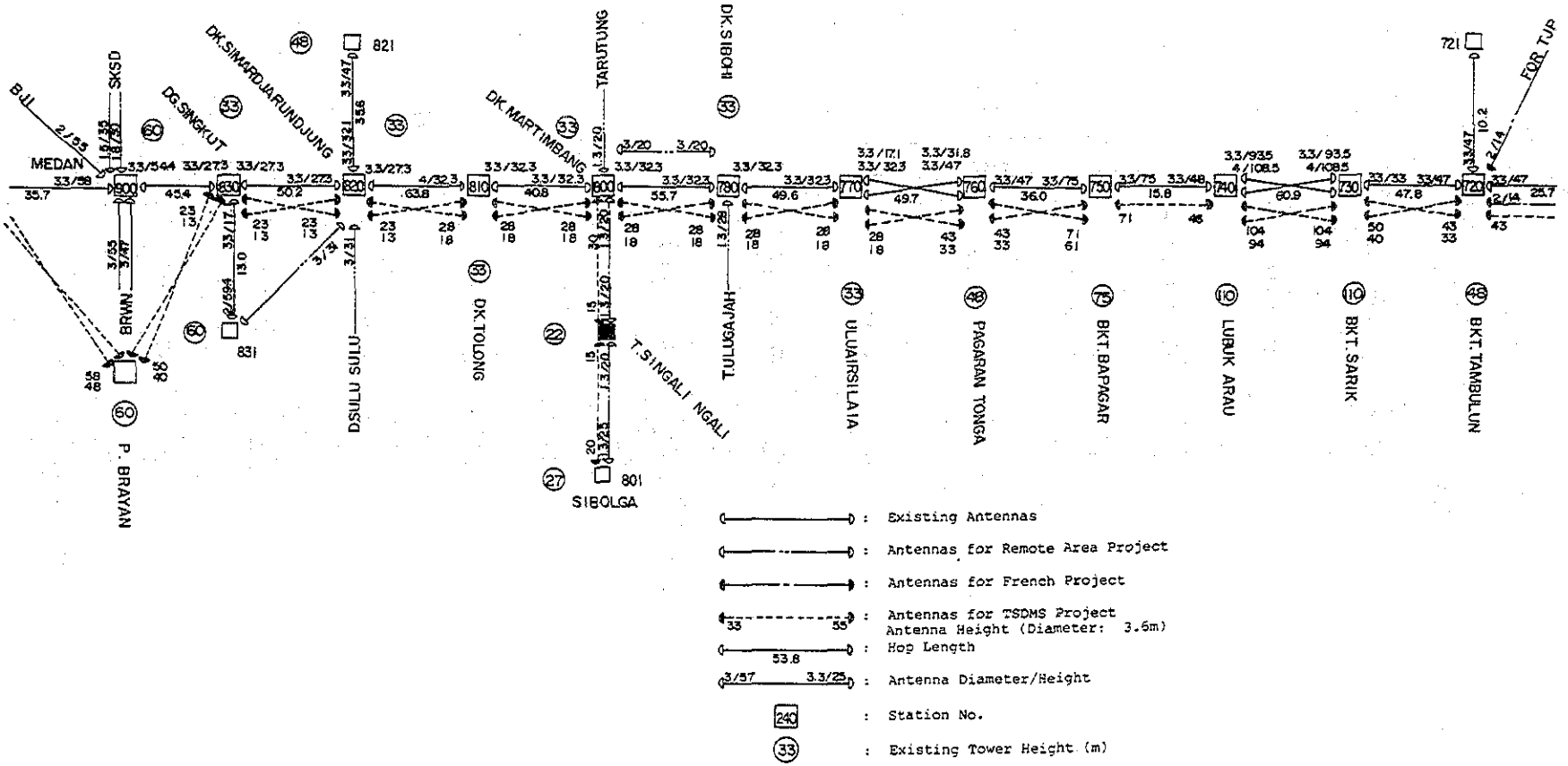


Figure 3 Antenna/Tower Arrangement over Existing Route (3/4)

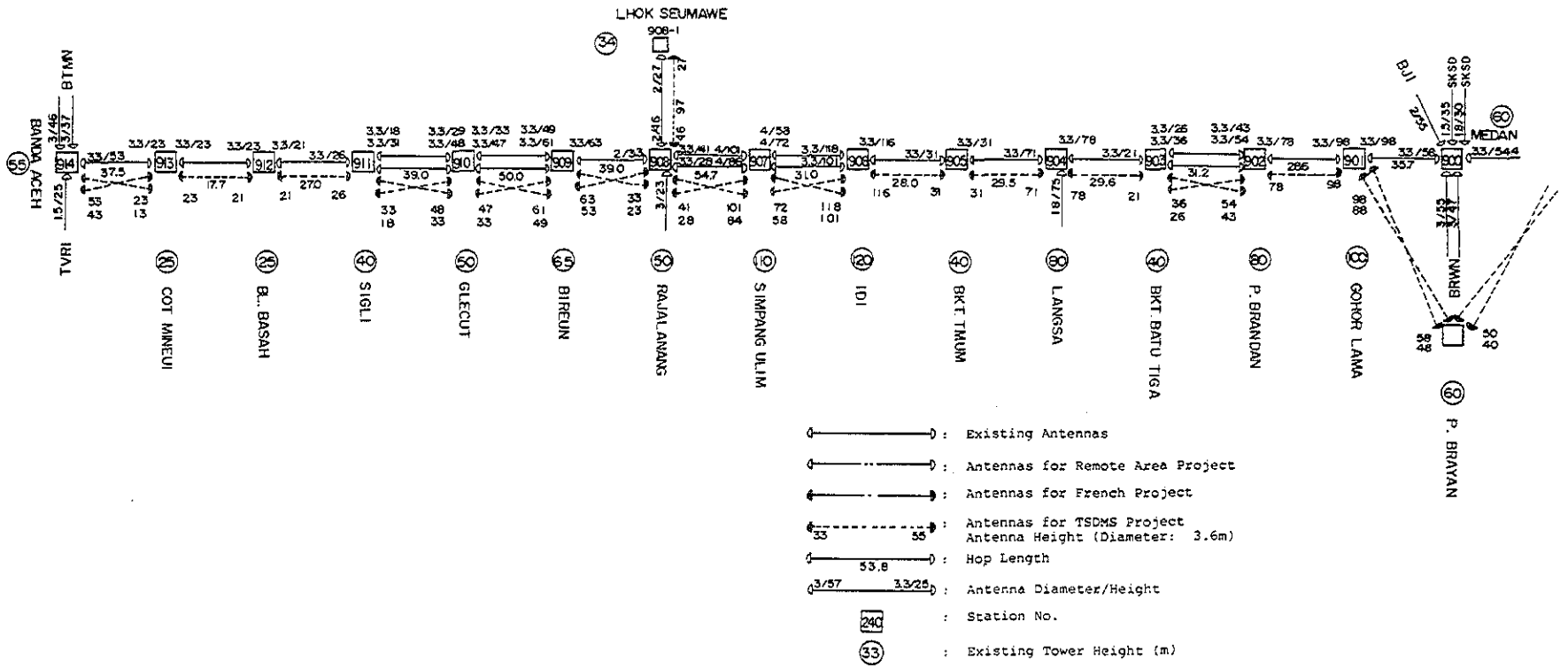


Figure 4 Antenna/Tower Arrangement over Existing Route (4/4)

ANNEX-18 REVENUE STRUCTURE (1982-1986)

Revenue Structure of WITEL I (Rp.1000)

Item	1982	1983	1984	1985	1986
I. Telegram					
a. International	9722	4868	3983	8590	28528
b. Domestic	239307	251988	287622	564235	384615
c. Leased Chanel					
Transponder	45577	65150	41739	66151	137952
d. Other	162791	153370	163815	182515	190588
Total	457397	475376	497159	821491	741683
II. Telex					
a. International	46763	368808	396633	487183	1774608
b. Monthly Rental	140322	157158	177342	221726	237763
c. Pulse	1231461	1792268	2097466	2676259	2874441
d Installation	29645	1534	1401	7471	55609
e. Other	1681	5338	1650	4238	-13331
Total	1449872	2325106	2674492	3396877	4929090
III. Telephone					
a. International	234264	331131	275182	637167	3153316
b. Monthly Rental	1677981	2002992	1182560	2229892	2281899
c. Local&SLDD	18516251	23735183	25420455	30506321	32193665
d. Interlocal Manual	1324472	1436694	1587594	2269960	2691949
e Installation	940715	40152	28572	185720	1694069
f. Other	83738	328752	164901	180604	-528552
Total	22777421	27874904	28659264	36009664	41486346
IV. Other	272051	39206	160865	47607	62293
Grand Total	24956741	30714592	31991780	40275639	47219412

Revenue Structure of WITEL II (Rp.1000)

Item	1982	1983	1984	1985	1986
I. Telegram					
a. International	6292	4097	2987	7661	28368
b. Domestic	335432	370078	389203	454862	505212
c. Leased Chanel					
Transponder	94344	37113	31305	131418	146930
d. Other	119538	76254	67985	70274	72287
Total	555606	487542	491480	664215	752797
II. Telex					
a. International	14983	212067	198316	206202	862252
b. Monthly Rental	59148	88828	107518	142814	196134
c. Pulse	457007	767092	1066419	1406325	1723905
d Installation	28917	713	581	2919	27649
e. Other	2016	3265	2803	2780	-82288
Total	562071	1071965	1375637	1761040	2727652
III. Telephone					
a. International	62090	97922	88451	165194	754936
b. Monthly Rental	407767	433315	486301	545497	664706
c. Local&SLDD	4996777	6235012	6806939	8305854	10626860
d. Interlocal Manual	1340184	1537775	1484040	1811004	1956179
e Installation	122243	6737	6808	45280	863558
f. Other	35830	124875	41264	106039	52401
Total	6964891	8435636	8913803	10978868	14918640
IV. Other	26003	46852	57116	41194	53458
Grand Total	8108571	10041995	10838036	13445317	18452547

Revenue Structure of WITEL III (Rp.1000)

Item	1982	1983	1984	1985	1986
I. Telegram					
a. International	5912	3319	2434	6257	25736
b. Domestic	284249	326583	389399	459034	527190
c. Leased Chanel					
Transponder	26667	1159	10435	1200	4452
d. Other	56730	85895	67985	109833	127450
Total	373558	416956	470253	576324	684828
II. Telex					
a. International	11659	101803	164128	179000	788272
b. Monthly Rental	199692	214619	262907	312347	245098
c. Pulse	440038	749197	987233	1367581	1602904
d Installation	10303	496	700	2507	25651
e. Other	578	2079	628	2586	-345
Total	662270	1068194	1415596	1864021	2661580
III. Telephone					
a. International	73781	115147	127763	208669	913048
b. Monthly Rental	592204	699084	769807	897599	1098123
c. Local&SLDD	10056776	12043979	13226845	15911115	18673268
d. Interlocal Manual	1475062	1681710	1886184	2318402	2893250
e Installation	218200	15433	13933	104105	1223358
f. Other	140062	67925	53053	102430	13433
Total	12556085	14623278	16077585	19542320	24814480
IV. Other	19078	65212	121428	47277	29271
Grand Total	13610991	16173640	18084862	22029942	28190159

Revenue Structure of WITEL I. Share to Grand Total

Item	1982	1983	1984	1985	1986
I. Telegram					
a. International	0.04	0.02	0.01	0.02	0.06
b. Domestic	0.96	0.82	0.90	1.40	0.81
c. Leased Chanel					
Transponder	0.18	0.21	0.13	0.16	0.29
d. Other	0.65	0.50	0.51	0.45	0.40
Total	1.83	1.55	1.55	2.04	1.57
II. Telex					
a. International	0.19	1.20	1.24	1.21	3.76
b. Monthly Rental	0.56	0.51	0.55	0.55	0.50
c. Pulse	4.93	5.84	6.56	6.64	6.09
d Installation	0.12	0.00	0.00	0.02	0.12
e. Other	0.01	0.02	0.01	0.01	-0.03
Total	5.81	7.57	8.36	8.43	10.44
III. Telephone					
a. International	0.94	1.08	0.86	1.58	6.68
b. Monthly Rental	6.72	6.52	3.70	5.54	4.83
c. Local&SLDD	74.19	77.28	79.46	75.74	68.18
d. Interlocal Manual	5.31	4.68	4.96	5.64	5.70
e Installation	3.77	0.13	0.09	0.46	3.59
f. Other	0.34	1.07	0.52	0.45	-1.12
Total	91.27	90.75	89.58	89.41	87.86
IV. Other	1.09	0.13	0.50	0.12	0.13
Grand Total	100.00	100.00	100.00	100.00	100.00

Revenue Structure of WITEL II.Share to Grand Total

Item	1982	1983	1984	1985	1986
I. Telegram					
a. International	0.08	0.04	0.03	0.06	0.15
b. Domestic	4.14	3.69	3.59	3.38	2.74
c. Leased Chanel					
Transponder	1.16	0.37	0.29	0.98	0.80
d. Other	1.47	0.76	0.63	0.52	0.39
Total	6.85	4.86	4.53	4.94	4.08
II. Telex					
a. International	0.18	2.11	1.83	1.53	4.67
b. Monthly Rental	0.73	0.88	0.99	1.06	1.06
c. Pulse	5.64	7.64	9.84	10.46	9.34
d Installation	0.36	0.01	0.01	0.02	0.15
e. Other	0.02	0.03	0.03	0.02	-0.45
Total	6.93	10.67	12.69	13.10	14.78
III. Telephone					
a. International	0.77	0.98	0.82	1.23	4.09
b. Monthly Rental	5.03	4.32	4.49	4.06	3.60
c. Local&SLDD	61.62	62.09	62.81	61.78	57.59
d. Interlocal Manual	16.53	15.31	13.69	13.47	10.60
e Installation	1.51	0.07	0.06	0.34	4.68
f. Other	0.44	1.24	0.38	0.79	0.28
Total	85.90	84.00	82.25	81.66	80.85
IV. Other	0.32	0.47	0.53	0.31	0.29
Grand Total	100.00	100.00	100.00	100.00	100.00

Revenue Structure of WITEL III,Share to Total

Item	1982	1983	1984	1985	1986
I. Telegram					
a. International	0.04	0.02	0.01	0.03	0.09
b. Domestic	2.09	2.02	2.15	2.08	1.87
c. Leased Chanel					
Transponder	0.20	0.01	0.06	0.01	0.02
d. Other	0.42	0.53	0.38	0.50	0.45
Total	2.74	2.58	2.60	2.62	2.43
II. Telex					
a. International	0.09	0.63	0.91	0.81	2.80
b. Monthly Rental	1.47	1.33	1.45	1.42	0.87
c. Pulse	3.23	4.63	5.46	6.21	5.69
d Installation	0.08	0.00	0.00	0.01	0.09
e. Other	0.00	0.01	0.00	0.01	0.00
Total	4.87	6.60	7.83	8.46	9.44
III. Telephone					
a. International	0.54	0.71	0.71	0.95	3.24
b. Monthly Rental	4.35	4.32	4.26	4.07	3.90
c. Local&SLDD	73.89	74.47	73.14	72.22	66.24
d. Interlocal Manual	10.84	10.40	10.43	10.52	10.26
e Installation	1.60	0.10	0.08	0.47	4.34
f. Other	1.03	0.42	0.29	0.46	0.05
Total	92.25	90.41	88.90	88.71	88.03
IV. Other	0.14	0.40	0.67	0.21	0.10
Grand Total	100.00	100.00	100.00	100.00	100.00

Revenue Structure of WITEL I.Annual Growth Rate

Item	1983	1984	1985	1986	1982-86
I. Telegram					
a. International	0.50	0.82	2.16	3.32	1.31
b. Domestic	1.05	1.14	1.96	0.68	1.13
c. Leased Chanel					
Transponder	1.43	0.64	1.58	2.09	1.32
d. Other	0.94	1.07	1.11	1.04	1.04
Total	1.04	1.05	1.65	0.90	1.13
II. Telex					
a. International	7.89	1.08	1.23	3.64	2.48
b. Monthly Rental	1.12	1.13	1.25	1.07	1.14
c. Pulse	1.46	1.17	1.28	1.07	1.24
d Installation	0.05	0.91	5.33	7.44	1.17
e. Other	3.18	0.31	2.57	-3.15	ｴﾗｰ
Total	1.60	1.15	1.27	1.45	1.36
III. Telephone					
a. International	1.41	0.83	2.32	4.95	1.92
b. Monthly Rental	1.19	0.59	1.89	1.02	1.08
c. Local&SLDD	1.28	1.07	1.20	1.06	1.15
d. Interlocal Manual	1.08	1.11	1.43	1.19	1.19
e Installation	0.04	0.71	6.50	9.12	1.16
f. Other	3.93	0.50	1.10	-2.93	ｴﾗｰ
Total	1.22	1.03	1.26	1.15	1.16
IV. Other	0.14	4.10	0.30	1.31	0.69
Grand Total	1.23	1.04	1.26	1.17	1.17

Revenue Structure of WITEL II.Annual Growth Rate

Item	1983	1984	1985	1986	1982-86
I. Telegram					
a. International	0.65	0.73	2.56	3.70	1.46
b. Domestic	1.10	1.05	1.17	1.11	1.11
c. Leased Chanel					
Transponder	0.39	0.84	4.20	1.12	1.12
d. Other	0.64	0.89	1.03	1.03	0.88
Total	0.88	1.01	1.35	1.13	1.08
II. Telex					
a. International	14.15	0.94	1.04	4.18	2.75
b. Monthly Rental	1.50	1.21	1.33	1.37	1.35
c. Pulse	1.68	1.39	1.32	1.23	1.39
d Installation	0.02	0.81	5.02	9.47	0.99
e. Other	1.62	0.86	0.99	-29.60	ｴﾗｰ
Total	1.91	1.28	1.28	1.55	1.48
III. Telephone					
a. International	1.58	0.90	1.87	4.57	1.87
b. Monthly Rental	1.06	1.12	1.12	1.22	1.13
c. Local&SLDD	1.25	1.09	1.22	1.28	1.21
d. Interlocal Manual	1.15	0.97	1.22	1.08	1.10
e Installation	0.06	1.01	6.65	19.07	1.63
f. Other	3.49	0.33	2.57	0.49	1.10
Total	1.21	1.06	1.23	1.36	1.21
IV. Other	1.80	1.22	0.72	1.30	1.20
Grand Total	1.24	1.08	1.24	1.37	1.23

Revenue Structure of WITEL III,Annual Growth Rate

Item	1983	1984	1985	1986	1982-86
I. Telegram					
a. International	0.56	0.73	2.57	4.11	1.44
b. Domestic	1.15	1.19	1.18	1.15	1.17
c. Leased Chanel					
Transponder	0.04	9.00	0.11	3.71	0.64
d. Other	1.51	0.79	1.62	1.16	1.22
Total	1.12	1.13	1.23	1.19	1.16
II. Telex					
a. International	8.73	1.61	1.09	4.40	2.87
b. Monthly Rental	1.07	1.22	1.19	0.78	1.05
c. Pulse	1.70	1.32	1.39	1.17	1.38
d Installation	0.05	1.41	3.58	10.23	1.26
e. Other	3.60	0.30	4.12	-0.13	
Total	1.61	1.33	1.32	1.43	1.42
III. Telephone					
a. International	1.56	1.11	1.63	4.38	1.88
b. Monthly Rental	1.18	1.10	1.17	1.22	1.17
c. Local&SLDD	1.20	1.10	1.20	1.17	1.17
d. Interlocal Manual	1.14	1.12	1.23	1.25	1.18
e Installation	0.07	0.90	7.47	11.75	1.54
f. Other	0.48	0.78	1.93	0.13	0.56
Total	1.16	1.10	1.22	1.27	1.19
IV. Other	3.42	1.86	0.39	0.62	1.11
Grand Total	1.19	1.12	1.22	1.28	1.20

ANNEX-19 EXPENDITURE STRUCTURE (1982-1985)

Expenditure Structure of WITEL I (Rp.1000)

Items	1982	1983	1984	1985
1. Personnel Cost	4111868	5354449	6616306	9186555
2. Pension	458267	1164727	1094195	1203682
3. Office Expence	968499	1439706	2215255	3015029
a. Education	160529	245180	520808	593451
b. Office	87742	176955	217349	343594
c. Electric,water	289979	410489	584548	695832
d. Sales Promotion	39151	84971	203947	228391
e. Post,Bank	65950	72665	83238	90604
f. Security	205251	324819	367684	674155
g. Book,Library	3557	6999	9103	11732
h. Survey,Research		5091		
i. Directory	95385	107375	115954	136216
j. Clinic	1327	3054	90035	238323
k. Other	19628	2108	22588	2731
4. Maintenance	1581133	2294097	3830930	5368973
a. Office	15858	22089	30768	35010
b. Exchange	473602	855022	1528066	1488529
c. Cable/Transmission	371073	669097	1238108	2462231
d. Building(Office)	236874	298834	496639	629708
e. Building(House)	49627	56770	79897	72768
f. Road	145999	120210	171903	239083
g. Mobil Gas/Oil	288104	271182	285549	441644
Other		893		
5. Insurance/Interest	35792			598
6. Official Trip	625982	747501	1102384	1509436
7. Income Tax	40197	61269	99874	276007
8. Other	13335	6243	13440	37970
Total	7835073	11067992	14972384	20598250

Expenditure Structure of WITEL II (Rp.1000)

Items	1982	1983	1984	1985
1. Personnel Cost	2854252	3171083	3959777	5620532
2. Pension	229553	1025774	824905	712015
3. Office Expence	517290	597524	834546	1401411
a. Education	80444	96859	85554	239828
b. Office	44676	55229	109347	192497
c. Electric,water	115483	165512	292088	287513
d. Sales Promotion	15333	22703	29212	62046
e. Post,Bank	56092	42681	69618	72044
f. Security	197300	206101	211944	405121
g. Book,Library	1436	3561	4311	4196
h. Survey,Research	1750	2876		
i. Directory	600		250	3275
j. Clinic		0	25497	122223
k. Other	4176	2002	6726	12668
4. Maintenance	809728	1327043	1815879	2652583
a. Office	11328	12023	24135	51045
b. Exchange	203466	461082	571190	741018
c. Cable/Transmission	281189	345788	494660	967365
d. Building(Office)	126433	226540	359012	543250
e. Building(House)	16872	52129	83782	71948
f. Road	41627	79710	151737	81075
g. Mobil Gas/Oil	128813	149771	131413	196575
Other				
5. Insurance/Interest	22562			
6. Official Trip	767276	560610	836043	976582
7. Income Tax	19177	53992	71288	267591
8. Other	8463	6051	16307	23623
Total	5228301	6742077	8358745	11654337

Expenditure Structure of WITEL III (Rp.1000)

Items	1982	1983	1984	1985
1. Personnel Cost	2638450	3281890	4347507	6386186
2. Pension	164409	1043894	471419	547769
3. Office Expence	561660	1021252	1445808	1995756
a. Education	93108	108178	142904	227723
b. Office	67023	102050	210395	358628
c. Electric,water	159493	291011	455740	527951
d. Sales Promotion	11474	16139	22587	26208
e. Post,Bank	49751	74281	98933	162207
f. Security	139417	274130	380574	441053
g. Book,Library	6299	91785	15126	0
h. Survey,Research	664	7829		17390
i. Directory	26068	40345	50529	54460
j. Clinic	5018	3633	55250	156104
k. Other	3345	11671	13768	24032
4. Maintenance	1717450	2209084	3088599	3661047
a. Office	35283	34083	63510	81557
b. Exchange	407942	866649	1453179	1384850
c. Cable/Transmission	379225	426553	551605	1063277
d. Building(Office)	423831	272170	377967	567628
e. Building(House)	109921	163673	125766	108645
f. Road	86485	110367	126966	129022
g. Mobil Gas/Oil	274763	313457	389604	326033
Other		22132		35
5. Insurance/Interest	22003			
6. Official Trip	432746	533979	811839	1076834
7. Income Tax	20586	37642	79736	315952
8. Other	9316	7945	21989	23450
Total	5566620	8135686	10266897	14006994

Expenditure Structure of WITEL I .Share (%)

Items	1982	1983	1984	1985
1. Personnel Cost	52.48	48.38	44.19	44.60
2. Pension	5.85	10.52	7.31	5.84
3. Office Expence	12.36	13.01	14.80	14.64
a. Education	2.05	2.22	3.48	2.88
b. Office	1.12	1.60	1.45	1.67
c. Electric,water	3.70	3.71	3.90	3.38
d. Sales Promotion	0.50	0.77	1.36	1.11
e. Post,Bank	0.84	0.66	0.56	0.44
f. Security	2.62	2.93	2.46	3.27
g. Book,Library	0.05	0.06	0.06	0.06
h. Survey,Research	0.00	0.05	0.00	0.00
i. Directory	1.22	0.97	0.77	0.66
j. Clinic	0.02	0.03	0.60	1.16
k. Other	0.25	0.02	0.15	0.01
4. Maintenance	20.18	20.73	25.59	26.07
a. Office	0.20	0.20	0.21	0.17
b. Exchange	6.04	7.73	10.21	7.23
c. Cable/Transmission	4.74	6.05	8.27	11.95
d. Building(Office)	3.02	2.70	3.32	3.06
e. Building(House)	0.63	0.51	0.53	0.35
f. Road	1.86	1.09	1.15	1.16
g. Mobil Gas/Oil	3.68	2.45	1.91	2.14
Other	0.00	0.01	0.00	0.00
5. Insurance/Interest	0.46	0.00	0.00	0.00
6. Official Trip	7.99	6.75	7.36	7.33
7. Income Tax	0.51	0.55	0.67	1.34
8. Other	0.17	0.06	0.09	0.18
Total	100.00	100.00	100.00	100.00

Expenditure Structure of WITEL II .Share (%)

Description	1982	1983	1984	1985
1. Personnel Cost	54.59	47.03	47.37	48.23
2. Pension	4.39	15.21	9.87	6.11
3. Office Expence	9.89	8.86	9.98	12.02
a. Education	1.54	1.44	1.02	2.06
b. Office	0.85	0.82	1.31	1.65
c. Electric,water	2.21	2.45	3.49	2.47
d. Sales Promotion	0.29	0.34	0.35	0.53
e. Post,Bank	1.07	0.63	0.83	0.62
f. Security	3.77	3.06	2.54	3.48
g. Book,Library	0.03	0.05	0.05	0.04
h. Survey,Research	0.03	0.04	0.00	0.00
i. Directory	0.01	0.00	0.00	0.03
j. Clinic	0.00	0.00	0.31	1.05
k. Other	0.08	0.03	0.08	0.11
4. Maintenance	15.49	19.68	21.72	22.76
a. Office	0.22	0.18	0.29	0.44
b. Exchange	3.89	6.84	6.83	6.36
c. Cable/Transmission	5.38	5.13	5.92	8.30
d. Building(Office)	2.42	3.36	4.30	4.66
e. Building(House)	0.32	0.77	1.00	0.62
f. Road	0.80	1.18	1.82	0.70
g. Mobil Gas/Oil	2.46	2.22	1.57	1.69
Other	0.00	0.00	0.00	0.00
5. Insurance/Interest	0.43	0.00	0.00	0.00
6. Official Trip	14.68	8.32	10.00	8.38
7. Income Tax	0.37	0.80	0.85	2.30
8. Other	0.16	0.09	0.20	0.20
Total	100.00	100.00	100.00	100.00

Expenditure Structure of WITEL III ,Share (%)

Description	1982	1983	1984	1985
1. Personnel Cost	47.40	40.34	42.34	45.59
2. Pension	2.95	12.83	4.59	3.91
3. Office Expence	10.09	12.55	14.08	14.25
a. Education	1.67	1.33	1.39	1.63
b. Office	1.20	1.25	2.05	2.56
c. Electric,water	2.87	3.58	4.44	3.77
d. Sales Promotion	0.21	0.20	0.22	0.19
e. Post,Bank	0.89	0.91	0.96	1.16
f. Security	2.50	3.37	3.71	3.15
g. Book,Library	0.11	1.13	0.15	0.00
h. Survey,Research	0.01	0.10	0.00	0.12
i. Directory	0.47	0.50	0.49	0.39
j. Clinic	0.09	0.04	0.54	1.11
k. Other	0.06	0.14	0.13	0.17
4. Maintenance	30.85	27.15	30.08	26.14
a. Office	0.63	0.42	0.62	0.58
b. Exchange	7.33	10.65	14.15	9.89
c. Cable/Transmission	6.81	5.24	5.37	7.59
d. Building(Office)	7.61	3.35	3.68	4.05
e. Building(House)	1.97	2.01	1.22	0.78
f. Road	1.55	1.36	1.24	0.92
g. Mobil Gas/Oil	4.94	3.85	3.79	2.33
Other	0.00	0.27	0.00	0.00
5. Insurance/Interest	0.40	0.00	0.00	0.00
6. Official Trip	7.77	6.56	7.91	7.69
7. Income Tax	0.37	0.46	0.78	2.26
8. Other	0.17	0.10	0.21	0.17
Total	100.00	100.00	100.00	100.00

ANNEX-20 CALL REVENUE FORECAST (1994-2004)

***** Call Revenue 1994 (Terr.) *****

Area	Total sub.	Ratio	Revenue	Rev/sub
MDN(61)	156,736	0.51	88,598	565
SBG(63)	6,870	1.00	6,697	975
LSM(64)	16,550	1.00	28,268	1,708
BNA(65)	16,306	0.87	15,122	927
PG (71)	52,720	0.74	50,651	961
TJK(72)	41,750	0.92	28,291	678
LT (73)	21,563	1.00	17,086	792
JB (74)	16,000	1.00	10,806	675
PD (75)	35,290	0.73	26,013	737
PBR(76)	22,036	0.59	8,237	374
SKN(77)	12,856	0.28	3,371	262
Total	398,677		283,140	710

***** Call Revenue 1994 (Terr) *****

Area	Total sub.	Revenue	Rev./sub
WITEL I	196,462	138,685	706
WITEL II	70,182	37,621	536
WITEL III	132,033	106,834	809
Total	398,677	283,140	710

Notes: 1) The revenue means the total amount gained in each area through provision of whole telecommunication systems, i.e. transmission, exchange, muldex systems and etc., but limited to terrestrial telecommunications system.

2) $\text{Ratio} = \frac{\text{No. of Terrestrial Circuits}}{\text{Terrestrial + Satellite Circuits}}$

***** Call Revenue 1999 (Terr.) *****

Area	Total sub.	Ratio	Revenue	Rev./sub
MDN(61)	283400	0.64	204,879	723
SBG(63)	12400	1.00	11,975	966
LSM(64)	24700	1.00	42,184	1,708
BNA(65)	29996	0.89	28,762	959
PG (71)	86300	0.81	94,570	1,096
TJK(72)	64700	0.93	47,989	742
LT (73)	38813	1.00	31,953	823
JB (74)	28800	1.00	20,156	700
PD (75)	59200	0.84	52,867	893
PBR(76)	39196	0.72	18,665	476
SKN(77)	23556	0.54	12,582	534
Total	691,061		566,582	820

***** Call Revenue 1999 (Terr.) *****

Area	Total sub.	Revenue	Rev./sub
WITEL I	350,496	287,800	821
WITEL II	121,952	84,113	690
WITEL III	218,613	194,668	890
Total	691,061	566,582	820

***** Call Revenue 2004 (Terr.) *****

Area	Total sub.	Ratio	Revenue	Rev./sub
MDN(61)	431,300	0.73	358,993	832
SBG(63)	18,900	1.00	18,264	966
LSM(64)	34,200	1.00	58,416	1,708
BNA(65)	45,996	0.85	42,438	923
PG (71)	125,500	0.85	147,086	1,172
TJK(72)	91,500	0.93	70,461	770
LT (73)	58,913	1.00	49,276	836
JB (74)	43,700	1.00	31,112	712
PD (75)	87,100	0.88	83,355	957
PBR(76)	59,196	0.79	31,677	535
SKN(77)	36,056	0.67	24,296	674
Total	1,032,361		915,375	887

***** Call Revenue 2004 (Terr.) *****

Area	Total sub.	Revenue	Rev./sub
WITEL I	530,396	478,111	901
WITEL II	182,352	139,329	764
WITEL III	319,613	297,935	932
Total	1,032,361	915,375	887

ANNEX-21 SOCIO-ECONOMIC INDEXES

Population Forecast (Unit:1000)

	1981	1982	1983	1984	1985	1986	1994	1999	2004
WITEL I	11,266	11,568	11,877	12,195	12,522	12,857	15,514	17,185	18,981
WITEL II	5,700	5,827	5,958	6,092	6,229	6,359	7,487	8,262	9,135
WITEL III	11,722	12,308	12,927	13,581	14,171	14,721	20,266	24,520	30,180
WITEL IV	6,760	7,026	7,303	7,591	7,890	8,132	10,668	12,418	14,785
WITEL V	28,124	28,811	29,514	30,235	30,973	31,487	36,958	40,267	44,677
WITEL VI	28,515	28,911	29,313	29,721	30,134	30,450	33,479	35,194	37,396
WITEL VII	29,596	30,008	30,427	30,851	31,281	31,645	34,972	36,771	39,156
WITEL VIII	8,664	8,845	9,030	9,218	9,411	9,581	11,148	12,175	13,407
WITEL IX	6,932	7,148	7,372	7,603	7,842	8,054	10,132	11,628	13,514
WITEL X	10,653	10,902	11,158	11,420	11,688	11,929	14,178	15,700	17,553
WITEL XI	1,455	1,501	1,547	1,596	1,646	1,690	2,118	2,399	2,768
WITEL XII	1,210	1,248	1,287	1,327	1,368	1,407	1,777	2,036	2,356
Total	150,596	154,102	157,712	161,429	165,155	168,311	198,698	218,556	243,907

Source : Population Projection of Indonesia by Province ,by B.P.S

Gross Regional Domestic Prtoducts Estimates (Million Rp. At 1975 Price)

	1981	1982	1983	1984	1985	1986	1994	1999	2004
WITEL I	1,870	1,941	2,098	2,226	2,268	2,291	3,385	4,320	5,513
WITEL II	2,011	1,797	2,050	2,176	2,217	2,239	3,308	4,222	5,388
WITEL III	1,373	1,419	1,532	1,626	1,657	1,673	2,472	3,155	4,027
WITEL IV	1,998	2,120	2,318	2,459	2,506	2,531	3,739	4,772	6,091
WITEL V	2,934	3,109	3,265	3,464	3,530	3,566	5,268	6,723	8,581
WITEL VI	2,236	2,334	2,514	2,667	2,718	2,745	4,055	5,176	6,606
WITEL VII	3,186	3,246	3,458	3,669	3,739	3,776	5,579	7,120	9,088
WITEL VIII	631	691	754	800	815	823	1,216	1,552	1,981
WITEL IX	1,676	1,634	1,593	1,691	1,723	1,740	2,571	3,281	4,187
WITEL X	1,039	1,076	1,128	1,196	1,219	1,231	1,819	2,322	2,963
WITEL XI	171	184	190	202	206	208	307	391	500
WITEL XII	261	276	277	294	299	302	447	570	728
Total	19,386	19,829	21,177	22,469	22,896	23,125	34,166	43,605	55,652

Note : Timor Timur Province is excluded

Source : For 1981-1983, Regional Income by Province in Indonesia,by B.P.S
For1984-86, Estimated by JICA Study Team and For 1986-2004, 5 % of Annual Growth Rate

GROP Deflator (1975's Price = 100)

	1981	1982	1983	1984	1985	1986
WITEL I	292	316	364	396	436	457
WITEL II	312	327	377	410	452	474
WITEL III	239	254	292	318	350	368
WITEL IV	260	279	322	350	386	405
WITEL V	237	250	287	313	345	362
WITEL VI	250	276	317	345	381	399
WITEL VII	235	259	298	325	358	375
WITEL VIII	213	236	272	296	326	342
WITEL IX	274	292	337	367	404	424
WITEL X	233	255	294	320	353	370
WITEL XI	241	238	274	298	329	345
WITEL XII	284	291	336	365	403	422

Source : For 1981-1983, Regional Income by Province in Indonesia,by B.P.S
For1984-86, Estimated by JICA Study Team

ANNEX-22 LIST OF STATIONS (TOP-PRIORITY SECTION)

ANNEX-22 LIST OF STATIONS (Top-Priority Section)

No.	Code No.	Station	Category	Notes	PCs
1.	GTS 100	JAKARTA (GATSU)	Terminal St.	TC, Existing	
2.	KAL -	Kalibata	Radio Gateway	Existing	
3.	CPA 110	Cikupa	Repeater	Existing	
4.	- -	mancak	Repeater	New	
5.	RJB 130	Rajabasa	Repeater	Existing	
6.	GBL 200	Gn. Balau	Branching St.	Existing	-MET
7.	TJK 201	TG. KARANG	Terminal St.	SC, Existing	
8.	NHL 210	Negara Bumihilir	Repeater	"	
9.	BKM 220	Bkt. Kemuning	Branching St.	"	-KB
10.	TBT 230	Tb. Tangkasa	Repeater	"	
11.	SIK 240	Simpang Perikanan	Repeater	"	
12.	TPW 250	Tb. Pelawi	Branching St.	"	-BTA
13.	BSM 300	Bkt. Asam	Branching St.	"	-MAE
14.	LT 301	LAHAT	Terminal St.	SC, Existing	
15.	PPG 310	Pg. Pinang	Branching St.	"	-SKY, PBM
16.	LRK 320	Lorok	Repeater	"	
17.	PG 400	PALEMBANG	Terminal St.	TC, Existing	-KAY
18.	GGJ 410	Gn. Gajah	Repeater	"	
19.	TL 420	Tebintinggi	Repeater	"	
20.	BSP 430	Bkt. Sulap	Branching St.	"	-LLG, CRP BN
21.	GPD 440	Gn. Pandan	Repeater	"	
22.	SLR 450	Surulangun Rawas	Repeater	"	
23.	BDK 500	Bkt. Pedukuh	Branching St.	"	(for Jambi)
24.	PH 510	Pauh	Repeater	"	
25.	MKT 520	Muaraketalo	Repeater	"	
26.	BPK 530	Bkt. Paku	Repeater	"	
27.	BEB 540	Bejubang	Repeater	"	
28.	JB 600	JAMBI	Terminal St.	SC, Existing	
29.	GKO 610	Bangko	Repeater	"	
30.	BPJ 620	Bkt. Panjang	Repeater	"	
31.	APL 630	Ampelu	Repeater	"	
32.	GMN 640	Gn. Medan	Repeater	"	
33.	RST 650	Rasamtapanggang	Repeater	"	
34.	NBS 660	Ngalaubasurat	Repeater	"	
35.	BSB 670	Bkt. Subang	Branching St.	"	-SLK
36.	PD 700	PADANG	Terminal St.	SC, Existing	
37.	BSL 710	Bkt. Sulasih	Repeater	"	
38.	BTB 720	Bkt. Tambulun	Branching St.	"	-BKT
39.	BRK 730	Bkt. Sarik	Repeater	"	
40.	LKU '40	Lubuk Arau	Repeater	"	
41.	PPG 750	Bkt. Bapagar	Repeater	"	
42.	PGT 760	Pagarantonga	Repeater	"	
43.	ULA 770	Uluairsilaila	Repeater	"	
44.	DSH 780	Dk. Sibohi	Branching St.	"	-PSP
45.	DMG 800	Dk. Martimbang	Branching St.	"	-TRT

No.	Code No.	Station	Category	Notes	PCs
46.	- -	T. Singali Ngali	Repeater	Under "remote area"	
47.	SBG 801	SIBOLGA	Terminal St.	SC, Existing	
48.	DTL 810	Dk. Tolong	Repeater	"	
49.	DSG 820	Dk. Simarjarunjung	Branching St.	"	-SDK, PMS, PPT, KIS RAP, TBT
50.	DSK 830	Dk. Singkut	Branching St.	"	-KBJ
51.	- -	P. Brayan	Radio Gateway	New	
52.	MDN 900	MEDAN	Terminal St.	TC, Existing	