タイ国

バンコク首都圏電話中継線網

実施設計報告書

付属調書

(A・B)

昭和47年11月

海外技術協力事業団
日本電信協力株式会社

附　属　調　書

A. (1)Traffic Data
(2)T. O. Tとの公式文書

B. 回線計画図

C. 回線集束表

D. ケーブル対数決定資料

E. 装荷設計資料

F. PCM中継間隔設計資料

A. (1) Traffic Data

CALCULATION FOR ALTERNATIVE ROUTING NETWORK BANGKOK, THAILAND

- YEAR 1976 -

TOTAL NUMBER OF SUBSCRIBERS	310000
TOTAL NUMBER OF EXCHANGES	58
TOTAL NUMBER OF TANDEM EXCHANGES	7

GRADE OF SERVICE

DIRECT JUNCTION BETWEEN EXCHANGES	0o002
TRUNK TO TANDEM	0o001
TRUNK TO TOLL	0o001
TRUNK TO SPECIAL SERVICE	0o010
TRUNK FROM TOLL EXCHANGE	0o002
LEAST NUMBER OF LINES ON HIGH USAGE ROUTE	10

I = Originating exchange

J = Terminating exchange

CIJ = Approximate cost for a Junction line including switching Equipment.

CIP = Last Trunk capacity

AIJ = Traffic between exchanges I and J

V/M = Variance to mean ratio (offered traffic)

MQ = Availability of Switching Equipment.

NIJ = The number of circuit Required for AIJ

EIJ = The congestion on the route I, J

OFL = Overflow traffic

VAR = Variance of overflow traffic

Routing = Routing between exchange, VIA direct routes, tandem routes.

CALCULATION FOR ALTERNATIVE ROUTING NETWORK BANGKOK , THAILAND

***** YEAR 1976 *****

LIST OF EXCHANGES

EX NO	NAME	ABBREV	LOCATION OF TANDEM	NO OF SUB	TANDEM AREA
1	THANONTOK	TK		3000	7
2/1	SAMRAN RAT 1	SR 1		10000	1
2/2	SAMRAN RAT 2	SR 2		10000	1
2/3	SAMRAN RAT 3	SR 3		10000	1
3/1	SURAWONG 1	SW 1	T7	10000	7
3/2	SURAWONG 2	SW 2		10000	7
3/3	SURAWONG 3	SW 3		10000	7
4/1	PHLOEN CHIT 1	PL 1	T3	10000	3
4/2	PHLOEN CHIT 2	PL 2		10000	3
5	THONBURI	TH 2	T5	20000	5
6/1	PHAHONYOTHIN 1	PY 1	T2	10000	2
6/2	PHAHONYOTHIN 2	PY 2		5000	2
7/1	KRUNG KASEM 1	KK 1	T1	10000	1
7/2	KRUNG KASEM 2	KK 2		10000	1
8/1	CHAIYA PHRUK 1	CP 1		10000	6
8/2	CHAIYA PHRUK 2	CP 2		10000	6
9	THUNGMAHAMEK	TM		10000	3
10	SATHUPRADIT	SP		3000	7
11	NGAM WONG WAN	NWW		5000	4
12	PHRA PRADAENG	PD		3000	5
13	DONMUANG	DM		3000	4
14	BANGNA	BN		10000	6
15	BANG KHEN	BK		5000	4
16	BANG [illegible]	BC		6000	5
17	DAOKANONG	DK		8000	5
18	BANG SU	BS		10000	2
19	BANG PLAD	BP		8000	1
20	KLONG CHAN	KC		8000	6
21	INTHAMARA	IM		6000	2
22	POO CHAO SAMING PRAI	PS		5000	6
23	SAMUT PRAKAN	SMP		5000	6
24	RANG SIT	RS		800	2
25	BANG CHAN	BCH		800	2
27	ON NUT 2	ON 2		0	6
28	NONG KHAEM	NK		800	5
29	ON NUT 1	ON 1		0	6
30	PHASEE CHAROEN	PSR		2000	5
31	LAT PHRAO 2	LP 2		3000	2
32	PAKKRET	PK		0	4
33	LUK SI	LS	T4	2000	4
35	HUA MAK	HM		8000	6
36	RAM INDRA	RID		800	2
37	ASOK, DIN DAENG	ASD		5000	3
38	BANG YA PHRAEK	BYP		0	0
39	SUKHUMVIT	SKV		0	3
40	BANG KHUN TIAN	BKT		0	5
41	CHARAN SANIT WONG	CHW		5000	5
42	LAT PHRAO 1	LP 1		5000	2
43	TROK CHAN	TC		5000	7
44	PATHUMWAN	PTW		5000	1
45	PRAKHANONG	PKN	T6	5000	6
46	MUBAN SETHAKIT	MSK		0	5
47	LAT KRABANG	LKB		0	6
48	SNAMBIN DONMUANG	SDM		0	4
49	POM PHRAJUL	PPJ		0	5
50	SAMSEN	SS		5000	1
51	NONTHABURI	NN		3000	2
52	PATHUM THANI	PTN		800	2
'0'	TOLL	TOLL		4000	1
'1'	SPECIAL SERVICE	SPS		0	1

CALCULATION FOR ALTERNATIVE ROUTING NETWORK BANGKOK , THAILAND

FROM I = 1 TK SUB = 3000 SYSTEM C 400 TANDEM AREA = 7

J	NAME	CIJ	C/P	AIJ	V/M	MQ	NIJ	EIJ	OFL	VAR	ROUTING	
1	TK	0	-	8.23	-	-	17	0.0020	-	-	1	
2/1	SR-1	8514	0.43	4.64	-	-	-	1.0000	4.64	4.64		T7
2/2	SR 2	8514	0.43	4.64	-	-	-	1.0000	4.64	4.64		T7
2/3	SR 3	8514	0.43	4.64	-	-	-	1.0000	4.64	4.64		T7
3/1	SW 1	6518	0.56	10.86	-	-	12	0.1533	1.67	3.64	3/1	T7
3/2	SW 2	6518	0.56	10.86	-	-	12	0.1533	1.67	3.64	3/2	T7
3/3	SW 3	6518	0.56	10.86	-	-	12	0.1533	1.67	3.64	3/3	T7
4/1	PL-1	8975	0.44	5.17	-	-	-	1.0000	5.17	5.17		T7
4/2	PL 2	8975	0.44	5.17	-	-	-	1.0000	5.17	5.17		T7
5	TH 2	12200	0.51	11.66	-	-	13	0.1424	1.65	3.74	5	T7
6/1	PY 1	12689	0.52	3.58	-	-	-	1.0000	3.58	3.58		T7
6/2	PY 2	12689	0.52	1.79	-	-	-	1.0000	1.79	1.79		T7
7/1	KK 1	8975	0.44	3.84	-	-	-	1.0000	3.84	3.84		T7
7/2	KK-2	8975	0.44	3.84	-	-	-	1.0000	3.84	3.84		T7
8/1	CP 1	12200	0.47	2.25	-	-	-	1.0000	2.25	2.25		T7
8/2	CP 2	12200	0.47	2.25	-	-	-	1.0000	2.25	2.25		T7
9	TM	7030	0.36	4.90	-	-	-	1.0000	4.90	4.90		T7
10	SP	6825	0.30	1.19	-	-	-	1.0000	1.19	1.19		T7
11	NWW	32158	0.68	1.06	-	-	-	1.0000	1.06	1.06		T7
12	PD	31489	0.68	0.64	-	-	-	1.0000	0.64	0.64		T7
13	DM	95260	0.90	0.64	-	-	-	1.0000	0.64	0.64		T7
14	BN	27921	0.62	1.99	-	-	-	1.0000	1.99	1.99		T7
15	BK	28255	0.67	1.06	-	-	-	1.0000	1.06	1.06		T7
16	BC	14219	0.53	1.27	-	-	-	1.0000	1.27	1.27		T7
17	DK	14709	0.41	1.70	-	-	-	1.0000	1.70	1.70		T7
18	BS	24353	0.66	2.12	-	-	-	1.0000	2.12	2.12		T7
19	BP	12812	0.52	1.70	-	-	-	1.0000	1.70	1.70		T7
20	KC	34388	0.68	1.38	-	-	-	1.0000	1.38	1.38		T7
21	IM	14342	0.54	1.03	-	-	-	1.0000	1.03	1.03		T7
22	PS	33607	0.41	0.99	-	-	-	1.0000	0.99	0.99		T7
23	SMP	72260	0.71	0.99	-	-	-	1.0000	0.99	0.99		T7
24	RS	110860	0.76	0.17	-	-	-	1.0000	0.17	0.17		T7
25	BCH	89060	0.76	0.14	-	-	-	1.0000	0.14	0.14		T7
28	NK	80660	0.76	0.17	-	-	-	1.0000	0.17	0.17		T7
30	PSR	28701	0.67	0.42	-	-	-	1.0000	0.42	0.42		T7
31	LP 2	29482	0.67	0.52	-	-	-	1.0000	0.52	0.52		T7
33	LS	37510	0.45	0.42	-	-	-	1.0000	0.42	0.42		T7
35	HM	14342	0.41	1.80	-	-	-	1.0000	1.80	1.80		T7
36	RID	71460	0.76	0.14	-	-	-	1.0000	0.14	0.14		T7
37	ASD	11282	0.50	2.58	-	-	-	1.0000	2.58	2.58		T7
41	CHW	24018	0.66	2.91	-	-	-	1.0000	2.91	2.91		T7
42	LP 1	26025	0.67	1.79	-	-	-	1.0000	1.79	1.79		T7
43	TC	5289	0.28	9.60	-	-	14	0.0469	0.45	0.99	43	T7
44	PTW	7951	0.42	1.92	-	-	-	1.0000	1.92	1.92		T7
45	PKN	14280	0.37	1.13	-	-	-	1.0000	1.13	1.13		T7
50	SS	12200	0.51	1.06	-	-	-	1.0000	1.06	1.06		T7
51	NN	30262	0.68	0.64	-	-	-	1.0000	0.64	0.64		T7
52	PTN	110660	0.76	0.17	-	-	-	1.0000	0.17	0.17		T7
101	TOLL	0	-	6.00	-	-	14	0.0010	-	-	101	
111	SPS	0	-	1.50	-	-	5	0.0100	-	-	111	
T7		8668		87.56	1.10		116	0.0010				

TOTAL 150.02 215

CALCULATION FOR ALTERNATIVE ROUTING NETWORK BANGKOK , THAILAND

FROM I = 2/1 SR 1 SUB = 10000 SYSTEM C 400 TANDEM AREA = 1

J	NAME	CIJ	C/P	AIJ	V/M	MQ	NIJ	FIJ	OFL	VAR	ROUTING	
1	TK	8514	0.38	2.12	-	-	-	1.0000	2.12	2.12		T1
2/1	SR 1	0	-	47.04	-	-	65	0.0020	-	-	2/1	
2/2	SR 2	0	-	47.04	-	-	65	0.0020	-	-	2/2	
2/3	SR 3	0	-	47.04	-	-	65	0.0020	-	-	2/3	
3/1	SW 1	6057	0.34	44.69	-	-	52	0.0357	1.60	6.25	3/1	T1
3/2	SW 2	6057	0.34	44.69	-	-	52	0.0357	1.60	6.25	3/2	T1
3/3	SW 3	6057	0.34	44.69	-	-	52	0.0357	1.60	6.25	3/3	T1
4/1	PL 1	7286	0.42	37.63	-	-	43	0.0506	1.91	6.94	4/1	T1
4/2	PL 2	7286	0.42	37.63	-	-	43	0.0506	1.91	6.94	4/2	T1
5	TH 2	6415	0.33	32.93	-	-	40	0.0343	1.13	3.89	5	T1
6/1	PY 1	8156	0.42	18.82	-	-	22	0.0816	1.54	4.23	6/1	T1
6/2	PY 2	8156	0.42	9.41	-	-	12	0.0977	0.92	1.99	6/2	T1
7/1	KK 1	5186	0.57	42.34	-	-	44	0.0910	3.85	14.05	7/1	T1
7/2	KK 2	5186	0.57	42.34	-	-	44	0.0910	3.85	14.05	7/2	T1
8/1	CP 1	11649	0.51	23.52	-	-	26	0.0932	2.19	6.48	8/1	T1
8/2	CP 2	11649	0.51	23.52	-	-	26	0.0932	2.19	6.48	8/2	T1
9	TM	7849	0.37	21.17	-	-	26	0.0534	1.13	3.29	9	T1
10	SP	10976	0.34	3.95	-	-	-	1.0000	3.95	3.95		T1
11	NWW	23907	0.63	6.12	-	-	-	1.0000	6.12	6.12		T1
12	PO	13791	0.34	4.23	-	-	-	1.0000	4.23	4.23		T1
13	DM	39628	0.42	3.53	-	-	-	1.0000	3.53	3.53		T1
14	BN	26917	0.64	4.70	-	-	-	1.0000	4.70	4.70		T1
15	BK	13607	0.39	3.29	-	-	-	1.0000	3.29	3.29		T1
16	BC	8105	0.37	4.52	-	-	-	1.0000	4.52	4.52		T1
17	DK	8514	0.37	5.27	-	-	-	1.0000	5.27	5.27		T1
18	BS	10670	0.49	14.11	-	-	16	0.1178	1.66	4.65	18	T1
19	BP	7593	0.43	11.29	-	-	14	0.0942	1.06	2.45	19	T1
20	KC	30931	0.65	6.40	-	-	-	1.0000	6.40	6.40		T1
21	IM	10976	0.50	4.80	-	-	-	1.0000	4.80	4.80		T1
22	PS	32604	0.66	2.35	-	-	-	1.0000	2.35	2.35		T1
23	SMP	41078	0.42	2.35	-	-	-	1.0000	2.35	2.35		T1
24	RS	98660	0.73	0.94	-	-	-	1.0000	0.94	0.94		T1
25	BCH	76860	0.73	0.64	-	-	-	1.0000	0.64	0.64		T1
28	NK	37064	0.38	0.60	-	-	-	1.0000	0.60	0.60		T1
30	PSR	12261	0.34	1.51	-	-	-	1.0000	1.51	1.51		T1
31	LP 2	14648	0.40	2.40	-	-	-	1.0000	2.40	2.40		T1
33	LS	30708	0.66	1.32	-	-	-	1.0000	1.32	1.32		T1
35	HM	12444	0.52	18.82	-	-	21	0.1038	1.95	5.30	35	T1
36	RID	34834	0.42	0.64	-	-	-	1.0000	0.64	0.64		T1
37	ASD	7900	0.40	18.82	-	-	23	0.0626	1.18	3.28	37	T1
41	CHW	8770	0.39	8.23	-	-	11	0.0900	0.74	1.54	41	T1
42	LP 1	12383	0.52	9.41	-	-	11	0.1386	1.30	2.75	42	T1
43	TC	7593	0.36	3.53	-	-	-	1.0000	3.53	3.53		T1
44	PTW	5750	0.36	21.17	-	-	26	0.0534	1.13	3.29	44	T1
45	PKN	13730	0.39	11.76	-	-	15	0.0789	0.93	2.18	45	T1
50	SS	7081	0.41	7.06	-	-	-	1.0000	7.06	7.06		T1
51	NN	13913	0.40	3.67	-	-	-	1.0000	3.67	3.67		T1
52	PTN	95860	0.73	0.98	-	-	-	1.0000	0.98	0.98		T1
'0'	TOLL	0	-	40.00	-	-	59	0.0010	-	-	'0'	
'1'	SPS	0	-	5.00	-	-	10	0.0100	-	-	'1'	
T1		6856		112.29	1.68		152	0.0010				

TOTAL 800.02 1035

CALCULATION FOR ALTERNATIVE ROUTING NETWORK BANGKOK , THAILAND

FROM I = 2/2 SR 2 SUB = 10000 SYSTEM C 400 TANDEM AREA = 1

J	NAME	CIJ	C/P	AIJ	V/M	MQ	NIJ	FIJ	OFL	VAR	ROUTING
1	TK	8514	0.38	2.12	-	-	-	1.0000	2.12	2.12	T1
2/1	SR 1	0	-	47.04	-	-	65	0.0020	-	-	2/1
2/2	SR 2	0	-	47.04	-	-	65	0.0020	-	-	2/2
2/3	SR 3	0	-	47.04	-	-	65	0.0020	-	-	2/3
3/1	SW 1	6057	0.34	44.69	-	-	52	0.0357	1.60	6.25	3/1 T1
3/2	SW 2	6057	0.34	44.69	-	-	52	0.0357	1.60	6.25	3/2 T1
3/3	SW 3	6057	0.34	44.69	-	-	52	0.0357	1.60	6.25	3/3 T1
4/1	PL 1	7286	0.42	37.63	-	-	43	0.0506	1.91	6.94	4/1 T1
4/2	PL 2	7286	0.42	37.63	-	-	43	0.0506	1.91	6.94	4/2 T1
5	TH 2	6415	0.33	32.93	-	-	40	0.0343	1.13	3.89	5 T1
6/1	PY 1	8156	0.42	18.82	-	-	22	0.0816	1.54	4.23	6/1 T1
6/2	PY 2	8156	0.42	9.41	-	-	12	0.0977	0.92	1.99	6/2 T1
7/1	KK 1	5186	0.57	42.34	-	-	44	0.0910	3.85	14.15	7/1 T1
7/2	KK 2	5186	0.57	42.34	-	-	44	0.0910	3.85	14.15	7/2 T1
8/1	CP 1	11649	0.51	23.52	-	-	26	0.0932	2.19	6.48	8/1 T1
8/2	CP 2	11649	0.51	23.52	-	-	26	0.0932	2.19	6.48	8/2 T1
9	TM	7849	0.37	21.17	-	-	26	0.0534	1.13	3.29	9 T1
10	SP	10976	0.34	3.95	-	-	1	0.0000	3.95	3.95	- T1
11	NWW	23907	0.63	6.12	-	-	1	0.0000	6.12	6.12	T1
12	PD	13791	0.34	4.23	-	-	1	0.0000	4.23	4.23	T1
13	DM	39628	0.42	3.53	-	-	1	0.0000	3.53	3.53	T1
14	BN	26917	0.64	4.70	-	-	1	0.0000	4.70	4.70	T1
15	BK	13607	0.39	3.29	-	-	1	0.0000	3.29	3.29	T1
16	BC	8105	0.37	4.52	-	-	1	0.0000	4.52	4.52	T1
17	DK	8514	0.37	5.27	-	-	1	0.0000	5.27	5.27	T1
18	BS	10670	0.49	14.11	-	-	16	0.1178	1.66	4.05	18 T1
19	BP	7593	0.43	11.29	-	-	14	0.0942	1.06	2.45	19 T1
20	KC	30931	0.65	6.40	-	-	1	0.0000	6.40	6.40	T1
21	IM	10976	0.50	4.80	-	-	1	0.0000	4.80	4.80	T1
22	PS	32604	0.66	2.35	-	-	1	0.0000	2.35	2.35	T1
23	SMP	41078	0.42	2.35	-	-	1	0.0000	2.35	2.35	T1
24	RS	98660	0.73	0.94	-	-	1	0.0000	0.94	0.94	T1
25	BCH	76860	0.73	0.64	-	-	1	0.0000	0.64	0.64	T1
28	NK	37064	0.38	0.60	-	-	1	0.0000	0.60	0.60	T1
30	PSR	12261	0.34	1.51	-	-	1	0.0000	1.51	1.51	T1
31	LP 2	14648	0.40	2.40	-	-	1	0.0000	2.40	2.40	T1
33	LS	30708	0.66	1.32	-	-	1	0.0000	1.32	1.32	T1
35	HM	12444	0.52	18.82	-	-	21	0.1038	1.95	5.30	35 T1
36	RID	34834	0.42	0.64	-	-	1	0.0000	0.64	0.64	T1
37	ASD	7900	0.40	18.82	-	-	23	0.0626	1.18	3.28	37 T1
41	CHW	8770	0.39	8.23	-	-	11	0.0900	0.74	1.54	41 T1
42	LP 1	12383	0.52	9.41	-	-	11	0.1380	1.30	2.75	42 T1
43	TC	7593	0.36	3.53	-	-	1	0.0000	3.53	3.53	T1
44	PTW	5750	0.36	21.17	-	-	26	0.0534	1.13	3.29	44 T1
45	PKN	13730	0.39	11.76	-	-	15	0.0789	0.93	2.18	45 T1
50	SS	7081	0.41	7.06	-	-	1	0.0000	7.06	7.06	T1
51	NN	13913	0.40	3.67	-	-	1	0.0000	3.67	3.67	T1
52	PTN	95860	0.73	0.98	-	-	1	0.0000	0.98	0.98	T1
'0'	TOLL	0	-	40.00	-	-	59	0.0010	-	-	'0'
'1'	SPS	0	-	5.00	-	-	10	0.0100	-	-	'1'
T1		6856		112.27	1.68		152	0.0010			

TOTAL 800.02 1035

CALCULATION FOR ALTERNATIVE ROUTING NETWORK BANGKOK , THAILAND

FROM I = 2/3 SR 3 SUB = 10000 SYSTEM C 400 TANDEM AREA = 1

J	NAME	CIJ	C/P	AIJ	V/M	MQ	NIJ	EIJ	OFL	VAR	ROUTING	
1	TK	8514	0.38	2.12	-	-	-	1.0000	2.12	2.12		T1
2/1	SR 1	0	-	47.04	-	-	65	0.0020	-	-	2/1	
2/2	SR 2	0	-	47.04	-	-	65	0.0020	-	-	2/2	
2/3	SR 3	0	-	47.04	-	-	65	0.0020	-	-	2/3	
3/1	SW 1	6057	0.34	44.69	-	-	52	0.0357	1.60	6.25	3/1	T1
3/2	SW 2	6057	0.34	44.69	-	-	52	0.0357	1.60	6.25	3/2	T1
3/3	SW 3	6057	0.34	44.69	-	-	52	0.0357	1.60	6.25	3/3	T1
4/1	PL 1	7286	0.42	37.63	-	-	43	0.0506	1.91	6.94	4/1	T1
4/2	PL 2	7286	0.42	37.63	-	-	43	0.0506	1.91	6.94	4/2	T1
5	TH 2	6415	0.33	32.93	-	-	40	0.0343	1.13	3.89	5	T1
6/1	PY 1	8156	0.42	18.82	-	-	22	0.0816	1.54	4.23	6/1	T1
6/2	PY 2	8156	0.42	9.41	-	-	12	0.0977	0.92	1.99	6/2	T1
7/1	KK 1	5186	0.57	42.34	-	-	44	0.0910	3.85	14.05	7/1	T1
7/2	KK 2	5186	0.57	42.34	-	-	44	0.0910	3.85	14.05	7/2	T1
8/1	CP 1	11649	0.51	23.52	-	-	26	0.0932	2.19	6.48	8/1	T1
8/2	CP 2	11649	0.51	23.52	-	-	26	0.0932	2.19	6.48	8/2	T1
9	TM	7849	0.37	21.17	-	-	26	0.0534	1.13	3.29	9	T1
10	SP	10976	0.34	3.95	-	-	-	1.0000	3.95	3.95		T1
11	NWW	23907	0.63	6.12	-	-	-	1.0000	6.12	6.12		T1
12	PD	13791	0.34	4.23	-	-	-	1.0000	4.23	4.23		T1
13	DM	39628	0.42	3.53	-	-	-	1.0000	3.53	3.53		T1
14	BN	26917	0.64	4.70	-	-	-	1.0000	4.70	4.70		T1
15	BK	13607	0.39	3.29	-	-	-	1.0000	3.29	3.29		T1
16	BC	8105	0.37	4.52	-	-	-	1.0000	4.52	4.52		T1
17	DK	8514	0.37	5.27	-	-	-	1.0000	5.27	5.27		T1
18	BS	10670	0.49	14.11	-	-	16	0.1178	1.66	4.05	18	T1
19	BP	7593	0.43	11.29	-	-	14	0.0942	1.06	2.45	19	T1
20	KC	30931	0.65	6.40	-	-	-	1.0000	6.40	6.40		T1
21	TM	10976	0.50	4.80	-	-	-	1.0000	4.80	4.80		T1
22	PS	32604	0.66	2.35	-	-	-	1.0000	2.35	2.35		T1
23	SVP	41078	0.42	2.35	-	-	-	1.0000	2.35	2.35		T1
24	RS	98660	0.73	0.94	-	-	-	1.0000	0.94	0.94		T1
25	BCH	76860	0.73	0.64	-	-	-	1.0000	0.64	0.64		T1
28	NK	37064	0.38	0.60	-	-	-	1.0000	0.60	0.60		T1
30	PSR	12261	0.34	1.51	-	-	-	1.0000	1.51	1.51		T1
31	LP 2	14648	0.40	2.40	-	-	-	1.0000	2.40	2.40		T1
33	LS	30708	0.66	1.32	-	-	-	1.0000	1.32	1.32		T1
35	HM	12464	0.52	18.82	-	-	21	0.1038	1.95	5.30	35	T1
36	RID	34834	0.42	0.64	-	-	-	1.0000	0.64	0.64		T1
37	ASD	7900	0.40	18.82	-	-	23	0.0626	1.18	3.28	37	T1
41	CHW	8770	0.39	8.23	-	-	11	0.0900	0.74	1.54	41	T1
42	LP 1	12383	0.52	9.41	-	-	11	0.1380	1.30	2.75	42	T1
43	TC	7593	0.36	3.53	-	-	-	1.0000	3.53	3.53		T1
44	PTW	5750	0.36	21.17	-	-	26	0.0534	1.13	3.29	44	T1
45	PKN	13730	0.39	11.76	-	-	15	0.0789	0.93	2.18	45	T1
50	SS	7081	0.41	7.06	-	-	-	1.0000	7.06	7.06		T1
51	NN	13913	0.40	3.67	-	-	-	1.0000	3.67	3.67		T1
52	PTN	95860	0.73	0.98	-	-	-	1.0000	0.98	0.98		T1
'0'	TCLL	0	-	40.00	-	-	59	0.0010	-	-	'0'	
'1'	SPS	0	-	5.00	-	-	10	0.0100	-	-	'1'	
T1		6856		112.27	1.68		152	0.0010				
	TOTAL			800.02			1035					

CALCULATION FOR ALTERNATIVE ROUTING NETWORK BANGKOK , THAILAND

FROM I = 3/1 SW 1 SUB = 10000 SYSTEM C 400 TANDEM AREA = 7

J	NAME	CIJ	C/P	AIJ	V/M	MQ	NIJ	EIJ	OFL	VAR	ROUTING	
1	TK	6518	0.40	7.10	-	-	10	0.0828	0.59	1.17	1	T7
2/1	SR 1	6057	0.39	51.12	-	-	58	0.0395	2.02	8.37	2/1	T7
2/2	SR 2	6057	0.39	51.12	-	-	58	0.0395	2.02	8.37	2/2	T7
2/3	SR 3	6057	0.39	51.12	-	-	58	0.0395	2.02	8.37	2/3	T7
3/1	SW 1	0	-	53.81	-	-	73	0.0020	-	-	3/1	
3/2	SW 2	0	-	53.81	-	-	73	0.0020	-	-	3/2	
3/3	SW 3	0	-	53.81	-	-	73	0.0020	-	-	3/3	
4/1	PL 1	6518	0.40	53.27	-	-	60	0.0407	2.17	9.14	4/1	T7
4/2	PL 2	6518	0.40	53.27	-	-	60	0.0407	2.17	9.14	4/2	T7
5	TH 2	8412	0.42	43.05	-	-	49	0.0458	1.97	7.60	5	T7
6/1	PY 1	8822	0.43	19.37	-	-	23	0.0727	1.41	3.94	6/1	T7
6/2	PY 2	8822	0.43	9.69	-	-	12	0.1080	1.05	2.28	6/2	T7
7/1	KK 1	6518	0.40	46.28	-	-	52	0.0479	2.22	8.78	7/1	T7
7/2	KK 2	6518	0.40	46.28	-	-	52	0.0479	2.22	8.78	7/2	T7
8/1	CP 1	10731	0.49	31.75	-	-	35	0.0761	2.42	8.09	8/1	T7
8/2	CP 2	10731	0.49	31.75	-	-	35	0.0761	2.42	8.09	8/2	T7
9	TM	5852	0.38	35.52	-	-	41	0.0494	1.75	6.24	9	T7
10	SP	7849	0.41	4.52	-	-	-	1.0000	4.52	4.52		T7
11	NNW	26806	0.62	6.19	-	-	-	1.0000	6.19	6.19		T7
12	PG	26137	0.62	3.71	-	-	-	1.0000	3.71	3.71		T7
13	DM	41078	0.40	4.36	-	-	-	1.0000	4.36	4.36		T7
14	BN	25245	0.61	12.38	-	-	13	0.1689	2.09	4.69	14	T7
15	BK	14403	0.38	6.73	-	-	-	1.0000	6.73	6.73		T7
16	BC	11282	0.50	7.75	-	-	-	1.0000	7.75	7.75		T7
17	DK	11771	0.37	10.33	-	-	14	0.0657	0.68	1.53	17	T7
18	BS	12261	0.37	14.53	-	-	18	0.0748	1.09	2.75	18	T7
19	BP	8924	0.43	17.22	-	-	21	0.0693	1.19	3.21	19	T7
20	KC	29259	0.63	8.61	-	-	-	1.0000	8.61	8.61		T7
21	IM	11404	0.50	6.46	-	-	-	1.0000	6.46	6.46		T7
22	PS	30931	0.40	6.19	-	-	-	1.0000	6.19	6.19		T7
23	SMP	39405	0.40	6.19	-	-	-	1.0000	6.19	6.19		T7
24	RS	101260	0.71	1.16	-	-	-	1.0000	1.16	1.16		T7
25	BCH	79460	0.70	0.86	-	-	-	1.0000	0.86	0.86		T7
28	NK	41412	0.40	1.03	-	-	-	1.0000	1.03	1.03		T7
30	PSR	14648	0.38	2.58	-	-	-	1.0000	2.58	2.58		T7
31	LP 2	24130	0.61	3.23	-	-	-	1.0000	3.23	3.23		T7
33	LS	32158	0.40	2.69	-	-	-	1.0000	2.69	2.69		T7
35	HM	11526	0.37	25.40	-	-	31	0.0454	1.15	3.60	35	T7
36	RID	36283	0.40	0.86	-	-	-	1.0000	0.86	0.86		T7
37	ASD	7644	0.41	26.64	-	-	31	0.0615	1.64	5.19	37	T7
41	CHW	12077	0.37	10.76	-	-	14	0.0780	0.84	1.91	41	T7
42	LP 1	13179	0.37	9.69	-	-	13	0.0745	0.72	1.59	42	T7
43	TC	5596	0.37	11.84	-	-	15	0.0812	0.96	2.26	43	T7
44	PTW	5494	0.37	23.14	-	-	28	0.0538	1.25	3.75	44	T7
45	PKN	12812	0.37	15.87	-	-	20	0.0618	0.98	2.57	45	T7
50	SS	8412	0.42	7.26	-	-	10	0.0894	0.65	1.30	50	T7
51	NN	24910	0.61	3.71	-	-	-	1.0000	3.71	3.71		T7
52	PTN	101060	0.71	0.99	-	-	-	1.0000	0.99	0.99		T7
'0'	TOLL	0	-	40.00	-	-	59	0.0010	-	-	'0'	
'1'	SPS	0	-	5.00	-	-	10	0.0100	-	-	'1'	
T7		5730		117.50	1.79		159	0.0010				

TOTAL 999.99 1278

CALCULATION FOR ALTERNATIVE ROUTING NETWORK BANGKOK , THAILAND

FROM I = 3/2 SW 2 SUB = 10000 SYSTEM C 400 TANDEM AREA = 7

J	NAME	CIJ	C/P	AIJ	V/M	MQ	NIJ	EIJ	CFL	VAR	ROUTING	
1	TK	6518	0.40	7.10	-	-	10	0.0828	0.59	1.17	1	T7
2/1	SR 1	6057	0.39	51.12	-	-	58	0.0395	2.02	8.37	2/1	T7
2/2	SR 2	6057	0.39	51.12	-	-	58	0.0395	2.02	8.37	2/2	T7
2/3	SR 3	6057	0.39	51.12	-	-	58	0.0395	2.02	8.37	2/3	T7
3/1	SW 1	0	-	53.81	-	-	73	0.0020	-	-	3/1	
3/2	SW 2	0	-	53.81	-	-	73	0.0020	-	-	3/2	
3/3	SW 3	0	-	53.81	-	-	73	0.0020	-	-	3/3	
4/1	PL 1	6518	0.40	53.27	-	-	60	0.0407	2.17	9.14	4/1	T7
4/2	PL 2	6518	0.40	53.27	-	-	60	0.0407	2.17	9.14	4/2	T7
5	TH 2	8412	0.42	43.05	-	-	49	0.0458	1.97	7.60	5	T7
6/1	PY 1	8822	0.43	19.37	-	-	23	0.0727	1.41	3.94	6/1	T7
6/2	PY 2	8822	0.43	9.69	-	-	12	0.1080	1.05	2.28	6/2	T7
7/1	KK 1	6518	0.40	46.28	-	-	52	0.0479	2.22	6.78	7/1	T7
7/2	KK 2	6518	0.40	46.28	-	-	52	0.0479	2.22	8.78	7/2	T7
8/1	CP 1	10731	0.49	31.75	-	-	35	0.0761	2.42	8.09	8/1	T7
8/2	CP 2	10731	0.49	31.75	-	-	35	0.0761	2.42	8.09	8/2	T7
9	TM	5852	0.38	35.52	-	-	41	0.0494	1.75	6.24	9	T7
10	SP	7849	0.41	4.52	-	-	-	1.0000	4.52	4.52		T7
11	NNW	26806	0.62	6.19	-	-	-	1.0000	6.19	6.19		T7
12	PD	26137	0.62	3.71	-	-	-	1.0000	3.71	3.71		T7
13	DK	41078	0.40	4.36	-	-	-	1.0000	4.36	4.36		T7
14	BN	25245	0.61	12.38	-	-	13	0.1689	2.09	4.69	14	T7
15	BK	14403	0.38	6.73	-	-	-	1.0000	6.73	6.73		T7
16	BC	11282	0.56	7.75	-	-	-	1.0000	7.75	7.75		T7
17	DK	11771	0.37	10.33	-	-	14	0.0657	0.68	1.53	17	T7
18	BS	12261	0.37	14.53	-	-	18	0.0748	1.09	2.75	18	T7
19	BP	8924	0.43	17.22	-	-	21	0.0693	1.19	3.21	19	T7
20	KC	29259	0.63	8.61	-	-	-	1.0000	8.61	8.61		T7
21	IM	11404	0.50	6.46	-	-	-	1.0000	6.46	6.46		T7
22	PS	30931	0.40	6.19	-	-	-	1.0000	6.19	6.19		T7
23	SMP	39405	0.40	6.19	-	-	-	1.0000	6.19	6.19		T7
24	RS	101269	0.71	1.16	-	-	-	1.0000	1.16	1.16		T7
25	BCH	79459	0.70	0.86	-	-	-	1.0000	0.86	0.86		T7
28	NK	41412	0.40	1.03	-	-	-	1.0000	1.03	1.03		T7
30	PSR	14648	0.38	2.58	-	-	-	1.0000	2.58	2.58		T7
31	LP 2	24139	0.61	3.23	-	-	-	1.0000	3.23	3.23		T7
33	LS	32158	0.40	2.69	-	-	-	1.0000	2.69	2.69		T7
35	HN	11526	0.37	25.40	-	-	31	0.0454	1.15	3.60	35	T7
36	RID	36283	0.40	0.86	-	-	-	1.0000	0.86	0.86		T7
37	ASD	7644	0.41	26.64	-	-	31	0.0615	1.64	5.19	37	T7
41	CHW	12077	0.37	10.76	-	-	14	0.0780	0.84	1.91	41	T7
42	LP 1	13179	0.37	9.69	-	-	13	0.0745	0.72	1.59	42	T7
43	TC	5596	0.37	11.84	-	-	15	0.0812	0.96	2.26	43	T7
44	PTW	5494	0.37	23.14	-	-	28	0.0538	1.25	3.75	44	T7
45	PKN	12812	0.37	15.87	-	-	20	0.0618	0.98	2.57	45	T7
50	SS	8412	0.42	7.26	-	-	10	0.0894	0.65	1.30	50	T7
51	NN	24910	0.61	3.71	-	-	-	1.0000	3.71	3.71		T7
52	PTN	101069	0.71	0.99	-	-	-	1.0000	0.99	0.99		T7
'0'	TOLL	0	-	40.00	-	-	59	0.0010	-	-	'0'	
'1'	SPS	0	-	5.00	-	-	10	0.0100	-	-	'1'	
T7		5730		117.50	1.79		159	0.0010				

TOTAL 999.99 1278

CALCULATION FOR ALTERNATIVE ROUTING NETWORK BANGKOK , THAILAND

FROM I = 3/3 SW 3 SUB = 10000 SYSTEM C 400 TANDEM AREA = 7

J	NAME	CIJ	C/P	AIJ	V/M	MQ	NIJ	EIJ	OFL	VAR	ROUTING	
1	TK	6518	0.40	7.10	-	-	10	0.0828	0.59	1.17	1	T7
2/1	SR 1	6057	0.39	51.12	-	-	58	0.0395	2.02	8.37	2/1	T7
2/2	SR 2	6057	0.39	51.12	-	-	58	0.0395	2.02	8.37	2/2	T7
2/3	SR 3	6057	0.39	51.12	-	-	58	0.0395	2.02	8.37	2/3	T7
3/1	SW 1	0	-	53.81	-	-	73	0.0020	-	-	3/1	
3/2	SW 2	0	-	53.81	-	-	73	0.0020	-	-	3/2	
3/3	SW 3	0	-	53.81	-	-	73	0.0020	-	-	3/3	
4/1	PL 1	6518	0.40	53.27	-	-	60	0.0407	2.17	9.14	4/1	T7
4/2	PL 2	6518	0.40	53.27	-	-	60	0.0407	2.17	9.14	4/2	T7
5	TH 2	8412	0.42	43.05	-	-	49	0.0458	1.97	7.60	5	T7
6/1	PY 1	8822	0.43	19.37	-	-	23	0.0727	1.41	3.94	6/1	T7
6/2	PY 2	8822	0.43	9.69	-	-	12	0.1080	1.05	2.28	6/2	T7
7/1	KK 1	6518	0.40	46.28	-	-	52	0.0479	2.22	8.78	7/1	T7
7/2	KK 2	6518	0.40	46.28	-	-	52	0.0479	2.22	8.78	7/2	T7
8/1	CP 1	10731	0.49	31.75	-	-	35	0.0761	2.42	8.09	8/1	T7
8/2	CP 2	10731	0.49	31.75	-	-	35	0.0761	2.42	8.09	8/2	T7
9	TM	5852	0.38	35.52	-	-	41	0.0494	1.75	6.24	9	T7
10	SP	7849	0.41	4.52	-	-	-	1.0000	4.52	4.52		T7
11	NKW	26806	0.62	6.19	-	-	-	1.0000	6.19	6.19		T7
12	PD	26137	0.62	3.71	-	-	-	1.0000	3.71	3.71		T7
13	DM	41078	0.40	4.36	-	-	-	1.0000	4.36	4.36		T7
14	BN	25245	0.61	12.38	-	-	13	0.1689	2.09	4.69	14	T7
15	BK	14403	0.38	6.73	-	-	-	1.0000	6.73	6.73		T7
16	BC	11282	0.50	7.75	-	-	-	1.0000	7.75	7.75		T7
17	DK	11771	0.37	10.33	-	-	14	0.0657	0.68	1.53	17	T7
18	BS	12261	0.37	14.53	-	-	18	0.0748	1.09	2.75	18	T7
19	BP	8924	0.43	17.22	-	-	21	0.0693	1.19	3.21	19	T7
20	KC	29259	0.63	8.61	-	-	-	1.0000	8.61	8.61		T7
21	IM	11404	0.50	6.46	-	-	-	1.0000	6.46	6.46		T7
22	PS	30931	0.40	6.19	-	-	-	1.0000	6.19	6.19		T7
23	SMP	39405	0.40	6.19	-	-	-	1.0000	6.19	6.19		T7
24	RS	101260	0.71	1.16	-	-	-	1.0000	1.16	1.16		T7
25	BCH	79460	0.70	0.86	-	-	-	1.0000	0.86	0.86		T7
28	NK	41412	0.40	1.03	-	-	-	1.0000	1.03	1.03		T7
30	PSR	14648	0.38	2.58	-	-	-	1.0000	2.58	2.58		T7
31	LP 2	24130	0.61	3.23	-	-	-	1.0000	3.23	3.23		T7
33	LS	32158	0.40	2.69	-	-	-	1.0000	2.69	2.69		T7
35	HM	11526	0.37	25.40	-	-	31	0.0454	1.15	3.60	35	T7
36	RID	36283	0.40	0.86	-	-	-	1.0000	0.86	0.86		T7
37	ASD	7644	0.41	26.64	-	-	31	0.0615	1.64	5.19	37	T7
41	CHW	12077	0.37	10.76	-	-	14	0.0780	0.84	1.91	41	T7
42	LP 1	13179	0.37	9.69	-	-	13	0.0745	0.72	1.59	42	T7
43	TC	5596	0.37	11.84	-	-	15	0.0812	0.96	2.26	43	T7
44	PTW	5494	0.37	23.14	-	-	28	0.0538	1.25	3.75	44	T7
45	PKN	12812	0.37	15.87	-	-	20	0.0618	0.98	2.57	45	T7
50	SS	8412	0.42	7.26	-	-	10	0.0894	0.65	1.30	50	T7
51	NN	24910	0.61	3.71	-	-	-	1.0000	3.71	3.71		T7
52	PTN	101060	0.71	0.99	-	-	-	1.0000	0.99	0.99		T7
101	TCLL	0	-	40.00	-	-	59	0.0010	-	-	101	
111	SPS	0	-	5.00	-	-	10	0.0100	-	-	111	
T7		5730		117.50	1.79		159	0.0010				
	TOTAL			999.99			1278					

CALCULATION FOR ALTERNATIVE ROUTING NETWORK BANGKOK , THAILAND

FROM I = 4/1 PL 1 SUB = 10000 SYSTEM C 400 TANDEM AREA = 3

J	NAME	CIJ	C/P	AIJ	V/M	MQ	NIJ	EIJ	OFL	VAR	ROUTING
1	TK	8975	0.43	2.93	-	-	-	1.0000	2.93	2.93	T3
2/1	SR 1	7286	0.40	29.28	-	-	34	0.0570	1.67	5.50	2/1 T3
2/2	SR 2	7286	0.40	29.28	-	-	34	0.0570	1.67	5.50	2/2 T3
2/3	SR 3	7286	0.40	29.28	-	-	34	0.0570	1.67	5.50	2/3 T3
3/1	SW 1	6518	0.40	69.40	-	-	77	0.0364	2.53	11.90	3/1 T3
3/2	SW 2	6518	0.40	69.40	-	-	77	0.0364	2.53	11.90	3/2 T3
3/3	SW 3	6518	0.40	69.40	-	-	77	0.0364	2.53	11.90	3/3 T3
4/1	PL 1	0	-	33.61	-	-	49	0.0020	-	-	4/1
4/2	PL 2	0	-	33.61	-	-	49	0.0020	-	-	4/2
5	TH 2	10302	0.48	31.81	-	-	35	0.0769	2.45	8.19	5 T3
6/1	PY 1	7132	0.40	17.35	-	-	21	0.0720	1.25	3.36	6/1 T3
6/2	PY 2	7132	0.40	8.67	-	-	11	0.1073	0.93	1.96	6/2 T3
7/1	KK 1	6210	0.39	30.36	-	-	36	0.0467	1.42	4.75	7/1 T3
7/2	KK 2	6210	0.39	30.36	-	-	36	0.0467	1.42	4.75	7/2 T3
8/1	CP 1	7183	0.40	26.39	-	-	31	0.0581	1.53	4.85	8/1 T3
8/2	CP 2	7183	0.40	26.39	-	-	31	0.0581	1.53	4.85	8/2 T3
9	TM	6569	0.40	17.35	-	-	21	0.0720	1.25	3.36	9 T3
10	SP	8924	0.43	3.58	-	-	-	1.0000	3.58	3.58	T3
11	NWW	24018	0.61	6.51	-	-	-	1.0000	6.51	6.51	T3
12	PD	28032	0.62	3.69	-	-	-	1.0000	3.69	3.69	T3
13	DM	37398	0.40	5.75	-	-	-	1.0000	5.75	5.75	T3
14	BN	12750	0.37	12.65	-	-	16	0.0767	0.97	2.34	14 T3
15	BK	12383	0.37	6.14	-	-	-	1.0000	6.14	6.14	T3
16	BC	12322	0.37	6.72	-	-	-	1.0000	6.72	6.72	T3
17	DK	12812	0.37	5.78	-	-	-	1.0000	5.78	5.78	T3
18	BS	10731	0.49	13.01	-	-	15	0.1162	1.51	3.60	18 T3
19	BP	8617	0.42	8.67	-	-	11	0.1073	0.93	1.96	19 T3
20	KC	23907	0.60	5.78	-	-	-	1.0000	5.78	5.78	T3
21	IM	7900	0.41	4.55	-	-	-	1.0000	4.55	4.55	T3
22	PS	25579	0.61	6.33	-	-	-	1.0000	6.33	6.33	T3
23	SMP	34053	0.40	6.33	-	-	-	1.0000	6.33	6.33	T3
24	RS	94660	0.71	1.53	-	-	-	1.0000	1.53	1.53	T3
25	BCH	72060	0.69	0.58	-	-	-	1.0000	0.58	0.58	T3
28	NK	74460	0.70	0.90	-	-	-	1.0000	0.90	0.90	T3
30	PSR	25245	0.61	2.24	-	-	-	1.0000	2.24	2.24	T3
31	LP 2	12322	0.37	2.17	-	-	-	1.0000	2.17	2.17	T3
33	LS	28478	0.62	2.46	-	-	-	1.0000	2.46	2.46	T3
35	HM	7849	0.41	21.11	-	-	25	0.0682	1.44	4.17	35 T3
36	RID	32158	0.40	0.58	-	-	-	1.0000	0.58	0.58	T3
37	ASD	5340	0.36	11.76	-	-	15	0.0789	0.93	2.18	37 T3
41	CHW	12750	0.37	7.95	-	-	11	0.0794	0.63	1.31	41 T3
42	LP 1	10608	0.49	8.67	-	-	16	0.1525	1.32	2.71	42 T3
43	TC	8054	0.41	4.88	-	-	-	1.0000	4.88	4.88	T3
44	PTW	5596	0.37	15.18	-	-	19	0.0675	1.03	2.64	44 T3
45	PKN	8924	0.43	13.19	-	-	16	0.0913	1.20	2.92	45 T3
50	SS	8105	0.42	6.51	-	-	-	1.0000	6.51	6.51	T3
51	NN	14586	0.38	3.90	-	-	-	1.0000	3.90	3.90	T3
52	PTN	96060	0.71	1.04	-	-	-	1.0000	1.04	1.04	T3
'0'	TOLL	0	-	40.00	-	-	59	0.0010	-	-	'0'
'1'	SPS	0	-	5.00	-	-	10	0.0100	-	-	'1'
T3		5730		125.21	1.62		166	0.0010			

TOTAL 800.00 1026

CALCULATION FOR ALTERNATIVE ROUTING NETWORK BANGKOK , THAILAND

FROM I = 4/2 PL 2 SUB = 10000 SYSTEM C 4/0 TANDEM AREA = 3

J	NAME	CIJ	C/P	AIJ	V/P	MQ	NIJ	EIJ	OFL	VAR	ROUTING
1	TK	8975	0.43	2.93	-	-	-	1.0000	2.93	2.93	T3
2/1	SR 1	7286	0.40	29.28	-	-	34	0.0570	1.67	5.50	2/1 T3
2/2	SR 2	7286	0.40	29.28	-	-	34	0.0570	1.67	5.50	2/2 T3
2/3	SR 3	7286	0.40	29.28	-	-	34	0.0570	1.67	5.50	2/3 T3
3/1	SK 1	6518	0.40	69.40	-	-	77	0.0364	2.53	11.90	3/1 T3
3/2	SK 2	6518	0.40	69.40	-	-	77	0.0364	2.53	11.90	3/2 T3
3/3	SK 3	6518	0.40	69.40	-	-	77	0.0364	2.53	11.90	3/3 T3
4/1	PL 1	0	-	33.61	-	-	49	0.0020	-	-	4/1
4/2	PL 2	0	-	33.61	-	-	49	0.0020	-	-	4/2
5	TH 2	10302	0.48	31.81	-	-	35	0.0769	2.45	8.19	5 T3
6/1	PY 1	7132	0.40	17.35	-	-	21	0.0720	1.25	3.36	6/1 T3
6/2	PY 2	7132	0.40	8.67	-	-	11	0.1073	0.93	1.96	6/2 T3
7/1	KK 1	6210	0.39	30.36	-	-	36	0.0467	1.42	4.75	7/1 T3
7/2	KK 2	6210	0.39	30.36	-	-	36	0.0467	1.42	4.75	7/2 T3
8/1	CP 1	7183	0.40	26.39	-	-	31	0.0581	1.53	4.85	8/1 T3
8/2	CP 2	7183	0.40	26.39	-	-	31	0.0581	1.53	4.85	8/2 T3
9	TM	6569	0.40	17.35	-	-	21	0.0720	1.25	3.36	9 T3
10	SP	8924	0.43	3.58	-	-	-	1.0000	3.58	3.58	T3
11	NNW	24018	0.61	6.51	-	-	-	1.0000	6.51	6.51	T3
12	PC	28032	0.62	3.69	-	-	-	1.0000	3.69	3.69	T3
13	DM	37398	0.40	5.75	-	-	-	1.0000	5.75	5.75	T3
14	BN	12750	0.37	12.65	-	-	16	0.0767	0.97	2.34	14 T3
15	BK	12383	0.37	6.14	-	-	-	1.0000	6.14	6.14	T3
16	BC	12322	0.37	6.72	-	-	-	1.0000	6.72	6.72	T3
17	DK	12812	0.37	5.78	-	-	-	1.0000	5.78	5.78	T3
18	BS	10731	0.49	13.01	-	-	15	0.1162	1.51	3.00	18 T3
19	BP	8617	0.42	8.67	-	-	11	0.1073	0.93	1.96	19 T3
20	KC	23907	0.60	5.78	-	-	-	1.0000	5.78	5.78	T3
21	IM	7900	0.41	4.55	-	-	-	1.0000	4.55	4.55	T3
22	PS	25579	0.61	6.33	-	-	-	1.0000	6.33	6.33	T3
23	SMP	34053	0.40	6.33	-	-	-	1.0000	6.33	6.33	T3
24	RS	94660	0.71	1.53	-	-	-	1.0000	1.53	1.53	T3
25	BCH	72060	0.69	0.58	-	-	-	1.0000	0.58	4.58	T3
28	NK	74460	0.70	0.90	-	-	-	1.0000	0.90	0.90	T3
30	PSR	25245	0.61	2.24	-	-	-	1.0000	2.24	2.24	T3
31	LP 2	12322	0.37	2.17	-	-	-	1.0000	2.17	2.17	T3
33	LS	28478	0.62	2.46	-	-	-	1.0000	2.46	2.46	T3
35	HM	7849	0.41	21.11	-	-	25	0.0682	1.44	4.17	35 T3
36	RID	32158	0.40	0.58	-	-	-	1.0000	0.58	0.58	T3
37	ASD	5340	0.36	11.76	-	-	15	0.0789	0.93	2.18	37 T3
41	CHW	12750	0.37	7.95	-	-	11	0.0794	0.63	1.31	41 T3
42	LP 1	10608	0.49	8.67	-	-	10	0.1525	1.32	2.71	42 T3
43	TC	8054	0.41	4.88	-	-	-	1.0000	4.88	4.88	T3
44	PTW	5596	0.37	15.18	-	-	19	0.0675	1.03	2.64	44 T3
45	PKN	8924	0.43	13.19	-	-	16	0.0913	1.20	2.92	45 T3
50	SS	8105	0.42	6.51	-	-	-	1.0000	6.51	6.51	T3
51	NN	14586	0.38	3.90	-	-	-	1.0000	3.90	3.90	T3
52	PTN	96060	0.71	1.04	-	-	-	1.0000	1.04	1.04	T3
10'	TOLL	0	-	40.00	-	-	59	0.0010	-	-	10'
11'	SPS	0	-	5.00	-	-	10	0.0100	-	-	11'
T3		5730		125.21	1.62		166	0.0010			
	TOTAL			800.00			1026				

CALCULATION FOR ALTERNATIVE ROUTING NETWORK BANGKOK , THAILAND

FROM I = 5 TH 2 SUB = 20000 SYSTEM C 400 TANDEM AREA = 5

J	NAME	CIJ	C/P	AIJ	V/M	MQ	NIJ	EIJ	OFL	VAR	ROUTING	
1	TK	12200	0.37	6.84	-	-	10	0.0724	0.50	0.98	1	TS
2/1	SR 1	6415	0.40	64.41	-	-	72	0.0362	2.33	10.65	2/1	TS
2/2	SR 2	6415	0.40	64.41	-	-	72	0.0362	2.33	10.65	2/2	TS
2/3	SR 3	6415	0.40	64.41	-	-	72	0.0362	2.33	10.65	2/3	TS
3/1	SW 1	8412	0.42	55.49	-	-	62	0.0423	2.35	10.05	3/1	TS
3/2	SW 2	8412	0.42	55.49	-	-	62	0.0423	2.35	10.05	3/2	TS
3/3	SW 3	8412	0.42	55.49	-	-	62	0.0423	2.35	10.05	3/3	TS
4/1	PL 1	10302	0.48	23.78	-	-	27	0.0795	1.89	5.67	4/1	TS
4/2	PL 2	10302	0.48	23.78	-	-	27	0.0795	1.89	5.67	4/2	TS
5	TH 2	0	-	126.84	-	-	154	0.0020	-	-	5	
6/1	PY 1	11282	0.50	23.78	-	-	26	0.0980	2.33	6.88	6/1	TS
6/2	PY 2	11282	0.50	11.89	-	-	14	0.1136	1.35	3.13	6/2	TS
7/1	KK 1	7132	0.40	52.52	-	-	59	0.0424	2.23	9.32	7/1	TS
7/2	KK 2	7132	0.40	52.52	-	-	59	0.0424	2.23	9.32	7/2	TS
8/1	CP 1	14036	0.38	20.81	-	-	25	0.0631	1.31	3.79	8/1	TS
8/2	CP 2	14036	0.38	20.81	-	-	25	0.0631	1.31	3.79	8/2	TS
9	TM	11404	0.50	12.88	-	-	15	0.1121	1.44	3.43	9	TS
10	SP	13797	0.38	3.86	-	-	-	1.0000	3.86	3.86		TS
11	NAW	28144	0.62	4.95	-	-	-	1.0000	4.95	4.95		TS
12	PC	10976	0.49	8.32	-	-	10	0.1363	1.13	2.32	12	TS
13	DM	75460	0.70	6.24	-	-	-	1.0000	6.24	6.24		TS
14	BN	31266	0.40	8.92	-	-	12	0.0803	0.72	1.54	14	TS
15	BK	25591	0.61	4.95	-	-	-	1.0000	4.95	4.95		TS
16	BC	5750	0.38	25.57	-	-	31	0.0475	1.21	3.89	16	TS
17	DK	6159	0.39	34.09	-	-	40	0.0449	1.53	5.37	17	TS
18	BS	12995	0.37	12.88	-	-	17	0.0590	0.76	1.85	18	TS
19	BP	8892	0.43	34.09	-	-	39	0.0552	1.88	6.57	19	TS
20	KC	35223	0.40	10.31	-	-	13	0.0946	0.98	2.18	20	TS
21	IM	13371	0.37	8.32	-	-	11	0.0934	0.78	1.82	21	TS
22	PS	36952	0.40	4.46	-	-	-	1.0000	4.46	4.46		TS
23	SMP	78269	0.70	4.46	-	-	-	1.0000	4.46	4.46		TS
24	RS	106260	0.71	1.66	-	-	-	1.0000	1.66	1.66		TS
25	BCH	84460	0.70	1.03	-	-	-	1.0000	1.03	1.03		TS
28	NK	31935	0.40	3.41	-	-	-	1.0000	3.41	3.41		TS
30	PSR	8566	0.42	8.52	-	-	11	0.1013	0.86	1.81	30	TS
31	LP 2	27586	0.62	3.86	-	-	-	1.0000	3.86	3.86		TS
33	LS	34945	0.40	1.98	-	-	-	1.0000	1.98	1.98		TS
35	HN	14831	0.38	16.65	-	-	21	0.0583	0.97	2.59	35	TS
36	RID	39971	0.40	1.03	-	-	-	1.0000	1.03	1.03		TS
37	ASD	11465	0.37	11.89	-	-	15	0.0826	0.98	2.31	37	TS
41	CHN	6415	0.40	22.20	-	-	27	0.0543	1.20	3.57	41	TS
42	LP 1	14709	0.38	11.89	-	-	15	0.0826	0.98	2.31	42	TS
43	TC	11098	0.49	11.40	-	-	13	0.1329	1.52	3.42	43	TS
44	PTN	8105	0.42	26.26	-	-	31	0.0563	1.48	4.67	44	TS
45	PKN	26025	0.61	10.40	-	-	10	0.2329	2.42	4.89	45	TS
50	SS	9995	0.48	6.44	-	-	-	1.0000	6.44	6.44		TS
51	NN	24687	0.61	2.97	-	-	-	1.0000	2.97	2.97		TS
52	PTN	103460	0.71	0.79	-	-	-	1.0000	0.79	0.79		TS
'0'	TCLL	0	-	40.00	-	-	59	0.0010	-	-	'0'	
'1'	SPS	0	-	10.00	-	-	17	0.0100	-	-	'1'	
TS		5730		102.62	2.13		145	0.0010				
	TOTAL			1099.94			1380					

CALCULATION FOR ALTERNATIVE ROUTING NETWORK, BANGKOK, THAILAND

FROM I = 6/1 PY 1 SUB = 10000 SYSTEM C 400 TANDEM AREA = 2

J	NAME	CIJ	C/P	AIJ	V/M	MQ	NIJ	BIJ	CPL	VAR	ROUTING	
1	TK	12689	0.37	3.93	-	-	-	1.0000	3.93	3.93		T2
2/1	SR 1	8156	0.42	23.58	-	-	28	0.0602	1.42	4.30	2/1	T2
2/2	SR 2	8156	0.42	23.58	-	-	28	0.0602	1.42	4.30	2/2	T2
2/3	SR 3	8156	0.42	23.58	-	-	28	0.0602	1.42	4.30	2/3	T2
3/1	SW 1	8822	0.43	20.96	-	-	25	0.0656	1.38	3.98	3/1	T2
3/2	SW 2	8822	0.43	20.96	-	-	25	0.0656	1.38	3.98	3/2	T2
3/3	SW 3	8822	0.43	20.96	-	-	25	0.0656	1.38	3.98	3/3	T2
4/1	PL 1	7132	0.40	25.15	-	-	30	0.0546	1.37	4.27	4/1	T2
4/2	PL 2	7132	0.40	25.15	-	-	30	0.0546	1.37	4.27	4/2	T2
5	TH 2	11282	0.50	27.25	-	-	30	0.0859	2.34	7.34	5	T2
6/1	PY 1	0	-	39.30	-	-	56	0.0020	-	-	6/1	
6/2	PY 2	0	-	19.65	-	-	32	0.0020	-	-	6/2	
7/1	KK 1	7030	0.40	23.58	-	-	28	0.0602	1.42	4.30	7/1	T2
7/2	KK 2	7030	0.40	23.58	-	-	28	0.0602	1.42	4.30	7/2	T2
8/1	CP 1	11465	0.37	13.62	-	-	17	0.0765	1.04	2.57	8/1	T2
8/2	CP 2	11465	0.37	13.62	-	-	17	0.0765	1.04	2.57	8/2	T2
9	TM	10731	0.49	10.48	-	-	12	0.1364	1.45	3.18	9	T2
10	SP	13546	0.38	3.14	-	-	-	1.0000	3.14	3.14		T2
11	NYW	11343	0.59	6.81	-	-	-	1.0000	6.81	6.81		T2
12	PD	29816	0.63	2.04	-	-	-	1.0000	2.04	2.04		T2
13	DM	30728	0.63	9.43	-	-	-	1.0000	9.43	9.43		T2
14	BN	26583	0.62	14.67	-	-	15	0.1696	2.40	5.06	14	T2
15	BK	7951	0.41	18.08	-	-	22	0.0670	1.21	3.32	15	T2
16	BC	13301	0.37	4.72	-	-	-	1.0000	4.72	4.72		T2
17	DK	13791	0.38	6.29	-	-	-	1.0000	6.29	6.29		T2
18	RS	6569	0.40	34.06	-	-	39	0.0548	1.87	6.53	18	T2
19	BP	8207	0.42	17.19	-	-	21	0.0687	1.18	3.18	19	T2
20	KC	14586	0.38	10.90	-	-	14	0.0822	0.90	2.05	20	T2
21	IM	5750	0.38	14.46	-	-	18	0.0732	1.06	2.67	21	T2
22	PS	32269	0.40	7.34	-	-	10	0.0927	0.68	1.37	22	T2
23	SMP	40743	0.40	7.34	-	-	10	0.0927	0.68	1.37	23	T2
24	RS	82660	0.70	2.52	-	-	-	1.0000	2.52	2.52	--	T2
25	BCH	35726	0.40	1.09	-	-	-	1.0000	1.09	1.09		T2
28	NK	77660	0.70	0.63	-	-	-	1.0000	0.63	0.63		T2
30	PSR	27029	0.62	1.57	-	-	-	1.0000	1.57	1.57		T2
31	LP 2	8822	0.43	4.09	-	-	-	1.0000	4.09	4.09		T2
33	LS	13791	0.38	7.23	-	-	10	0.0881	0.64	1.28	33	T2
35	HM	10976	0.49	10.90	-	-	13	0.1150	1.25	2.02	35	T2
36	RID	25914	0.61	1.09	-	-	-	1.0000	1.09	1.09		T2
37	ASD	5852	0.38	12.58	-	-	16	0.0749	0.94	2.26	37	T2
41	CHW	12261	0.37	6.81	-	-	10	0.0713	0.49	0.90	41	T2
42	LP 1	6927	0.39	13.75	-	-	17	0.0798	1.10	2.71	42	T2
43	TC	11588	0.37	6.55	-	-	-	1.0000	6.55	6.55		T2
44	PTW	7388	0.40	11.79	-	-	15	0.0798	0.94	2.21	44	T2
45	PKN	13546	0.38	6.81	-	-	-	1.0000	6.81	6.81		T2
50	SS	6364	0.39	17.03	-	-	21	0.0656	1.12	2.99	50	T2
51	NN	10914	0.49	4.09	-	-	-	1.0000	4.09	4.09		T2
52	PTN	84069	0.70	1.09	-	-	-	1.0000	1.09	1.09		T2
'0'	TOLL	0	-	20.00	-	-	34	0.0010	-	-	'0'	
'1'	SPS	0	-	5.00	-	-	10	0.0100	-	-	'1'	
T2		5730		102.29	1.61		139	0.0010				

TOTAL 650.01 873

CALCULATION FOR ALTERNATIVE ROUTING NETWORK BANGKOK , THAILAND

FROM I = 6/2 PY 2 SUB = 5000 SYSTEM C 400 TANDEM AREA = 2

J	N/MT	CIJ	C/P	AIJ	V/P	MQ	NIJ	EIJ	CFL	VAR	ROUTING	
1	TK	12689	0.37	1.96	-	-	-	1.0000	1.96	1.96		T2
2/1	SR 1	8156	0.42	11.79	-	-	15	0.0798	0.94	2.21	2/1	T2
2/2	SR 2	8156	0.42	11.79	-	-	15	0.0798	0.94	2.21	2/2	T2
2/3	SR 3	8156	0.42	11.79	-	-	15	0.0798	0.94	2.21	2/3	T2
3/1	SW 1	8822	0.43	10.48	-	-	13	0.1003	1.05	2.36	3/1	T2
3/2	SW 2	8822	0.43	10.48	-	-	13	0.1003	1.05	2.36	3/2	T2
3/3	SW 3	8822	0.43	10.48	-	-	13	0.1003	1.05	2.36	3/3	T2
4/1	PL 1	7132	0.40	12.58	-	-	16	0.0749	0.94	2.26	4/1	T2
4/2	PL 2	7132	0.40	12.58	-	-	16	0.0749	0.94	2.26	4/2	T2
5	TH 2	11282	0.50	13.62	-	-	16	0.1034	1.41	3.43	5	T2
6/1	PY 1	0	-	19.65	-	-	32	0.0020	-	-	6/1	
6/2	PY 2	0	-	9.82	-	-	19	0.0020	-	-	6/2	
7/1	KK 1	7030	0.40	11.79	-	-	15	0.0798	0.94	2.21	7/1	T2
7/2	KK 2	7030	0.40	11.79	-	-	15	0.0798	0.94	2.21	7/2	T2
8/1	CP 1	11465	0.37	6.81	-	-	10	0.0713	0.49	0.96	8/1	T2
8/2	CP 2	11465	0.37	6.81	-	-	10	0.0713	0.49	0.96	8/2	T2
9	TM	10731	0.49	5.24	-	-	-	1.0000	5.24	5.24		T2
10	SP	13546	0.38	1.57	-	-	-	1.0000	1.57	1.57		T2
11	NNW	11343	0.50	3.41	-	-	-	1.0000	3.41	3.41		T2
12	PD	29816	0.63	1.02	-	-	-	1.0000	1.02	1.02		T2
13	DM	30708	0.63	4.72	-	-	-	1.0000	4.72	4.72		T2
14	BN	26583	0.62	7.34	-	-	-	1.0000	7.34	7.34		T2
15	BK	7951	0.41	9.04	-	-	12	0.0845	0.75	1.64	15	T2
16	BC	13301	0.37	2.36	-	-	-	1.0000	2.36	2.36		T2
17	DK	13791	0.38	3.14	-	-	-	1.0000	3.14	3.14		T2
18	BS	6569	0.40	17.03	-	-	21	0.0656	1.12	2.99	18	T2
19	BP	8207	0.42	8.59	-	-	11	0.1041	0.89	1.88	19	T2
20	KC	14586	0.38	5.45	-	-	-	1.0000	5.45	5.45		T2
21	IN	5750	0.38	7.23	-	-	10	0.0881	0.64	1.28	21	T2
22	PS	32269	0.40	3.67	-	-	-	1.0000	3.67	3.67		T2
23	SMP	40743	0.40	3.67	-	-	-	1.0000	3.67	3.67		T2
24	RS	8266	0.70	1.26	-	-	-	1.0000	1.26	1.26		T2
25	BCH	35726	0.40	0.54	-	-	-	1.0000	0.54	0.54		T2
28	NK	77660	0.70	0.31	-	-	-	1.0000	0.31	0.31		T2
30	PSR	27029	0.62	0.79	-	-	-	1.0000	0.79	0.79		T2
31	LP 2	8822	0.43	2.04	-	-	-	1.0000	2.04	2.04		T2
33	LS	13791	0.38	3.62	-	-	-	1.0000	3.62	3.62		T2
35	HP	10976	0.49	5.45	-	-	-	1.0000	5.45	5.45		T2
36	RID	25914	0.61	0.54	-	-	-	1.0000	0.54	0.54		T2
37	ASO	5852	0.38	6.29	-	-	-	1.0000	6.29	6.29		T2
41	CPA	12261	0.37	3.41	-	-	-	1.0000	3.41	3.41		T2
42	LP 1	6927	0.39	6.88	-	-	-	1.0000	6.88	6.88		T2
43	TC	11588	0.37	3.27	-	-	-	1.0000	3.27	3.27		T2
44	PTW	7380	0.40	5.89	-	-	-	1.0000	5.89	5.89		T2
45	PKN	13546	0.38	3.41	-	-	-	1.0000	3.41	3.41		T2
50	SS	6304	0.39	8.51	-	-	11	0.1009	0.86	1.80	50	T2
51	NN	10914	0.49	2.04	-	-	-	1.0000	2.04	2.04		T2
52	PTN	8406	0.70	0.54	-	-	-	1.0000	0.54	0.54		T2
101	TOLL	0	-	10.00	-	-	20	0.0010	-	-	101	
111	SPS	0	-	2.50	-	-	6	0.0100	-	-	111	
T2		5730		106.22	1.20		138	0.0010				

TOTAL 324.99 462

CALCULATION FOR ALTERNATIVE ROUTING NETWORK BANGKOK , THAILAND

ARF 102

FROM I = 7/1 KK 1 SUB = 10000 SYSTEM ~~0 0 0~~ TANDEM AREA = 1

J	NAME	CIJ	C/P	AIJ	V/M	MO	MIJ	EIJ	OFL	VAR	ROUTING	
1	TK	8975	0.43	3.11	-	-	-	1.0000	3.11	3.11		T1
2/1	SR 1	5186	0.36	49.13	-	-	57	0.0329	1.61	6.87	2/1	T1
2/2	SR 2	5186	0.36	49.13	-	-	57	0.0329	1.61	6.87	2/2	T1
2/3	SR 3	5186	0.36	49.13	-	-	57	0.0329	1.61	6.87	2/3	T1
3/1	SW 1	6518	0.40	46.95	-	-	53	0.0453	2.13	8.48	3/1	T1
3/2	SW 2	6518	0.40	46.95	-	-	53	0.0453	2.13	8.48	3/2	T1
3/3	SW 3	6518	0.40	46.95	-	-	53	0.0453	2.13	8.48	3/3	T1
4/1	PL 1	6210	0.39	43.67	-	-	50	0.0428	1.87	7.25	4/1	T1
4/2	PL 2	6210	0.39	43.67	-	-	50	0.0428	1.87	7.25	4/2	T1
5	TH 2	7132	0.40	20.74	-	-	25	0.0619	1.28	3.71	5	T1
6/1	PY 1	7030	0.40	21.84	-	-	26	0.0638	1.39	4.10	6/1	T1
6/2	PY 2	7030	0.40	10.92	-	-	14	0.0828	0.90	2.07	6/2	T1
7/1	KK 1	0	-	50.77	-	-	69	0.0020	-	-	7/1	
7/2	KK 2	0	-	50.77	-	-	69	0.0020	-	-	7/2	
8/1	CP 1	10364	0.48	10.37	-	-	12	0.1341	1.39	3.04	8/1	T1
8/2	CP 2	10364	0.48	10.37	-	-	12	0.1341	1.39	3.04	8/2	T1
9	TM	8207	0.42	16.38	-	-	20	0.0723	1.18	3.12	9	T1
10	SP	11526	0.37	3.28	-	-	-	1.0000	3.28	3.28		T1
11	NW	13607	0.38	5.46	-	-	-	1.0000	5.46	5.46		T1
12	PD	14648	0.38	2.13	-	-	-	1.0000	2.13	2.13		T1
13	DM	37175	0.40	6.88	-	-	-	1.0000	6.88	6.88		T1
14	BN	24576	0.61	7.64	-	-	-	1.0000	7.64	7.64		T1
15	BK	12261	0.37	7.92	-	-	11	0.0783	0.62	1.28	15	T1
16	BC	8822	0.43	6.22	-	-	-	1.0000	6.22	6.22		T1
17	DK	10241	0.48	7.86	-	-	10	0.1154	0.91	1.85	17	T1
18	BS	8463	0.42	12.56	-	-	16	0.0743	0.95	2.24	18	T1
19	BP	6466	0.40	20.53	-	-	25	0.0585	1.20	3.45	19	T1
20	KC	28590	0.62	10.04	-	-	10	0.2164	2.17	4.41	20	T1
21	IM	8719	0.43	7.53	-	-	10	0.1008	0.76	1.53	21	T1
22	PS	30262	0.63	3.82	-	-	-	1.0000	3.82	3.82		T1
23	SMP	38736	0.40	3.82	-	-	-	1.0000	3.82	3.82		T1
24	RS	94260	0.71	1.83	-	-	-	1.0000	1.83	1.83		T1
25	BCH	72460	0.70	1.00	-	-	-	1.0000	1.00	1.00		T1
28	NK	38625	0.40	0.83	-	-	-	1.0000	0.83	0.83		T1
30	PSR	13118	0.37	2.07	-	-	-	1.0000	2.07	2.07		T1
31	LP 2	13301	0.37	3.77	-	-	-	1.0000	3.77	3.77		T1
33	LS	28255	0.62	3.17	-	-	-	1.0000	3.17	3.17		T1
35	HN	11159	0.50	8.30	-	-	10	0.1354	1.12	2.30	35	T1
36	RID	32381	0.40	1.00	-	-	-	1.0000	1.00	1.00		T1
37	ASD	7439	0.40	21.84	-	-	26	0.0638	1.39	4.10	37	T1
41	CHW	10180	0.48	5.19	-	-	-	1.0000	5.19	5.19		T1
42	LP 1	11037	0.49	10.92	-	-	13	0.1157	1.26	2.84	42	T1
43	TC	8054	0.41	5.19	-	-	-	1.0000	5.19	5.19		T1
44	PTW	5289	0.30	17.77	-	-	22	0.0612	1.09	2.96	44	T1
45	PKN	12444	0.37	5.19	-	-	-	1.0000	5.19	5.19		T1
50	SS	5954	0.38	6.28	-	-	-	1.0000	6.28	6.28		T1
51	NN	12567	0.37	3.28	-	-	-	1.0000	3.28	3.28		T1
52	PTN	91460	0.71	0.87	-	-	-	1.0000	0.87	0.87		T1
'0'	TOLL	0	-	20.00	-	-	34	0.0010	-	-	'0'	
'1'	SPS	0	-	5.00	-	-	10	0.0100	-	-	'1'	
T1		5730		116.00	1.62		155	0.0010				
	TOTAL			800.03			1029					

CALCULATION FOR ALTERNATIVE ROUTING NETWORK BANGKOK , THAILAND

FROM I = 7/2 KK 2 SUB = 10000 SYSTEM C 400 TANDEM AREA = 1

J	NAME	CIJ	C/P	AIJ	V/M	MQ	NIJ	EIJ	OFL	VAR	ROUTING
1	TK	8975	0.43	3.11	-	-	-	1.0000	3.11	3.11	T1
2/1	SR 1	5186	0.36	49.13	-	-	57	0.0329	1.61	6.57 2/1	T1
2/2	SR 2	5186	0.36	49.13	-	-	57	0.0329	1.61	6.57 2/2	T1
2/3	SR 3	5186	0.36	49.13	-	-	57	0.0329	1.61	6.57 2/3	T1
3/1	SW 1	6518	0.40	46.95	-	-	53	0.0453	2.13	8.48 3/1	T1
3/2	SW 2	6518	0.40	46.95	-	-	53	0.0453	2.13	8.48 3/2	T1
3/3	SW 3	6518	0.40	46.95	-	-	53	0.0453	2.13	8.48 3/3	T1
4/1	PL 1	6210	0.39	43.67	-	-	50	0.0428	1.87	7.25 4/1	T1
4/2	PL 2	6210	0.39	43.67	-	-	50	0.0428	1.87	7.25 4/2	T1
5	TH 2	7132	0.40	20.74	-	-	25	0.0619	1.28	3.71 5	T1
6/1	PY 1	7030	0.40	21.84	-	-	26	0.0638	1.39	4.10 6/1	T1
6/2	PY 2	7030	0.40	10.92	-	-	14	0.0828	0.90	2.07 6/2	T1
7/1	KK 1	0	-	50.77	-	-	69	0.0020	-	- 7/1	
7/2	KK 2	0	-	50.77	-	-	69	0.0020	-	- 7/2	
8/1	CP 1	10364	0.48	10.37	-	-	12	0.1341	1.39	3.04 8/1	T1
8/2	CP 2	10364	0.48	10.37	-	-	12	0.1341	1.39	3.04 8/2	T1
9	TN	8207	0.42	16.38	-	-	20	0.0723	1.18	3.12 9	T1
10	SP	11526	0.37	3.28	-	-	-	1.0000	3.28	3.28	T1
11	NKW	13607	0.38	5.46	-	-	-	1.0000	5.46	5.46	T1
12	PD	14648	0.38	2.13	-	-	-	1.0000	2.13	2.13	T1
13	DM	37175	0.40	6.88	-	-	-	1.0000	6.88	6.88	T1
14	BN	24576	0.61	7.64	-	-	-	1.0000	7.64	7.64	T1
15	BK	12261	0.37	7.92	-	-	11	0.0783	0.62	1.28 15	T1
16	BC	8822	0.43	6.22	-	-	-	1.0000	6.22	6.22	T1
17	DK	10241	0.48	7.86	-	-	10	0.1154	0.91	1.85 17	T1
18	BS	8463	0.42	12.56	-	-	16	0.0743	0.93	2.24 18	T1
19	BP	6466	0.40	20.53	-	-	25	0.0585	1.20	3.45 19	T1
20	KC	28569	0.62	10.04	-	-	10	0.2164	2.17	4.41 20	T1
21	IN	8719	0.43	7.53	-	-	10	0.1008	0.76	1.53 21	T1
22	PS	30262	0.63	3.82	-	-	-	1.0000	3.82	3.82	T1
23	SWP	38736	0.40	3.82	-	-	-	1.0000	3.82	3.82	T1
24	RS	94260	0.71	1.83	-	-	-	1.0000	1.83	1.83	T1
25	BCH	72460	0.70	1.00	-	-	-	1.0000	1.00	1.00	T1
28	NK	38625	0.40	0.83	-	-	-	1.0000	0.83	0.83	T1
30	PSR	13118	0.37	2.07	-	-	-	1.0000	2.07	2.07	T1
31	LP 2	13371	0.37	3.77	-	-	-	1.0000	3.77	3.77	T1
33	LS	28255	0.62	3.17	-	-	-	1.0000	3.17	3.17	T1
35	HN	11159	0.50	8.30	-	-	10	0.1354	1.12	2.30 35	T1
36	RID	32381	0.40	1.00	-	-	-	1.0000	1.00	1.00	T1
37	ASD	7439	0.40	21.84	-	-	26	0.0638	1.39	4.10 37	T1
41	CPK	10189	0.48	5.19	-	-	-	1.0000	5.19	5.19	T1
42	LP 1	11037	0.49	10.92	-	-	13	0.1157	1.26	2.84 42	T1
43	TC	8054	0.41	5.19	-	-	-	1.0000	5.19	5.19	T1
44	PTW	5289	0.36	17.77	-	-	22	0.0612	1.09	2.96 44	T1
45	PKN	12444	0.37	5.19	-	-	-	1.0000	5.19	5.19	T1
50	SS	5954	0.38	6.28	-	-	-	1.0000	6.28	6.28	T1
51	NN	12567	0.37	3.28	-	-	-	1.0000	3.28	3.28	T1
52	PTN	91460	0.71	0.87	-	-	-	1.0000	0.87	0.87	T1
'0'	TOLL	0	-	20.00	-	-	34	0.0010	-	- '0'	
'1'	SPS	0	-	5.00	-	-	10	0.0100	-	- '1'	
T1		5730		116.00	1.62		155	0.0010			

TOTAL 800.03 1029

CALCULATION FOR ALTERNATIVE ROUTING NETWORK BANGKOK , THAILAND

ARF 102

FROM I = 8/1 CP 1 SUB = 10000 SYSTEM ~~6 466~~ TANDEM AREA = 6

J	NAME	CIJ	C/P	AIJ	V/M	PQ	NIJ	EIJ	OFL	VAR	ROUTING
1	TK	12200	0.30	4.47	-	-	-	1.0000	4.47	4.47	T6
2/1	SR 1	11649	0.30	31.33	-	-	39	0.0289	0.91	3.05 2/1	T6
2/2	SR 2	11649	0.30	31.33	-	-	39	0.0289	0.91	3.05 2/2	T6
2/3	SR 3	11649	0.30	31.33	-	-	39	0.0289	0.91	3.05 2/3	T6
3/1	SW 1	10731	0.29	23.50	-	-	30	0.0345	0.81	2.45 3/1	T6
3/2	SW 2	10731	0.29	23.50	-	-	30	0.0345	0.81	2.45 3/2	T6
3/3	SW 3	10731	0.29	23.50	-	-	30	0.0345	0.81	2.45 3/3	T6
4/1	PL 1	7183	0.31	28.98	-	-	36	0.0329	0.95	3.13 4/1	T6
4/2	PL 2	7183	0.31	28.98	-	-	36	0.0329	0.95	3.13 4/2	T6
5	TH 2	14036	0.31	14.10	-	-	19	0.0460	0.65	1.63 5	T6
6/1	PY 1	11465	0.30	18.80	-	-	24	0.0465	0.87	2.43 6/1	T6
6/2	PY 2	11465	0.30	9.40	-	-	13	0.0657	0.62	1.35 6/2	T6
7/1	KK 1	10364	0.29	21.93	-	-	28	0.0380	0.83	2.45 7/1	T6
7/2	KK 2	10364	0.29	21.93	-	-	28	0.0380	0.83	2.45 7/2	T6
8/1	CP 1	0	-	32.90	-	-	48	0.0020	-	- 8/1	
8/2	CP 2	0	-	32.90	-	-	48	0.0020	-	- 8/2	
9	TM	7900	0.33	35.25	-	-	42	0.0377	1.33	4.72 9	T6
10	SP	11465	0.30	3.53	-	-	-	1.0000	3.53	3.53	T6
11	NAW	30820	0.35	3.92	-	-	-	1.0000	3.92	3.92	T6
12	PD	34834	0.36	1.41	-	-	-	1.0000	1.41	1.41	T6
13	DM	76060	0.63	5.17	-	-	-	1.0000	5.17	5.17	T6
14	BN	8207	0.44	20.37	-	-	24	0.0727	1.48	4.22 14	T6
15	BK	26025	0.52	5.48	-	-	-	1.0000	5.48	5.48	T6
16	BC	25914	0.52	4.23	-	-	-	1.0000	4.23	4.23	T6
17	DK	26806	0.53	5.64	-	-	-	1.0000	5.64	5.64	T6
18	BS	14464	0.32	8.62	-	-	12	0.0703	0.61	1.29 18	T6
19	BP	13240	0.31	11.28	-	-	16	0.0444	0.50	1.16 19	T6
20	KC	12567	0.32	16.29	-	-	21	0.0518	0.84	2.23 20	T6
21	IM	11098	0.30	6.58	-	-	10	0.0627	0.41	0.80 21	T6
22	PS	12138	0.52	10.18	-	-	12	0.1267	1.29	2.82 22	T6
23	SMP	27252	0.66	10.18	-	-	-	1.0000	10.18	10.18	T6
24	RS	106866	0.66	1.38	-	-	-	1.0000	1.38	1.38	T6
25	BCH	37621	0.37	1.63	-	-	-	1.0000	1.63	1.63	T6
28	NK	86660	0.64	0.56	-	-	-	1.0000	0.55	0.56	T6
30	PSR	32046	0.35	1.41	-	-	-	1.0000	1.41	1.41	T6
31	LP 2	10976	0.29	6.11	-	-	-	1.0000	6.11	6.11	T6
33	LS	35280	0.36	2.19	-	-	-	1.0000	2.19	2.19	T6
35	HM	5852	0.28	18.42	-	-	24	0.0409	0.75	2.08 35	T6
36	RID	27809	0.56	1.63	-	-	-	1.0000	1.63	1.63	T6
37	ASD	8463	0.34	14.49	-	-	19	0.0534	0.77	1.96 37	T6
41	CHN	26694	0.53	3.53	-	-	-	1.0000	3.53	3.53	T6
42	LP 1	13056	0.31	9.40	-	-	13	0.0657	0.62	1.35 42	T6
43	TC	10731	0.29	7.44	-	-	11	0.0615	0.46	0.93 43	T6
44	PTW	8719	0.26	10.97	-	-	16	0.0383	0.42	0.96 44	T6
45	PKN	5801	0.58	11.52	-	-	12	0.1796	2.07	4.51 45	T6
50	SS	12628	0.31	4.31	-	-	-	1.0000	4.31	4.31	T6
51	NN	30039	0.35	2.35	-	-	-	1.0000	2.35	2.35	T6
52	PTN	108260	0.66	0.63	-	-	-	1.0000	0.63	0.63	T6
'0'	TOLL	0	-	20.00	-	-	34	0.0010	-	- '0'	
'1'	SPS	0	-	5.00	-	-	10	0.0100	-	- '1'	
T6		7471		92.18	1.43	-	125	0.0016			

TOTAL 649.98 888

CALCULATION FOR ALTERNATIVE ROUTING NETWORK BANGKOK , THAILAND

FROM I = 8/2 CP 2 SUB = 10000 SYSTEM C 400 TANDEM AREA = 6

J	NAME	CIJ	C/P	AIJ	V/M	MQ	NIJ	EIJ	OFL	VAR	ROUTING
1	TK	12200	0.30	4.47	-	-	-	1.0000	4.47	4.47	T6
2/1	SR 1	11649	0.30	31.33	-	-	39	0.0289	0.91	3.05 2/1	T6
2/2	SR 2	11649	0.30	31.33	-	-	39	0.0289	0.91	3.05 2/2	T6
2/3	SR 3	11649	0.30	31.33	-	-	39	0.0289	0.91	3.05 2/3	T6
3/1	SK 1	10731	0.29	23.50	-	-	30	0.0345	0.81	2.45 3/1	T6
3/2	SK 2	10731	0.29	23.50	-	-	30	0.0345	0.81	2.45 3/2	T6
3/3	SK 3	10731	0.29	23.50	-	-	30	0.0345	0.81	2.45 3/3	T6
4/1	PL 1	7183	0.31	28.98	-	-	36	0.0329	0.95	3.13 4/1	T6
4/2	PL 2	7183	0.31	28.98	-	-	36	0.0329	0.95	3.13 4/2	T6
5	TH 2	14035	0.31	14.10	-	-	19	0.0460	0.65	1.63 5	T6
6/1	PY 1	11465	0.30	18.80	-	-	24	0.0465	0.87	2.43 6/1	T6
6/2	PY 2	11465	0.30	9.40	-	-	13	0.0657	0.62	1.35 6/2	T6
7/1	KK 1	10364	0.29	21.93	-	-	28	0.0380	0.83	2.45 7/1	T6
7/2	KK 2	10364	0.29	21.93	-	-	28	0.0380	0.83	2.45 7/2	T6
8/1	CP 1	0	-	32.90	-	-	48	0.0020	-	- 8/1	
8/2	CP 2	0	-	32.90	-	-	48	0.0020	-	- 8/2	
9	TM	7900	0.33	35.25	-	-	42	0.0377	1.33	4.72 9	T6
10	SP	11465	0.30	3.53	-	-	-	1.0000	3.53	3.53	T6
11	NW	30820	0.35	3.92	-	-	-	1.0000	3.92	3.92	T6
12	PD	34834	0.36	1.41	-	-	-	1.0000	1.41	1.41	T6
13	DM	76060	0.63	5.17	-	-	-	1.0000	5.17	5.17	T6
14	BN	8207	0.44	20.37	-	-	24	0.0727	1.48	4.22 14	T6
15	BK	26025	0.52	5.48	-	-	-	1.0000	5.48	5.48	T6
16	BC	25914	0.52	4.23	-	-	-	1.0000	4.23	4.23	T6
17	DK	26806	0.53	5.64	-	-	-	1.0000	5.64	5.64	T6
18	BS	14464	0.32	8.62	-	-	12	0.0703	0.61	1.29 18	T6
19	BP	13244	0.31	11.28	-	-	16	0.0444	0.50	1.16 19	T6
20	KC	12567	0.32	16.29	-	-	21	0.0518	0.84	2.23 20	T6
21	IM	11098	0.30	6.58	-	-	10	0.0627	0.41	0.80 21	T6
22	PS	12138	0.52	10.18	-	-	12	0.1267	1.29	2.82 22	T6
23	SKP	27252	0.66	10.18	-	-	-	1.0000	10.18	10.18	T6
24	RS	106860	0.66	1.38	-	-	-	1.0000	1.38	1.38	T6
25	BCH	37621	0.37	1.63	-	-	-	1.0000	1.63	1.63	T6
28	NK	86660	0.64	0.56	-	-	-	1.0000	0.56	0.56	T6
30	PSR	32046	0.35	1.41	-	-	-	1.0000	1.41	1.41	T6
31	LP 2	10976	0.29	6.11	-	-	-	1.0000	6.11	6.11	T6
33	LS	35280	0.36	2.19	-	-	-	1.0000	2.19	2.19	T6
35	HM	5852	0.28	18.42	-	-	24	0.0409	0.75	2.08 35	T6
36	RID	27809	0.56	1.63	-	-	-	1.0000	1.63	1.63	T6
37	ASD	8463	0.34	14.49	-	-	19	0.0534	0.77	1.96 37	T6
41	CHK	26694	0.53	3.53	-	-	-	1.0000	3.53	3.53	T6
42	LP 1	13056	0.31	9.40	-	-	13	0.0657	0.62	1.35 42	T6
43	TC	10731	0.29	7.44	-	-	11	0.0615	0.46	0.93 43	T6
44	PTW	8719	0.26	10.97	-	-	16	0.0383	0.42	0.96 44	T6
45	PKN	5801	0.58	11.52	-	-	12	0.1796	2.07	4.51 45	T6
50	SS	12628	0.31	4.31	-	-	-	1.0000	4.31	4.31	T6
51	NN	30039	0.35	2.35	-	-	-	1.0000	2.35	2.35	T6
52	PTN	108260	0.66	0.63	-	-	-	1.0000	0.63	0.63	T6
101	TOLL	0	-	20.00	-	-	34	0.0010	-	- 101	
111	SPS	0	-	5.00	-	-	10	0.0100	-	- 111	
T6		7471		92.18	1.43		125	0.0010			

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TOTAL 649.98 888

CALCULATION FOR ALTERNATIVE ROUTING NETWORK - BANGKOK , THAILAND

FROM I = 9 TM SUB = 10000 SYSTEM C 400 TANDEM AREA = 3

J	NAME	CIJ	C/P	AIJ	V/M	NQ	NIJ	EIJ	OFL	VAR	ROUTING
1	TK	7030	0.28	6.65	-	-	19	0.0447	0.27	0.51	1 T3
2/1	SR 1	7849	0.35	23.26	-	-	28	0.0555	1.29	3.90	2/1 T3
2/2	SR 2	7849	0.35	23.26	-	-	28	0.0555	1.29	3.90	2/2 T3
2/3	SR 3	7849	0.35	23.26	-	-	28	0.0555	1.29	3.90	2/3 T3
3/1	SW 1	5852	0.29	39.29	-	-	48	0.0252	0.99	3.65	3/1 T3
3/2	SW 2	5852	0.29	39.29	-	-	48	0.0252	0.99	3.65	3/2 T3
3/3	SW 3	5852	0.29	39.29	-	-	48	0.0252	0.99	3.65	3/3 T3
4/1	PL 1	6569	0.56	34.12	-	-	36	0.0945	3.23	10.85	4/1 T3
4/2	PL 2	6569	0.56	34.12	-	-	36	0.0945	3.23	10.85	4/2 T3
5	TH 2	11404	0.45	19.64	-	-	23	0.0778	1.53	4.29	5 T3
6/1	PY 1	10731	0.49	13.44	-	-	16	0.0983	1.32	3.21	6/1 T3
6/2	PY 2	10731	0.49	6.72	-	-	-	1.0000	6.72	6.72	T3
7/1	KK 1	8207	0.41	20.68	-	-	25	0.0610	1.26	3.63	7/1 T3
7/2	KK 2	8207	0.41	20.68	-	-	25	0.0610	1.26	3.63	7/2 T3
8/1	CP 1	7900	0.36	25.85	-	-	31	0.0510	1.32	4.14	8/1 T3
8/2	CP 2	7900	0.36	25.85	-	-	31	0.0510	1.32	4.14	8/2 T3
9	TM	0	-	51.69	-	-	70	0.0020	-	-	9
10	SP	6415	0.26	4.65	-	-	-	1.0000	4.65	4.65	T3
11	NNW	29482	0.68	4.65	-	-	-	1.0000	4.65	4.65	T3
12	PD	30039	0.61	2.79	-	-	-	1.0000	2.79	2.79	T3
13	DM	73660	0.76	3.10	-	-	-	1.0000	3.10	3.10	T3
14	BN	13607	0.36	11.89	-	-	16	0.0578	0.69	1.62	14 T3
15	BK	24687	0.66	6.98	-	-	-	1.0000	6.98	6.98	T3
16	BC	13424	0.36	2.79	-	-	-	1.0000	2.79	2.79	T3
17	DK	13913	0.36	6.62	-	-	-	1.0000	6.62	6.62	T3
18	BS	13730	0.53	6.20	-	-	-	1.0000	6.20	6.20	T3
19	BP	11894	0.49	9.51	-	-	11	0.1423	1.35	2.87	19 T3
20	KC	27921	0.64	6.20	-	-	-	1.0000	6.20	6.20	T3
21	IM	11649	0.50	3.41	-	-	-	1.0000	3.41	3.41	T3
22	PS	27140	0.59	5.94	-	-	-	1.0000	5.94	5.94	T3
23	SMP	35614	0.40	5.94	-	-	-	1.0000	5.94	5.94	T3
24	RS	104460	0.76	0.83	-	-	-	1.0000	0.83	0.83	T3
25	BCH	79260	0.74	0.62	-	-	-	1.0000	0.62	0.62	T3
28	NK	78060	0.70	0.37	-	-	-	1.0000	0.37	0.37	T3
30	PSR	27252	0.60	0.93	-	-	-	1.0000	0.93	0.93	T3
31	LP 2	24576	0.66	2.33	-	-	-	1.0000	2.33	2.33	T3
33	LS	33942	0.68	2.79	-	-	-	1.0000	2.79	2.79	T3
35	HM	10792	0.47	20.68	-	-	24	0.0785	1.62	4.64	35 T3
36	RID	36172	0.43	0.62	-	-	-	1.0000	0.62	0.62	T3
37	ASD	7849	0.42	17.06	-	-	21	0.0662	1.13	3.03	37 T3
41	CHW	14219	0.37	4.91	-	-	-	1.0000	4.91	4.91	T3
42	LP 1	13607	0.53	6.72	-	-	-	1.0000	6.72	6.72	T3
43	TC	5801	0.25	10.08	-	-	15	0.0381	0.38	0.85	43 T3
44	PTW	6978	0.37	10.34	-	-	14	0.0659	0.68	1.54	44 T3
45	PKN	10731	0.43	12.92	-	-	16	0.0839	1.08	2.62	45 T3
50	SS	11098	0.47	3.10	-	-	-	1.0000	3.10	3.10	T3
51	NN	28590	0.67	2.79	-	-	-	1.0000	2.79	2.79	T3
52	PTN	105860	0.76	0.74	-	-	-	1.0000	0.74	0.74	T3
101	TOLL	0	-	20.00	-	-	34	0.0010	-	-	101
111	SPS	0	-	5.00	-	-	10	0.0100	-	-	111
T3		8729		121.26	1.47		159	0.0610			

TOTAL 649.99 851

CALCULATION FOR ALTERNATIVE ROUTING NETWORK BANGKOK , THAILAND

FROM I = 10 SP SUB = 3000 SYSTEM C 400 TANDEM AREA = 7

J	NAME	CIJ	C/P	AIJ	V/M	MQ	NIJ	EIJ	OFL	VAR	ROUTING
1	TK	6825	0.31	1.82	-	-	-	1.0000	1.82	1.82	T7
2/1	SR 1	10976	0.50	4.64	-	-	-	1.0000	4.64	4.64	T7
2/2	SR 2	10976	0.50	4.64	-	-	-	1.0000	4.64	4.64	T7
2/3	SR 3	10976	0.50	4.64	-	-	-	1.0000	4.64	4.64	T7
3/1	SK 1	7849	0.57	5.65	-	-	-	1.0000	5.65	5.65	T7
3/2	SK 2	7849	0.57	5.65	-	-	-	1.0000	5.65	5.65	T7
3/3	SK 3	7849	0.57	5.65	-	-	-	1.0000	5.65	5.65	T7
4/1	PL 1	8924	0.40	6.06	-	-	-	1.0000	6.06	6.06	T7
4/2	PL 2	8924	0.40	6.06	-	-	-	1.0000	6.06	6.06	T7
5	TH 2	13791	0.53	4.84	-	-	-	1.0000	4.84	4.84	T7
6/1	PY 1	13546	0.51	2.83	-	-	-	1.0000	2.83	2.83	T7
6/2	PY 2	13546	0.51	1.41	-	-	-	1.0000	1.41	1.41	T7
7/1	KK 1	11526	0.52	4.04	-	-	-	1.0000	4.04	4.04	T7
7/2	KK 2	11526	0.52	4.04	-	-	-	1.0000	4.04	4.04	T7
8/1	CP 1	11465	0.41	4.64	-	-	-	1.0000	4.64	4.64	T7
8/2	CP 2	11465	0.41	4.64	-	-	-	1.0000	4.64	4.64	T7
9	TM	6415	0.30	15.14	-	-	20	0.5480	0.73	1.87	9 T7
10	SP	0	-	17.92	-	-	30	0.0020	-	-	10
11	NNW	34611	0.70	1.11	-	-	-	1.0000	1.11	1.11	T7
12	PD	34388	0.71	0.67	-	-	-	1.0000	0.67	0.67	T7
13	DM	88860	0.77	0.79	-	-	-	1.0000	0.79	0.79	T7
14	SN	26583	0.56	2.22	-	-	-	1.0000	2.22	2.22	T7
15	BK	29816	0.67	1.11	-	-	-	1.0000	1.11	1.11	T7
16	BC	25468	0.89	1.09	-	-	-	1.0000	1.09	1.09	T7
17	DK	26360	0.70	1.45	-	-	-	1.0000	1.45	1.45	T7
18	BS	26806	0.69	2.42	-	-	-	1.0000	2.42	2.42	T7
19	BP	14403	0.54	1.78	-	-	-	1.0000	1.78	1.78	T7
20	KC	33650	0.63	1.45	-	-	-	1.0000	1.45	1.45	T7
21	IY	14464	0.50	1.09	-	-	-	1.0000	1.09	1.09	T7
22	PS	32269	0.39	1.11	-	-	-	1.0000	1.11	1.11	T7
23	SEP	40743	0.39	1.11	-	-	-	1.0000	1.11	1.11	T7
24	RS	113660	0.76	0.21	-	-	-	1.0000	0.21	0.21	T7
25	BCH	88460	0.74	0.15	-	-	-	1.0000	0.15	0.15	T7
28	NK	85860	0.79	0.15	-	-	-	1.0200	0.15	0.15	T7
30	PSR	31600	0.71	0.36	-	-	-	1.0000	0.36	0.36	T7
31	LP 2	29705	0.65	0.54	-	-	-	1.0000	0.54	0.54	T7
33	LS	39071	0.45	0.44	-	-	-	1.0000	0.44	0.44	T7
35	HM	13617	0.37	3.71	-	-	-	1.0000	3.71	3.71	T7
36	PID	41371	0.43	0.15	-	-	-	1.0000	0.15	0.15	T7
37	ASD	11474	0.46	3.03	-	-	-	1.0000	3.03	3.03	T7
41	CHA	26917	0.70	1.21	-	-	-	1.0000	1.21	1.21	T7
42	LP 1	26583	0.64	1.41	-	-	-	1.0000	1.41	1.41	T7
43	TC	6313	0.30	3.03	-	-	-	1.0000	3.03	3.03	T7
44	PTW	10362	0.49	2.02	-	-	-	1.0000	2.02	2.02	T7
45	PKN	13546	0.34	2.32	-	-	-	1.0000	2.32	2.32	T7
50	SS	13791	0.53	1.21	-	-	-	1.0000	1.21	1.21	T7
51	NN	33161	0.71	0.67	-	-	-	1.0000	0.67	0.67	T7
52	PTN	115067	0.78	0.18	-	-	-	1.0000	0.18	0.18	T7
101	TOLL	0	-	6.00	-	-	14	0.0010	-	-	101
111	SPS	0	-	1.50	-	-	5	0.0160	-	-	111
T7		10259		110.17	1.01		140	0.0010			

TOTAL 150.00 209

CALCULATION FOR ALTERNATIVE ROUTING NETWORK BANGKOK , THAILAND

FROM I = 11 . NAW SUB = 5000 SYSTEM C 400 TANDEM AREA = 4

J	NAME	CIJ	C/P	AIJ	V/M	NQ	NIJ	FIJ	OFL	VAR	ROUTING
1	TK	32158	0.28	0.68	-	-	-	1.0000	0.68	0.68	T4
2/1	SR 1	23907	0.33	10.48	-	-	14	0.0699	0.73	1.06 2/1	T4
2/2	SR 2	23907	0.33	10.48	-	-	14	0.0699	0.73	1.06 2/2	T4
2/3	SR 3	23907	0.33	10.48	-	-	14	0.0699	0.73	1.06 2/3	T4
3/1	SK 1	26806	0.26	3.49	-	-	-	1.0000	3.49	3.49	T4
3/2	SK 2	26806	0.26	3.49	-	-	-	1.0000	3.49	3.49	T4
3/3	SK 3	26806	0.26	3.49	-	-	-	1.0000	3.49	3.49	T4
4/1	PL 1	24018	0.35	5.55	-	-	-	1.0000	5.55	5.55	T4
4/2	PL 2	24018	0.35	5.55	-	-	-	1.0000	5.55	5.55	T4
5	TH 2	28144	0.26	5.34	-	-	-	1.0000	5.34	5.34	T4
6/1	PY 1	11343	0.19	16.03	-	-	23	0.0227	0.36	0.93 6/1	T4
6/2	PY 2	11343	0.19	8.02	-	-	13	0.0311	0.25	0.51 6/2	T4
7/1	KK 1	13607	0.20	11.92	-	-	18	0.0254	0.30	0.70 7/1	T4
7/2	KK 2	13607	0.20	11.92	-	-	18	0.0254	0.30	0.70 7/2	T4
8/1	CP 1	30820	0.28	2.67	-	-	-	1.0000	2.67	2.67	T4
8/2	CP 2	30820	0.28	2.67	-	-	-	1.0000	2.67	2.67	T4
9	TM	29482	0.27	2.47	-	-	-	1.0000	2.47	2.47	T4
10	SP	34611	0.29	0.49	-	-	-	1.0000	0.49	0.49	T4
11	NAW	0	-	49.84	-	-	68	0.0020	-	- 11	
12	PD	40743	0.29	0.55	-	-	-	1.0000	0.55	0.55	T4
13	DM	30262	0.71	1.42	-	-	-	1.0000	1.42	1.42	T4
14	BN	39851	0.30	2.26	-	-	-	1.0000	2.26	2.26	T4
15	BK	7746	0.18	2.36	-	-	-	1.0000	2.36	2.36	T4
16	BC	31823	0.27	1.48	-	-	-	1.0000	1.48	1.48	T4
17	DK	32715	0.27	1.97	-	-	-	1.0000	1.97	1.97	T4
18	BS	7644	0.12	14.80	-	-	23	0.0121	0.18	0.43 18	T4
19	BP	12995	0.18	4.44	-	-	-	1.0000	4.44	4.44	T4
20	KC	33384	0.50	2.80	-	-	-	1.0000	2.80	2.80	T4
21	IM	13362	0.22	2.84	-	-	-	1.0000	2.84	2.84	T4
22	PS	78460	0.54	1.13	-	-	-	1.0000	1.13	1.13	T4
23	SMP	93660	0.56	1.13	-	-	-	1.0000	1.13	1.13	T4
24	RS	81860	1.15	0.38	-	-	-	1.0000	0.38	0.38	T4
25	BCH	35280	0.52	0.28	-	-	-	1.0000	0.28	0.28	T4
28	NK	97260	0.55	0.20	-	-	-	1.0000	0.20	0.20	T4
30	PSR	37956	0.28	0.49	-	-	-	1.0000	0.49	0.49	T4
31	LP 2	24576	0.38	1.05	-	-	-	1.0000	1.05	1.05	T4
33	LS	13546	0.44	0.95	-	-	-	1.0000	0.95	0.95	T4
35	HM	29928	0.29	2.14	-	-	-	1.0000	2.14	2.14	T4
36	RID	25468	0.46	0.28	-	-	-	1.0000	0.28	0.28	T4
37	ASD	13485	0.21	2.77	-	-	-	1.0000	2.77	2.77	T4
41	CHW	26248	0.23	1.34	-	-	-	1.0000	1.34	1.34	T4
42	LP 1	11649	0.21	8.02	-	-	13	0.0311	0.25	0.51 42	T4
43	TC	30151	0.27	1.13	-	-	-	1.0000	1.13	1.13	T4
44	PTW	24130	0.35	5.96	-	-	-	1.0000	5.96	5.96	T4
45	PKN	34611	0.29	1.34	-	-	-	1.0000	1.34	1.34	T4
50	SS	11526	0.17	7.40	-	-	13	0.0200	0.15	0.29 50	T4
51	NN	6825	0.10	20.93	-	-	31	0.0088	0.18	0.49 51	T4
52	PTN	35391	0.27	5.58	-	-	-	1.0000	5.58	5.58	T4
101	TOLL	0	-	10.00	-	-	20	0.0010	-	- 101	
111	SPS	0	-	2.56	-	-	6	0.0100	-	- 111	
T4		23012		86.34	1.06		113	0.0010			

TOTAL 274.98 401

C/LCULATION FOR ALTERNATIVE ROUTING NETWORK BANGKOK , THAILAND

FROM I = 12 PD SUB = 3000 SYSTEM C 400 TANDEM AREA = 5

J	NAME	CIJ	C/P	AIJ	V/M	MQ	NIJ	EIJ	OFL	VAR	ROUTING
1	TK	31489	0.63	0.73	-	-	-	1.0000	0.73	0.73	TS
2/1	SR 1	13791	0.42	7.79	-	-	10	0.1122	0.87	1.78	2/1 TS
2/2	SR 2	13791	0.42	7.79	-	-	10	0.1122	0.87	1.78	2/2 TS
2/3	SR 3	13791	0.42	7.79	-	-	10	0.1122	0.87	1.78	2/3 TS
3/1	SW 1	26137	0.71	7.30	-	-	-	1.0000	7.30	7.30	TS
3/2	SW 2	26137	0.71	7.30	-	-	-	1.0000	7.30	7.30	TS
3/3	SW 3	26137	0.71	7.30	-	-	-	1.0000	7.30	7.30	TS
4/1	PL 1	28032	0.73	4.14	-	-	-	1.0000	4.14	4.14	TS
4/2	PL 2	28032	0.73	4.14	-	-	-	1.0000	4.14	4.14	TS
5	TH 2	10976	0.45	15.58	-	-	18	0.1008	1.57	4.01	5 TS
6/1	PY 1	29816	0.76	3.04	-	-	-	1.0000	3.04	3.04	TS
6/2	PY 2	29816	0.76	1.52	-	-	-	1.0000	1.52	1.52	TS
7/1	KK 1	14648	0.42	4.99	-	-	-	1.0000	4.99	4.99	TS
7/2	KK 2	14648	0.42	4.99	-	-	-	1.0000	4.99	4.99	TS
8/1	CP 1	34834	0.64	1.58	-	-	-	1.0000	1.58	1.58	TS
8/2	CP 2	34834	0.64	1.58	-	-	-	1.0000	1.58	1.58	TS
9	TP	30039	0.76	2.07	-	-	-	1.0000	2.07	2.07	TS
10	SP	34388	0.64	0.40	-	-	-	1.0000	0.40	0.40	TS
11	NAW	40743	0.66	0.55	-	-	-	1.0000	0.55	0.55	TS
12	PC	0	-	19.03	-	-	31	0.0020	-	-	12
13	DM	98060	0.78	0.40	-	-	-	1.0000	0.40	0.40	TS
14	BN	75460	0.79	1.10	-	-	-	1.0000	1.10	1.10	TS
15	BK	38290	0.65	0.61	-	-	-	1.0000	0.61	0.61	TS
16	BC	12995	0.40	2.19	-	-	-	1.0000	2.19	2.19	TS
17	DK	8770	0.27	5.84	-	-	-	1.0000	5.84	5.84	TS
18	BS	32938	0.64	1.34	-	-	-	1.0000	1.34	1.34	TS
19	BP	27029	0.72	1.95	-	-	-	1.0000	1.95	1.95	TS
20	KC	82660	0.79	1.07	-	-	-	1.0000	1.07	1.07	TS
21	LM	33486	0.64	0.95	-	-	-	1.0000	0.95	0.95	TS
22	PS	85660	0.79	0.55	-	-	-	1.0000	0.55	0.55	TS
23	SVP	100860	0.78	0.55	-	-	-	1.0000	0.55	0.55	TS
24	RS	128860	0.78	0.11	-	-	-	1.0000	0.11	0.11	TS
25	BCH	107060	0.78	0.11	-	-	-	1.0000	0.11	0.11	TS
28	NK	76660	0.79	0.29	-	-	-	1.0000	0.29	0.29	TS
30	PSR	26471	0.71	0.73	-	-	-	1.0000	0.73	0.73	TS
31	LP 2	40186	0.66	0.40	-	-	-	1.0000	0.40	0.40	TS
33	LS	82060	0.79	0.24	-	-	-	1.0000	0.24	0.24	TS
35	HM	36283	0.65	1.27	-	-	-	1.0000	1.27	1.27	TS
36	RID	89460	0.79	0.11	-	-	-	1.0000	0.11	0.11	TS
37	ASO	30131	0.63	2.07	-	-	-	1.0000	2.07	2.07	TS
41	CHA	13791	0.42	3.90	-	-	-	1.0000	3.90	3.90	TS
42	LP 1	36060	0.65	1.52	-	-	-	1.0000	1.52	1.52	TS
43	TC	29482	0.75	1.22	-	-	-	1.0000	1.22	1.22	TS
44	PTW	25468	0.70	2.50	-	-	-	1.0000	2.50	2.50	TS
45	PKN	38635	0.65	0.79	-	-	-	1.0000	0.79	0.79	TS
50	SS	27473	0.73	0.67	-	-	-	1.0000	0.67	0.67	TS
51	NN	37287	0.65	0.33	-	-	-	1.0000	0.33	0.33	TS
52	PTN	126560	0.78	0.09	-	-	-	1.0000	0.09	0.09	TS
'0'	TCLL	0	-	6.00	-	-	14	0.0010	-	-	'0'
'1'	SPS	0	-	1.50	-	-	5	0.0100	-	-	'1'
TS		18329		88.72	1.06		116	0.0010			
	TOTAL			150.01			214				

CALCULATION FOR ALTERNATIVE ROUTING NETWORK BANGKOK , THAILA

FROM I = 13 DM SUB = 3000 SYSTEM C 400 TANDEM AREA =

J	NAME	CIJ	C/P	AIJ	V/M	MC	NIJ	EIJ	OFL	VAR	ROUT
1	TK	95260	0.96	0.84	-	-	-	1.0000	0.84	0.84	
2/1	SR 1	39628	0.72	3.92	-	-	-	1.0000	3.92	3.92	
2/2	SR 2	39628	0.72	3.92	-	-	-	1.0000	3.92	3.92	
2/3	SR 3	39628	0.72	3.92	-	-	-	1.0000	3.92	3.92	
3/1	SW 1	41078	0.47	3.92	-	-	-	1.0000	3.92	3.92	
3/2	SW 2	41078	0.47	3.92	-	-	-	1.0000	3.92	3.92	
3/3	SW 3	41078	0.47	3.92	-	-	-	1.0000	3.92	3.92	
4/1	PL 1	37398	0.72	5.04	-	-	-	1.0000	5.04	5.04	
4/2	PL 2	37398	0.72	5.04	-	-	-	1.0000	5.04	5.04	
5	TH 2	75460	0.81	3.73	-	-	-	1.0000	3.73	3.73	
6/1	PY 1	30708	0.71	5.60	-	-	-	1.0000	5.60	5.60	
6/2	PY 2	30708	0.71	2.80	-	-	-	1.0000	2.80	2.80	
7/1	KK 1	37175	0.72	5.60	-	-	-	1.0000	5.60	5.60	
7/2	KK 2	37175	0.72	5.60	-	-	-	1.0000	5.60	5.60	
8/1	CP 1	76060	0.81	3.73	-	-	-	1.0000	3.73	3.73	
8/2	CP 2	76060	0.81	3.73	-	-	-	1.0000	3.73	3.73	
9	TM	73660	0.81	2.99	-	-	-	1.0000	2.99	2.99	
10	SP	82860	0.80	0.62	-	-	-	1.0000	0.62	0.62	
11	NWW	30262	0.71	1.96	-	-	-	1.0000	1.96	1.96	
12	PD	98060	0.79	0.50	-	-	-	1.0000	0.50	0.50	
13	DM	0	-	41.66	-	-	59	0.0020	-	-	13
14	BN	92260	0.80	2.05	-	-	-	1.0000	2.05	2.05	
15	BK	14036	0.53	4.67	-	-	-	1.0000	4.67	4.67	
16	BC	82060	0.80	1.46	-	-	-	1.0000	1.46	1.46	
17	DK	83660	0.80	1.94	-	-	-	1.0000	1.94	1.94	
18	BS	34611	0.71	5.60	-	-	-	1.0000	5.60	5.60	
19	BP	39740	0.72	4.33	-	-	-	1.0000	4.33	4.33	
20	KC	35503	0.72	3.14	-	-	-	1.0000	3.14	3.14	
21	IM	31600	0.71	2.58	-	-	-	1.0000	2.58	2.58	
22	PS	102460	0.79	1.03	-	-	-	1.0000	1.03	1.03	
23	SMP	117660	0.79	1.03	-	-	-	1.0000	1.03	1.03	
24	RS	13485	1.00	7.78	-	-	-	1.0000	7.78	7.78	
25	BCH	37064	0.72	0.31	-	-	-	1.0000	0.31	0.31	
28	NK	125460	0.78	0.19	-	-	-	1.0000	0.19	0.19	
30	PSR	93060	0.80	0.49	-	-	-	1.0000	0.49	0.49	
31	LP 2	34722	0.71	1.18	-	-	-	1.0000	1.18	1.18	
33	LS	8156	0.58	1.87	-	-	-	1.0000	1.87	1.87	
35	HM	40520	0.47	2.99	-	-	-	1.0000	2.99	2.99	
36	RID	27252	0.71	0.31	-	-	-	1.0000	0.31	0.31	
37	ASD	34611	0.71	2.52	-	-	-	1.0000	2.52	2.52	
41	CHW	78660	0.80	0.93	-	-	-	1.0000	0.93	0.93	
42	LP 1	28032	0.71	2.80	-	-	-	1.0000	2.80	2.80	
43	TC	76460	0.81	1.40	-	-	-	1.0000	1.40	1.40	
44	PTW	37956	0.72	2.80	-	-	-	1.0000	2.80	2.80	
45	PKN	82860	0.80	1.87	-	-	-	1.0000	1.87	1.87	
50	SS	35726	0.72	2.80	-	-	-	1.0000	2.80	2.80	
51	NN	36283	0.72	1.18	-	-	-	1.0000	1.18	1.18	
52	PTN	35503	0.31	0.31	-	-	-	1.0000	0.31	0.31	
'0'	TCLL	0	-	6.00	-	-	14	0.0010	-	-	'0'
'1'	SPS	0	-	1.50	-	-	5	0.0100	-	-	'1'
T4		10626		130.86	-		154	0.0010			
	TOTAL			180.02			241				

CALCULATION FOR ALTERNATIVE ROUTING NETWORK BANGKOK , THAILAND

FROM I = 14 BN SUB = 10000 SYSTEM C 400 TANDEM AREA = 6

J	NAME	CIJ	C/P	AIJ	V/P	WQ	NIJ	EIJ	OFL	VAR	ROUTING
1	TK	27921	0.67	4.35	-	-	-	1.0000	4.35	4.35	T6
2/1	SR 1	26917	0.67	10.62	-	-	10	0.2428	2.58	5.19 2/1	T6
2/2	SR 2	26917	0.67	10.62	-	-	10	0.2428	2.58	5.19 2/2	T6
2/3	SR 3	26917	0.67	10.62	-	-	10	0.2428	2.58	5.19 2/3	T6
3/1	SW 1	25245	0.66	18.35	-	-	18	0.1762	3.23	8.06 3/1	T6
3/2	SW 2	25245	0.66	18.35	-	-	18	0.1762	3.23	8.06 3/2	T6
3/3	SW 3	25245	0.66	18.35	-	-	18	0.1762	3.23	8.06 3/3	T6
4/1	PL 1	12750	0.52	17.39	-	-	19	0.1204	2.09	5.45 4/1	T6
4/2	PL 2	12750	0.52	17.39	-	-	19	0.1204	2.09	5.45 4/2	T6
5	TH 2	31206	0.68	8.69	-	-	-	1.0000	8.69	8.69	T6
6/1	PY 1	26583	0.67	13.52	-	-	13	0.2109	2.85	6.29 6/1	T6
6/2	PY 2	26583	0.67	6.76	-	-	-	1.0000	6.76	6.76	T6
7/1	KK 1	24576	0.66	11.59	-	-	11	0.2309	2.68	5.57 7/1	T6
7/2	KK 2	24576	0.66	11.59	-	-	11	0.2309	2.68	5.57 7/2	T6
8/1	CP 1	8207	0.43	19.80	-	-	23	0.0810	1.60	4.50 8/1	T6
8/2	CP 2	8207	0.43	19.80	-	-	23	0.0810	1.60	4.50 8/2	T6
9	TP	13607	0.53	10.62	-	-	12	0.1439	1.53	3.35 9	T6
10	SP	26983	0.67	1.16	-	-	-	1.0000	1.16	1.16	T6
11	NW	39851	0.44	1.45	-	-	-	1.0000	1.45	1.45	T6
12	PD	75460	0.76	1.30	-	-	-	1.0000	1.30	1.30	T6
13	DN	99260	0.76	1.88	-	-	-	1.0000	1.88	1.88	T6
14	BN	0	-	47.33	-	-	65	0.0020	-	- 14	
15	BK	35857	0.68	4.83	-	-	-	1.0000	4.83	4.83	T6
16	BC	34945	0.68	2.61	-	-	-	1.0000	2.61	2.61	T6
17	DK	35837	0.69	3.48	-	-	-	1.0000	3.48	3.48	T6
18	BS	32746	0.68	9.66	-	-	-	1.0000	9.66	9.66	T6
19	BP	29816	0.67	5.80	-	-	-	1.0000	5.80	5.80	T6
20	KC	27029	0.67	7.73	-	-	-	1.0000	7.73	7.73	T6
21	IN	25914	0.66	5.80	-	-	-	1.0000	5.80	5.80	T6
22	PS	6671	0.27	16.56	-	-	22	0.0409	0.68	1.79 22	T6
23	SMP	11832	0.28	16.56	-	-	22	0.0409	0.68	1.79 23	T6
24	RS	123060	0.75	0.50	-	-	-	1.0000	0.50	0.50	T6
25	BCH	77660	0.76	0.77	-	-	-	1.0000	0.77	0.77	T6
28	NK	102860	0.76	0.35	-	-	-	1.0000	0.35	0.35	T6
30	PSR	41078	0.44	0.87	-	-	-	1.0000	0.87	0.87	T6
31	LP 2	25691	0.66	2.90	-	-	-	1.0000	2.90	2.90	T6
33	LS	76260	0.76	1.93	-	-	-	1.0000	1.93	1.93	T6
35	HM	111520	0.50	15.84	-	-	18	0.1076	1.70	4.35 35	T6
36	RID	35280	0.68	0.77	-	-	-	1.0000	0.77	0.77	T6
37	ASD	14280	0.54	8.69	-	-	10	0.1535	1.33	2.74 37	T6
41	CHW	35726	0.69	2.17	-	-	-	1.0000	2.17	2.17	T6
42	LP 1	29482	0.67	6.76	-	-	-	1.0000	6.76	6.76	T6
43	TC	25245	0.66	7.24	-	-	-	1.0000	7.24	7.24	T6
44	PTW	14586	0.41	5.80	-	-	-	1.0000	5.80	5.80	T6
45	PKN	6466	0.56	9.90	-	-	11	0.1589	1.57	3.34 45	T6
50	SS	28761	0.67	4.83	-	-	-	1.0000	4.83	4.83	T6
51	NN	39971	0.44	0.87	-	-	-	1.0000	0.87	0.87	T6
52	PTN	124460	0.75	0.23	-	-	-	1.0000	0.23	0.23	T6
101	TOLL	0	-	20.00	-	-	34	0.0010	-	- 101	
111	SPS	0	-	5.00	-	-	10	0.0100	-	- 111	
T6		8606		142.01	1.38		181	0.0010			
	TOTAL			649.98			588				

CALCULATION FOR ALTERNATIVE ROUTING NETWORK BANGKOK , THAILAND

FROM I = 15 BK SUB = 5100 SYSTEM C 400 TANDEM AREA = 4

J	NAME	CIJ	C/P	AIJ	V/M	MQ	NIJ	EIJ	OFL	VAR	ROUTING
1	TK	28265	0.27	0.67	-	-	-	1.0000	0.67	0.67	T4
2/1	SR 1	13607	0.22	5.87	-	-	16	0.0393	0.23	0.43 2/1	T4
2/2	SR 2	13607	0.22	5.87	-	-	16	0.0393	0.23	0.43 2/2	T4
2/3	SR 3	13607	0.22	5.87	-	-	16	0.0393	0.23	0.43 2/3	T4
3/1	SK 1	14403	0.16	10.49	-	-	17	0.0180	0.19	0.41 3/1	T4
3/2	SK 2	14403	0.16	10.49	-	-	17	0.0180	0.19	0.41 3/2	T4
3/3	SK 3	14403	0.16	10.49	-	-	17	0.0180	0.19	0.41 3/3	T4
4/1	PL 1	12383	0.21	13.56	-	-	20	0.0243	0.33	0.80 4/1	T4
4/2	PL 2	12383	0.21	13.56	-	-	20	0.0243	0.33	0.80 4/2	T4
5	TH 2	25691	0.26	3.64	-	-	-	1.0000	3.64	3.64	T4
6/1	PY 1	7951	0.16	13.70	-	-	21	0.0167	0.23	0.54 6/1	T4
6/2	PY 2	7951	0.16	6.85	-	-	12	0.0242	0.17	0.32 6/2	T4
7/1	KK 1	12261	0.21	13.00	-	-	19	0.0284	0.37	0.88 7/1	T4
7/2	KK 2	12261	0.21	13.00	-	-	19	0.0284	0.37	0.88 7/2	T4
8/1	CP 1	26025	0.25	6.29	-	-	10	0.0525	0.33	0.63 8/1	T4
8/2	CP 2	26025	0.26	6.29	-	-	10	0.0525	0.33	0.63 8/2	T4
9	TM	24687	0.25	5.17	-	-	-	1.0000	5.17	5.17	T4
10	SP	29816	0.27	1.47	-	-	-	1.0000	1.47	1.47	T4
11	NNW	7746	0.16	4.20	-	-	-	1.0000	4.20	4.20	T4
12	PD	38290	0.30	0.55	-	-	-	1.0000	0.55	0.55	T4
13	DM	14036	0.44	3.15	-	-	-	1.0000	3.15	3.15	T4
14	BN	35057	0.29	5.59	-	-	-	1.0000	5.59	5.59	T4
15	BK	0	-	14.12	-	-	25	0.0020	-	- 15	
16	BC	29370	0.27	1.09	-	-	-	1.0000	1.09	1.09	T4
17	DK	30262	0.27	1.45	-	-	-	1.0000	1.45	1.45	T4
18	BS	10853	0.20	12.86	-	-	19	0.0265	0.34	0.81 18	T4
19	BP	13668	0.22	6.71	-	-	11	0.0395	0.27	0.52 19	T4
20	KC	25356	0.46	6.71	-	-	-	1.0000	6.71	6.71	T4
21	IM	8361	0.17	5.03	-	-	-	1.0000	5.03	5.03	T4
22	PS	40743	0.30	2.80	-	-	-	1.0000	2.80	2.80	T4
23	SMP	85560	0.55	2.80	-	-	-	1.0000	2.80	2.80	T4
24	RS	39405	0.65	0.84	-	-	-	1.0000	0.84	0.84	T4
25	RCH	27252	0.47	0.67	-	-	-	1.0000	0.67	0.67	T4
28	NK	92860	0.56	0.15	-	-	-	1.0000	0.15	0.15	T4
30	PSR	35503	0.29	0.36	-	-	-	1.0000	0.36	0.36	T4
31	LP 2	10914	0.20	2.52	-	-	-	1.0000	2.52	2.52	T4
33	LS	8310	0.42	3.95	-	-	-	1.0000	3.95	3.95	T4
35	HM	14397	0.15	5.03	-	-	10	0.0196	0.10	0.17 35	T4
36	RID	11404	0.26	0.67	-	-	-	1.0000	0.07	0.07	T4
37	ASD	10853	0.20	6.78	-	-	11	0.0414	0.28	0.55 37	T4
41	CHW	27475	0.27	0.91	-	-	-	1.0000	0.91	0.91	T4
42	LP 1	6722	0.15	6.85	-	-	12	0.0242	0.17	0.32 42	T4
43	TC	26248	0.26	1.12	-	-	-	1.0000	1.12	1.12	T4
44	PTW	12689	0.22	6.50	-	-	11	0.0341	0.22	0.42 44	T4
45	PKN	29816	0.27	3.15	-	-	-	1.0000	3.15	3.15	T4
50	SS	11465	0.21	6.43	-	-	11	0.0324	0.21	0.40 50	T4
51	NN	11771	0.21	2.52	-	-	-	1.0000	2.52	2.52	T4
52	PTN	74660	0.61	0.67	-	-	-	1.0000	0.67	0.67	T4
'0'	TCLL	0	-	10.00	-	-	20	0.0010	-	- '0'	
'1'	SPS	0	-	2.50	-	-	6	0.0100	-	- '1'	
T4		14984		67.16	1.09		92	0.0010			

TOTAL 274.96 440

CALCULATION FOR ALTERNATIVE ROUTING NETWORK BANGKOK , THAILAND

FROM I = 16 BC SUB = 6600 SYSTEM C 400 TANDEM AREA = 5

J	NAME	CIJ	C/P	AIJ	V/M	MQ	NIJ	EIJ	OFL	VAR	ROUTING
1	TK	14219	0.41	1.24	-	-	-	1.0000	1.24	1.24	T5
2/1	SR 1	8105	0.44	6.60	-	-	-	1.0000	6.60	6.60	T5
2/2	SR 2	8105	0.44	6.60	-	-	-	1.0000	6.60	6.60	T5
2/3	SR 3	8105	0.44	6.60	-	-	-	1.0000	6.60	6.60	T5
3/1	SK 1	11282	0.51	7.43	-	-	-	1.0000	7.43	7.43	T5
3/2	SK 2	11282	0.51	7.43	-	-	-	1.0000	7.43	7.43	T5
3/3	SK 3	11282	0.51	7.43	-	-	-	1.0000	7.43	7.43	T5
4/1	PL 1	12322	0.52	5.57	-	-	-	1.0000	5.57	5.57	T5
4/2	PL 2	12322	0.52	5.57	-	-	-	1.0000	5.57	5.57	T5
5	TH 2	5750	0.58	35.49	-	-	37	0.0988	3.51	11.89	5 T5
6/1	PY 1	13301	0.53	5.57	-	-	-	1.0000	5.57	5.57	T5
6/2	PY 2	13301	0.53	2.79	-	-	-	1.0000	2.79	2.79	T5
7/1	KK 1	8822	0.44	6.81	-	-	-	1.0000	6.81	6.81	T5
7/2	KK 2	8822	0.44	6.81	-	-	-	1.0000	6.81	6.81	T5
8/1	CP 1	25914	0.66	5.57	-	-	-	1.0000	5.57	5.57	T5
8/2	CP 2	25914	0.66	5.57	-	-	-	1.0000	5.57	5.57	T5
9	TM	13424	0.53	3.10	-	-	-	1.0000	3.10	3.10	T5
10	SP	25463	0.65	0.93	-	-	-	1.0000	0.93	0.93	T5
11	NKW	31823	0.67	2.58	-	-	-	1.0000	2.58	2.58	T5
12	PC	12995	0.53	2.23	-	-	-	1.0000	2.23	2.23	T5
13	DM	82662	0.74	1.55	-	-	-	1.0000	1.55	1.55	T5
14	BN	34945	0.43	3.10	-	-	-	1.0000	3.10	3.10	T5
15	BK	29570	0.67	2.58	-	-	-	1.0000	2.58	2.58	T5
16	BC	0	-	17.33	-	-	29	0.0029	-	-	16
17	DK	7849	0.43	5.94	-	-	-	1.0000	5.94	5.94	T5
18	BS	24018	0.65	5.16	-	-	-	1.0000	5.16	5.16	T5
19	RP	11771	0.51	5.94	-	-	-	1.0000	5.94	5.94	T5
20	KC	38959	0.43	4.13	-	-	-	1.0000	4.13	4.13	T5
21	TM	24576	0.65	3.10	-	-	-	1.0000	3.10	3.10	T5
22	PS	40632	0.43	1.55	-	-	-	1.0000	1.55	1.55	T5
23	SMP	84860	0.74	1.55	-	-	-	1.0000	1.55	1.55	T5
24	RS	112860	0.74	0.41	-	-	-	1.0000	0.41	0.41	T5
25	BCH	91160	0.74	0.41	-	-	-	1.0000	0.41	0.41	T5
28	NK	28255	0.34	1.62	-	-	-	1.0000	1.62	1.62	T5
30	PSR	6876	0.31	4.04	-	-	-	1.0000	4.04	4.04	T5
31	LP 2	31266	0.67	1.55	-	-	-	1.0000	1.55	1.55	T5
33	LS	38625	0.43	1.03	-	-	-	1.0000	1.03	1.03	T5
35	HM	27363	0.66	4.46	-	-	-	1.0000	4.45	4.46	T5
36	PID	73460	0.74	0.41	-	-	-	1.0000	0.41	0.41	T5
37	ASD	13485	0.41	2.79	-	-	-	1.0000	2.79	2.79	T5
41	CHN	8105	0.44	8.87	-	-	11	0.1155	1.02	2.16	41 T5
42	LP 1	27140	0.66	2.79	-	-	-	1.0000	2.79	2.79	T5
43	TC	13118	0.53	2.06	-	-	-	1.0000	2.06	2.06	T5
44	PTW	10914	0.50	3.40	-	-	-	1.0000	3.40	3.40	T5
45	PKN	29705	0.67	2.79	-	-	-	1.0000	2.79	2.79	T5
50	SS	12016	0.52	2.58	-	-	-	1.0000	2.58	2.58	T5
51	NN	28367	0.66	1.55	-	-	-	1.0000	1.55	1.55	T5
52	PTN	110060	0.74	0.41	-	-	-	1.0000	0.41	0.41	T5
'0'	TCLL	0	-	12.00	-	-	23	0.0010	-	-	'0'
'1'	SPS	0	-	3.00	-	-	7	0.0100	-	-	'1'
T5		7420		167.86	1.06		203	0.0010			

TOTAL 240.02 310

CALCULATION FOR ALTERNATIVE ROUTING NETWORK BANGKOK , THAILAND

FROM I = 17. DK SUB = 6000 SYSTEM C 400 TANDEM AREA = 5

J	NAME	CIJ	C/P	AIJ	V/N	MQ	NIJ	EIJ	OFL	VAR	ROUTING
1	TK	14709	0.41	2.86	-	-	-	1.0000	2.86	2.86	T5
2/1	SR 1	8514	0.44	9.21	-	-	12	0.0905	0.83	1.80 2/1	T5
2/2	SR 2	8514	0.44	9.21	-	-	12	0.0905	0.83	1.80 2/2	T5
2/3	SR 3	8514	0.44	9.21	-	-	12	0.0905	0.83	1.80 2/3	T5
3/1	SK 1	11771	0.50	10.48	-	-	12	0.1384	1.45	3.18 3/1	T5
3/2	SK 2	11771	0.50	10.48	-	-	12	0.1384	1.45	3.18 3/2	T5
3/3	SK 3	11771	0.50	10.48	-	-	12	0.1384	1.45	3.18 3/3	T5
4/1	PL 1	12812	0.52	7.31	-	-	-	1.0000	7.31	7.31	T5
4/2	PL 2	12812	0.52	7.31	-	-	-	1.0000	7.31	7.31	T5
5	TH 2	6159	0.56	34.31	-	-	36	0.0972	3.34	11.20 5	T5
6/1	PY 1	13791	0.53	7.31	-	-	-	1.0000	7.31	7.31	T5
6/2	PY 2	13791	0.53	3.65	-	-	-	1.0000	3.65	3.65	T5
7/1	KK 1	10241	0.48	8.26	-	-	10	0.1335	1.1.	2.26 7/1	T5
7/2	KK 2	10241	0.48	8.26	-	-	10	0.1335	1.1.	2.26 7/2	T5
8/1	CP 1	26806	0.66	6.35	-	-	-	1.0000	6.35	6.35	T5
8/2	CP 2	26806	0.66	6.35	-	-	-	1.0000	6.35	6.35	T5
9	TM	13913	0.53	7.94	-	-	-	1.0000	7.94	7.94	T5
10	SP	26360	0.66	1.91	-	-	-	1.0000	1.91	1.91	T5
11	NWN	32715	0.67	3.18	-	-	-	1.0000	3.18	3.18	T5
12	PC	8770	0.34	6.67	-	-	10	0.0660	0.44	0.86 12	T5
13	DM	83660	0.75	1.91	-	-	-	1.0000	1.91	1.91	T5
14	BN	35837	0.44	6.35	-	-	-	1.0000	6.35	6.35	T5
15	BK	30262	0.67	3.65	-	-	-	1.0000	3.65	3.65	T5
16	BC	7849	0.42	14.68	-	-	18	0.0784	1.15	2.91 16	T5
17	DK	0	-	19.06	-	-	31	0.0020	-	- 17	
18	BS	24910	0.65	7.31	-	-	-	1.0000	7.31	7.31	T5
19	BP	12261	0.51	8.39	-	-	10	0.1395	1.17	2.40 19	T5
20	KC	39851	0.44	5.85	-	-	-	1.0000	5.85	5.85	T5
21	IM	25468	0.66	4.38	-	-	-	1.0000	4.38	4.38	T5
22	PS	41524	0.44	3.18	-	-	-	1.0000	3.18	3.18	T5
23	SMP	86460	0.75	3.18	-	-	-	1.0000	3.18	3.18	T5
24	RS	114460	0.75	0.51	-	-	-	1.0000	0.51	0.51	T5
25	BCH	92660	0.75	0.58	-	-	-	1.0000	0.58	0.58	T5
28	NK	36506	0.44	1.96	-	-	-	1.0000	1.96	1.96	T5
30	PSR	11955	0.51	4.89	-	-	-	1.0000	4.89	4.89	T5
31	LP 2	32158	0.67	2.19	-	-	-	1.0000	2.19	2.19	T5
33	LS	39517	0.44	1.46	-	-	-	1.0000	1.46	1.46	T5
35	HM	28255	0.66	5.08	-	-	-	1.0000	5.08	5.08	T5
36	RID	75060	0.75	0.58	-	-	-	1.0000	0.58	0.58	T5
37	ASD	13974	0.41	3.65	-	-	-	1.0000	3.65	3.65	T5
41	CHW	8514	0.44	8.58	-	-	11	0.1037	0.89	1.87 41	T5
42	LP 1	28032	0.66	3.65	-	-	-	1.0000	3.65	3.65	T5
43	TC	13607	0.53	4.77	-	-	-	1.0000	4.77	4.77	T5
44	PTW	11404	0.50	4.13	-	-	-	1.0000	4.13	4.13	T5
45	PKN	30597	0.67	3.18	-	-	-	1.0000	3.18	3.18	T5
50	SS	12506	0.51	3.65	-	-	-	1.0000	3.65	3.65	T5
51	NN	29259	0.67	1.91	-	-	-	1.0000	1.91	1.91	T5
52	PTN	111660	0.75	0.51	-	-	-	1.0000	0.51	0.51	T5
'0'	TOLL	0	-	16.00	-	-	29	0.0010	-	- '0'	
'1'	SPS	0	-	4.00	-	-	9	0.0100			'1'
TS		8239		148.72	1.15		185	0.0010			

TOTAL 319.96 431

CALCULATION FOR ALTERNATIVE ROUTING NETWORK BANGKOK , THAILAND

FROM I = 18 BS SUB = 10000 SYSTEM C 400 TANDEM AREA = 2

J	NAME	CIJ	C/P	AIJ	V/M	MQ	NIJ	FIJ	OFL	VAR	ROUTING
1	TK	24353	0.64	2.29	-	-	-	1.0000	2.29	2.29	T2
2/1	SR 1	10670	0.45	15.29	-	-	18	0.0934	1.43	3.64	2/1 T2
2/2	SR 2	10670	0.45	15.29	-	-	18	0.0934	1.43	3.64	2/2 T2
2/3	SR 3	10670	0.45	15.29	-	-	18	0.0934	1.43	3.64	2/3 T2
3/1	SW 1	12261	0.50	18.86	-	-	21	0.1047	1.98	5.36	3/1 T2
3/2	SW 2	12261	0.50	18.86	-	-	21	0.1047	1.98	5.36	3/2 T2
3/3	SW 3	12261	0.50	18.86	-	-	21	0.1047	1.98	5.36	3/3 T2
4/1	PL 1	10731	0.49	18.35	-	-	21	0.0933	1.71	4.64	4/1 T2
4/2	PL 2	10731	0.49	18.35	-	-	21	0.0933	1.71	4.64	4/2 T2
5	TH 2	12995	0.49	20.39	-	-	23	0.0928	1.89	5.32	5 T2
6/1	PY 1	6569	0.56	20.90	-	-	22	0.1270	2.65	7.28	6/1 T2
6/2	PY 2	6569	0.56	10.45	-	-	11	0.1820	1.91	4.03	6/2 T2
7/1	KK 1	8463	0.39	22.94	-	-	28	0.0510	1.17	3.51	7/1 T2
7/2	KK 2	8463	0.39	22.94	-	-	28	0.0510	1.17	3.51	7/2 T2
8/1	CP 1	14464	0.41	9.17	-	-	12	0.0890	0.82	1.76	8/1 T2
8/2	CP 2	14464	0.41	9.17	-	-	12	0.0890	0.82	1.76	8/2 T2
9	TM	13739	0.53	7.65	-	-	-	1.0000	7.65	7.65	T2
10	SP	26806	0.67	2.29	-	-	-	1.0000	2.29	2.29	T2
11	NHW	7644	0.29	17.84	-	-	24	0.0332	0.59	1.60	11 T2
12	PD	32933	0.64	3.06	-	-	-	1.0000	3.06	3.06	T2
13	DM	34611	0.66	6.12	-	-	-	1.0000	6.12	6.12	T2
14	BN	32746	0.68	7.65	-	-	-	1.0000	7.65	7.65	T2
15	BK	10853	0.47	10.19	-	-	12	0.1271	1.29	2.83	15 T2
16	BC	24718	0.61	6.12	-	-	-	1.0000	6.12	6.12	T2
17	DK	24910	0.61	8.15	-	-	-	1.0000	8.15	8.15	T2
18	BS	0	-	46.38	-	-	64	0.0020	-	-	18
19	BP	8310	0.35	16.31	-	-	21	0.0521	0.85	2.25	19 T2
20	KC	26137	0.61	16.31	-	-	16	0.1848	3.01	7.29	20 T2
21	IM	8258	0.43	12.23	-	-	15	0.0924	1.13	2.67	21 T2
22	PS	37733	0.45	3.82	-	-	-	1.0000	3.82	3.82	T2
23	SMP	79507	0.76	3.82	-	-	-	1.0000	3.82	3.82	T2
24	RS	89660	0.74	1.63	-	-	-	1.0000	1.63	1.63	T2
25	RCH	39628	0.43	1.63	-	-	-	1.0000	1.63	1.63	T2
28	NK	83266	0.72	0.82	-	-	-	1.0000	0.82	0.82	T2
30	PSR	30151	0.63	2.04	-	-	-	1.0000	2.04	2.04	T2
31	LP 2	11343	0.46	6.12	-	-	-	1.0000	6.12	6.12	T2
33	LS	25691	0.63	4.08	-	-	-	1.0000	4.08	4.08	T2
35	HM	13974	0.53	7.34	-	-	-	1.0000	7.34	7.34	T2
36	RID	29816	0.65	1.63	-	-	-	1.0000	1.63	1.63	T2
37	ASD	8361	0.43	9.17	-	-	12	0.0890	0.82	1.76	37 T2
41	CHW	12383	0.33	5.10	-	-	-	1.0000	5.10	5.10	T2
42	LP 1	7081	0.33	10.45	-	-	14	0.0690	0.72	1.63	42 T2
43	TC	14097	0.40	3.82	-	-	-	1.0000	3.82	3.82	T2
44	PTW	10792	0.48	11.47	-	-	13	0.1355	1.55	3.50	44 T2
45	PKN	26806	0.67	4.59	-	-	-	1.0000	4.59	4.59	T2
50	SS	6722	0.33	16.23	-	-	21	0.0507	0.82	2.17	50 T2
51	NN	7286	0.28	10.70	-	-	15	0.0516	0.55	1.26	51 T2
52	PTM	24260	0.60	2.85	-	-	-	1.0000	2.85	2.85	T2
101	TGLL	0	-	20.00	-	-	34	0.0010	-	-	101
111	SPS	0	-	5.00	-	-	10	0.0100	-	-	111
T2		8729		128.03	1.43		166	0.0010			

TOTAL 550.01 732

CALCULATION FOR ALTERNATIVE ROUTING NETWORK BANGKOK , THAILAND

FROM I = 19 BP SUB = 8000 SYSTEM C 400 TANDEM AREA = 1

J	NAME	CIJ	C/P	AIJ	V/N	MQ	NIJ	EIJ	OFL	VAR	ROUTING
1	TK	12812	0.52	2.40	-	-	-	1.0000	2.40	2.40	T1
2/1	SR 1	7593	0.41	13.18	-	-	16	0.0910	1.20	2.91 2/1	T1
2/2	SR 2	7593	0.41	13.18	-	-	16	0.0910	1.20	2.91 2/2	T1
2/3	SR 3	7593	0.41	13.18	-	-	16	0.0910	1.20	2.91 2/3	T1
3/1	SK 1	8924	0.44	9.98	-	-	12	0.1196	1.19	2.59 3/1	T1
3/2	SK 2	8924	0.44	9.98	-	-	12	0.1196	1.19	2.59 3/2	T1
3/3	SK 3	8924	0.44	9.98	-	-	12	0.1196	1.19	2.59 3/3	T1
4/1	PL 1	8617	0.44	10.78	-	-	13	0.1107	1.19	2.68 4/1	T1
4/2	PL 2	8617	0.44	10.78	-	-	13	0.1107	1.19	2.68 4/2	T1
5	TH 2	8822	0.40	27.15	-	-	32	0.0551	1.50	4.79 5	T1
6/1	PY 1	8207	0.38	16.37	-	-	20	0.0721	1.18	3.11 6/1	T1
6/2	PY 2	8207	0.38	8.18	-	-	11	0.0881	0.72	1.50 6/2	T1
7/1	KK 1	6466	0.56	17.97	-	-	19	0.1354	2.43	6.31 7/1	T1
7/2	KK 2	6466	0.56	17.97	-	-	19	0.1354	2.43	6.31 7/2	T1
8/1	CP 1	13240	0.52	7.19	-	-	-	1.0000	7.19	7.19 -	T1
8/2	CP 2	13240	0.52	7.19	-	-	-	1.0000	7.19	7.19	T1
9	TM	11894	0.51	5.99	-	-	-	1.0000	5.99	5.99	T1
10	SP	14403	0.41	1.80	-	-	-	1.0000	1.80	1.80	T1
11	NNW	12995	0.32	5.39	-	-	-	1.0000	5.39	5.39	T1
12	PC	27029	0.63	2.40	-	-	-	1.0000	2.40	2.40	T1
13	DM	39740	0.41	2.40	-	-	-	1.0000	2.40	2.40	T1
14	BN	29816	0.67	5.99	-	-	-	1.0000	5.99	5.99	T1
15	BK	13668	0.37	5.99	-	-	-	1.0000	5.99	5.99	T1
16	BC	11771	0.48	4.79	-	-	-	1.0000	4.79	4.79	T1
17	DK	12261	0.49	6.39	-	-	-	1.0000	6.39	6.39	T1
18	BS	8310	0.35	17.97	-	-	23	0.0483	0.87	2.37 18	T1
19	BP	0	-	28.75	-	-	43	0.0020	-	- 19	
20	KC	32269	0.65	12.78	-	-	12	0.2290	2.93	6.25 20	T1
21	TM	11037	0.45	9.58	-	-	12	0.1039	1.00	2.16 21	T1
22	PS	35503	0.69	2.99	-	-	-	1.0000	2.99	2.99	T1
23	SMP	75660	0.76	2.99	-	-	-	1.0000	2.99	2.99	T1
24	RS	98860	0.72	0.64	-	-	-	1.0000	0.64	0.64	T1
25	BCH	77060	0.71	1.28	-	-	-	1.0000	1.28	1.28	T1
28	NK	72660	0.73	0.64	-	-	-	1.0000	0.64	0.64	T1
30	PSR	24241	0.62	1.60	-	-	-	1.0000	1.60	1.60	T1
31	LP 2	14709	0.37	4.79	-	-	-	1.0000	4.79	4.79	T1
33	LS	36820	0.63	2.40	-	-	-	1.0000	2.40	2.40	T1
35	HM	14036	0.53	5.75	-	-	-	1.0000	5.75	5.75	T1
36	RID	34945	0.41	1.28	-	-	-	1.0000	1.28	1.28	T1
37	ASD	18976	0.49	5.39	-	-	-	1.0000	5.39	5.39	T1
41	CHN	6774	0.27	6.79	-	-	11	0.0417	0.28	0.55 41	T1
42	LP 1	12444	0.48	8.18	-	-	10	0.1298	1.05	2.17 42	T1
43	TC	11710	0.50	3.99	-	-	-	1.0000	3.99	3.99	T1
44	PTW	7695	0.42	8.98	-	-	12	0.0824	0.74	1.59 44	T1
45	PKN	24576	0.66	3.59	-	-	-	1.0000	3.59	3.59	T1
50	SS	5903	0.30	8.98	-	-	13	0.0539	0.48	1.04 50	T1
51	NN	8770	0.23	3.23	-	-	-	1.0000	3.23	3.23	T1
52	PTN	89460	0.67	0.86	-	-	-	1.0000	0.86	0.86	T1
'0'	TOLL	0	-	16.00	-	-	29	0.0010	-	- '0'	
'1'	SPS	0	-	4.00	-	-	9	0.0100	-	- '1'	
T1		8606		124.51	1.28		160	0.0010			

TOTAL 400.03 545

CALCULATION FOR ALTERNATIVE ROUTING NETWORK BANGKOK , THAILAND

FROM I = 20 KC SUB = 8000 SYSTEM C 400 TANDEM AREA = 6

J	NAME	CIJ	C/P	AIJ	V/M	MQ	NIJ	FIJ	CFL	VAR	ROUTING	
1	TK	34388	0.56	1.35	-	-	-	1.0000	1.35	1.35		T6
2/1	SR 1	30931	0.51	6.91	-	-	-	1.0000	6.91	6.91		T6
2/2	SR 2	30931	0.51	6.91	-	-	-	1.0000	6.91	6.91		T6
2/3	SR 3	30931	0.51	6.91	-	-	-	1.0000	6.91	6.91		T6
3/1	SW 1	29259	0.50	11.05	-	-	13	0.1203	1.33	2.99	3/1	T6
3/2	SW 2	29259	0.50	11.05	-	-	13	0.1203	1.33	2.99	3/2	T6
3/3	SW 3	29259	0.50	11.05	-	-	13	0.1203	1.33	2.99	3/3	T6
4/1	PL 1	23907	0.54	13.13	-	-	14	0.1557	2.04	4.72	4/1	T6
4/2	PL 2	23907	0.54	13.13	-	-	14	0.1557	2.04	4.72	4/2	T6
5	TH 2	35280	0.53	11.74	-	-	13	0.1453	1.71	3.85	5	T6
6/1	PY 1	14586	0.24	15.89	-	-	22	0.0314	0.50	1.29	6/1	T6
6/2	PY 2	14586	0.24	7.94	-	-	12	0.0497	0.39	0.81	6/2	T6
7/1	KK 1	28590	0.50	12.44	-	-	14	0.1320	1.64	3.81	7/1	T6
7/2	KK 2	28590	0.50	12.44	-	-	14	0.1320	1.64	3.81	7/2	T6
8/1	CP 1	12567	0.32	13.13	-	-	18	0.0451	0.59	1.44	8/1	T6
8/2	CP 2	12567	0.32	13.13	-	-	18	0.0451	0.59	1.44	8/2	T6
9	TM	27921	0.61	6.91	-	-	-	1.0000	6.91	6.91		T6
10	SP	33350	0.55	1.76	-	-	-	1.0000	1.76	1.76		T6
11	NNW	33384	0.30	6.56	-	-	10	0.0619	0.41	1.79	11	T6
12	PC	82660	0.69	1.76	-	-	-	1.0000	1.76	1.76		T6
13	DM	36503	0.25	3.94	-	-	-	1.0000	3.94	3.94		T6
14	BN	27029	0.68	7.25	-	-	-	1.0000	7.25	7.25		T6
15	BK	25356	0.36	6.56	-	-	-	1.0000	6.56	6.56		T6
16	BC	38959	0.55	3.52	-	-	-	1.0000	3.52	3.52		T6
17	DK	39851	0.55	4.70	-	-	-	1.0000	4.70	4.70		T6
18	BS	26137	0.39	11.40	-	-	15	0.0691	0.79	1.83	18	T6
19	BP	32269	0.50	8.29	-	-	10	0.1349	1.12	2.29	19	T6
20	KC	0	-	23.21	-	-	37	0.0020	-	-	20	
21	IM	12567	0.21	10.36	-	-	16	0.0276	0.29	0.63	21	T6
22	PS	32715	0.73	3.63	-	-	-	1.0000	3.63	3.63		T6
23	SMP	41189	0.66	3.63	-	-	-	1.0000	3.63	3.63		T6
24	RS	91260	0.50	1.05	-	-	-	1.0000	1.05	1.05		T6
25	SCH	13974	0.11	1.62	-	-	-	1.0000	1.62	1.62		T6
28	NK	110060	0.71	0.47	-	-	-	1.0000	0.47	0.47		T6
30	PSR	77660	0.69	1.17	-	-	-	1.0000	1.17	1.17		T6
31	LP 2	8105	0.14	6.09	-	-	11	0.0248	0.15	0.28	31	T6
33	LS	26583	0.22	2.63	-	-	-	1.0000	2.63	2.03		T6
35	HM	10425	0.25	10.50	-	-	15	0.0470	0.49	1.11	35	T6
36	PID	7849	0.11	1.62	-	-	-	1.0000	1.62	1.62		T6
37	ASD	25133	0.54	6.56	-	-	-	1.0000	6.56	6.56		T6
41	CPA	38179	0.53	2.94	-	-	-	1.0000	2.94	2.94		T6
42	LP 1	12567	0.20	7.94	-	-	13	0.0295	0.23	0.47	42	T6
43	TC	31712	0.55	2.25	-	-	-	1.0000	2.25	2.25		T6
44	PTW	27252	0.49	6.22	-	-	-	1.0000	6.22	6.22		T6
45	PKN	13791	0.44	6.56	-	-	-	1.0000	6.56	6.56		T6
50	SS	28255	0.45	5.70	-	-	-	1.0000	5.70	5.70		T6
51	NN	33161	0.31	3.94	-	-	-	1.0000	3.94	3.94		T6
52	PTN	112860	0.61	1.05	-	-	-	1.0000	1.05	1.05		T6
'0'	TOLL	0	-	16.00	-	-	29	0.0010	-	-	'0'	
'1'	SPS	0	-	4.00	-	-	9	0.0100	-	-	'1'	
T6		23458		128.14	1.18		163	0.0010				

TOTAL 359.99 506

CALCULATION FOR ALTERNATIVE ROUTING NETWORK BANGKOK , THAILAND

FROM I = 21 IN SUB = 6000 SYSTEM C 400 TANDEM AREA = 2

J	NAME	CIJ	C/P	AIJ	V/M	MQ	NIJ	FIJ	OFL	VAR	ROUTING	
1	TK	14342	0.40	1.24	-	-	-	1.0000	1.24	1.24		T2
2/1	SR 1	10976	0.50	5.49	-	-	-	1.0000	5.49	5.49		T2
2/2	SR 2	10976	0.50	5.49	-	-	-	1.0000	5.49	5.49		T2
2/3	SR 3	10976	0.50	5.49	-	-	-	1.0000	5.49	5.49		T2
3/1	SW 1	11404	0.50	8.79	-	-	10	0.1581	1.39	2.85	3/1	T2
3/2	SW 2	11404	0.50	8.79	-	-	10	0.1581	1.39	2.85	3/2	T2
3/3	SW 3	11404	0.50	8.79	-	-	10	0.1581	1.39	2.85	3/3	T2
4/1	PL 1	7900	0.39	10.43	-	-	14	0.0685	0.71	1.61	4/1	T2
4/2	PL 2	7900	0.39	10.43	-	-	14	0.0685	0.71	1.61	4/2	T2
5	TH 2	13361	0.53	9.34	-	-	11	0.1351	1.26	2.67	5	T2
6/1	PY 1	5750	0.58	12.63	-	-	13	0.1782	2.25	5.04	6/1	T2
6/2	PY 2	5750	0.58	6.32	-	-	1	0.0000	6.32	6.32		T2
7/1	KK 1	8719	0.44	9.88	-	-	12	0.1152	1.14	2.48	7/1	T2
7/2	KK 2	8719	0.44	9.88	-	-	12	0.1152	1.14	2.48	7/2	T2
8/1	CP 1	11098	0.33	5.77	-	-	-	1.0000	5.77	5.77		T2
8/2	CP 2	11098	0.33	5.77	-	-	-	1.0000	5.77	5.77		T2
9	TM	11649	0.48	6.86	-	-	-	1.0000	6.86	6.86		T2
10	SP	14464	0.38	1.40	-	-	-	1.0000	1.40	1.40		T2
11	NWW	13362	0.53	5.22	-	-	-	1.0000	5.22	5.22		T2
12	PD	33496	0.67	1.40	-	-	-	1.0000	1.40	1.40		T2
13	DM	31600	0.62	3.13	-	-	-	1.0000	3.13	3.13		T2
14	BN	25914	0.57	5.77	-	-	-	1.0000	5.77	5.77		T2
15	BK	8361	0.39	5.22	-	-	-	1.0000	5.22	5.22		T2
16	BC	24576	0.65	2.80	-	-	-	1.0000	2.80	2.80		T2
17	DK	25468	0.65	3.73	-	-	-	1.0000	3.73	3.73		T2
18	BS	8258	0.44	9.06	-	-	11	0.1233	1.12	2.36	18	T2
19	BP	11037	0.50	7.91	-	-	-	1.0000	7.91	7.91		T2
20	KC	12567	0.31	10.98	-	-	15	0.0583	0.64	1.47	20	T2
21	IM	0	-	13.84	-	-	25	0.0020	-	-	21	
22	PS	31600	0.38	2.88	-	-	-	1.0000	2.88	2.88		T2
23	SMP	40074	0.39	2.88	-	-	-	1.0000	2.88	2.88		T2
24	RS	84260	0.70	0.83	-	-	-	1.0000	0.83	0.83		T2
25	BCH	36618	0.40	1.10	-	-	-	1.0000	1.10	1.10		T2
28	NK	84260	0.74	0.37	-	-	-	1.0000	0.37	0.37		T2
30	PSR	30708	0.67	0.93	-	-	-	1.0000	0.93	0.93		T2
31	LP 2	7132	0.31	4.12	-	-	-	1.0000	4.12	4.12		T2
33	LS	14280	0.37	2.09	-	-	-	1.0000	2.09	2.09		T2
35	HM	8156	0.33	4.61	-	-	-	1.0000	4.61	4.61		T2
36	RID	26806	0.60	1.10	-	-	-	1.0000	1.10	1.10		T2
37	ASD	6620	0.37	5.22	-	-	-	1.0000	5.22	5.22		T2
41	CHW	14280	0.41	2.33	-	-	-	1.0000	2.33	2.33		T2
42	LP 1	5698	0.29	6.32	-	-	10	0.0535	0.34	0.65	42	T2
43	TC	13240	0.39	2.06	-	-	-	1.0000	2.06	2.06		T2
44	PTW	8770	0.43	4.94	-	-	-	1.0000	4.94	4.94		T2
45	PKN	13179	0.34	2.88	-	-	-	1.0000	2.88	2.88		T2
50	SS	8054	0.44	4.53	-	-	-	1.0000	4.53	4.53		T2
51	NN	12934	0.53	3.13	-	-	-	1.0000	3.13	3.13		T2
52	PTN	90660	0.74	0.83	-	-	-	1.0000	0.83	0.83		T2
101	TCLL	0	-	12.00	-	-	23	0.0010	-	-	101	
111	SPS	0	-	3.00	-	-	7	0.0100	-	-	111	
T2		7420		139.32	1.11		174	0.0010				

TOTAL 270.00 371

CALCULATION FOR ALTERNATIVE ROUTING NETWORK BANGKOK , THAILAND

FROM I = 22 PS SUB = 5000 SYSTEM C 400 TANDEM AREA = 6

J	NAME	CIJ	C/P	AIJ	V/M	MQ	NIJ	EIJ	OFL	VAR	ROUTING
1	TK	33607	0.64	2.47	-	-	-	1.0000	2.47	2.47	T6
2/1	SR 1	32604	0.64	6.04	-	-	-	1.0000	6.04	6.04	T6
2/2	SR 2	32604	0.64	6.04	-	-	-	1.0000	6.04	6.04	T6
2/3	SR 3	32604	0.64	6.04	-	-	-	1.0000	6.04	6.04	T6
3/1	SW 1	30931	0.63	10.43	-	-	10	0.2342	2.44	4.93	3/1 T6
3/2	SW 2	30931	0.63	10.43	-	-	10	0.2342	2.44	4.93	3/2 T6
3/3	SW 3	30931	0.63	10.43	-	-	10	0.2342	2.44	4.93	3/3 T6
4/1	PL 1	25579	0.72	9.88	-	-	-	1.0000	9.88	9.88	T6
4/2	PL 2	25579	0.72	9.88	-	-	-	1.0000	9.88	9.88	T6
5	TH 2	36952	0.65	4.94	-	-	-	1.0000	4.94	4.94	T6
6/1	PY 1	32269	0.64	7.68	-	-	-	1.0000	7.68	7.68	T6
6/2	PY 2	32269	0.64	3.84	-	-	-	1.0000	3.84	3.84	T6
7/1	KK 1	30262	0.63	6.59	-	-	-	1.0000	6.59	6.59	T6
7/2	KK 2	30262	0.63	6.59	-	-	-	1.0000	6.59	6.59	T6
8/1	CP 1	12138	0.41	11.25	-	-	14	0.0929	1.05	2.40	8/1 T6
8/2	CP 2	12138	0.41	11.25	-	-	14	0.0929	1.05	2.40	8/2 T6
9	TM	27140	0.74	6.04	-	-	-	1.0000	6.04	6.04	T6
10	SP	32269	0.64	0.66	-	-	-	1.0000	0.65	0.66	T6
11	NW	78469	0.78	0.82	-	-	-	1.0000	0.82	0.82	T6
12	PC	85660	0.78	0.74	-	-	-	1.0000	0.74	0.74	T6
13	OP	108469	0.77	1.07	-	-	-	1.0000	1.07	1.07	T6
14	BN	6671	0.22	18.83	-	-	26	0.0241	0.45	1.24	14 T6
15	BK	40743	0.66	2.74	-	-	-	1.0000	2.74	2.74	T6
16	BC	40632	0.66	1.48	-	-	-	1.0000	1.48	1.48	T6
17	DK	41524	0.66	1.98	-	-	-	1.0000	1.98	1.98	T6
18	BS	37733	0.65	5.49	-	-	-	1.0000	5.49	5.49	T6
19	BP	35503	0.65	3.29	-	-	-	1.0000	3.29	3.29	T6
20	KC	32715	0.64	4.39	-	-	-	1.0000	4.39	4.39	T6
21	IP	31609	0.63	3.29	-	-	-	1.0000	3.29	3.29	T6
22	PS	0	-	13.45	-	-	24	0.0020	-	-	22
23	SMP	7951	0.15	9.41	-	-	16	0.0150	0.14	0.29	23 T6
24	RS	133260	0.77	0.29	-	-	-	1.0000	0.29	0.29	T6
25	BCH	87860	0.78	0.44	-	-	-	1.0000	0.44	0.44	T6
28	NK	113060	0.77	0.20	-	-	-	1.0000	0.20	0.20	T6
30	PSR	80660	0.78	0.49	-	-	-	1.0000	0.49	0.49	T6
31	LP 2	31377	0.63	1.65	-	-	-	1.0000	1.65	1.65	T6
33	LS	86460	0.78	1.10	-	-	-	1.0000	1.10	1.10	T6
35	HM	14280	0.43	9.00	-	-	11	0.1208	1.09	2.30	35 T6
36	PID	40966	0.66	0.44	-	-	-	1.0000	0.44	0.44	T6
37	ASO	28367	0.76	4.94	-	-	-	1.0000	4.94	4.94	T6
41	CPA	41412	0.66	1.24	-	-	-	1.0000	1.24	1.24	T6
42	LP 1	35168	0.64	3.84	-	-	-	1.0000	3.84	3.84	T6
43	TC	30931	0.63	4.12	-	-	-	1.0000	4.12	4.12	T6
44	PTW	28924	0.63	3.29	-	-	-	1.0000	3.29	3.29	T6
45	PKN	16058	0.45	5.63	-	-	-	1.0000	5.63	5.63	T6
50	SS	34388	0.64	2.74	-	-	-	1.0000	2.74	2.74	T6
51	NN	77060	0.78	0.49	-	-	-	1.0000	0.49	0.49	T6
52	PTN	134660	0.77	0.13	-	-	-	1.0000	0.13	0.13	T6
101	TOLL	0	-	10.10	-	-	20	0.0010	-	-	101
111	SPS	0	-	2.50	-	-	6	0.0100	-	-	111
T6		16657		144.11	1.09		179	0.0010			
	TOTAL			249.99			340				

CALCULATION FOR ALTERNATIVE ROUTING NETWORK BANGKOK , THAILAND

FROM I = 23. SMP SUB = 5000 SYSTEM ARF 102 TANDEM AREA = 6

J	NAME	CIJ	C/P	AIJ	V/N	MQ	NIJ	BIJ	CPL	VAR	ROUTING
1	TK	72260	0.86	2.21	-	-	-	1.0000	2.21	2.21	T6
2/1	SR 1	41078	0.50	5.40	-	-	-	1.0000	5.40	5.40	T6
2/2	SR 2	41078	0.50	5.40	-	-	-	1.0000	5.40	5.40	T6
2/3	SR 3	41078	0.50	5.40	-	-	-	1.0000	5.40	5.40	T6
3/1	SW 1	39405	0.49	9.33	-	-	11	0.1346	1.25	2.66 3/1	T6
3/2	SW 2	39405	0.49	9.33	-	-	11	0.1346	1.25	2.66 3/2	T6
3/3	SW 3	39405	0.49	9.33	-	-	11	0.1346	1.25	2.66 3/3	T6
4/1	PL 1	34053	0.51	8.84	-	-	10	0.1605	1.42	2.91 4/1	T6
4/2	PL 2	34053	0.51	8.84	-	-	10	0.1605	1.42	2.91 4/2	T6
5	TH 2	78260	0.88	4.42	-	-	-	1.0000	4.42	4.42	T6
6/1	PY 1	40743	0.49	6.88	-	-	-	1.0000	6.88	6.88	T6
6/2	PY 2	40743	0.49	3.44	-	-	-	1.0000	3.44	3.44	T6
7/1	KK 1	38736	0.49	5.89	-	-	-	1.0000	5.89	5.89	T6
7/2	KK 2	38736	0.49	5.89	-	-	-	1.0000	5.89	5.89	T6
8/1	CP 1	27252	0.44	10.07	-	-	12	0.1224	1.23	2.70 8/1	T6
8/2	CP 2	27252	0.44	10.07	-	-	12	0.1224	1.23	2.70 8/2	T6
9	TM	35014	0.52	5.40	-	-	-	1.0000	5.40	5.40	T6
10	SP	40743	0.49	0.59	-	-	-	1.0000	0.59	0.59	T6
11	NAW	93660	0.71	0.74	-	-	-	1.0000	0.74	0.74	T6
12	PD	100860	0.71	0.66	-	-	-	1.0000	0.66	0.66	T6
13	DM	117660	0.72	0.96	-	-	-	1.0000	0.96	0.96	T6
14	BN	11832	0.19	16.85	-	-	24	0.0221	0.37	0.97 14	T6
15	BK	85060	0.91	2.46	-	-	-	1.0000	2.46	2.46	T6
16	BC	84860	0.91	1.33	-	-	-	1.0000	1.33	1.33	T6
17	DK	86460	0.91	1.77	-	-	-	1.0000	1.77	1.77	T6
18	BS	79660	0.89	4.91	-	-	-	1.0000	4.91	4.91	T6
19	BP	75660	0.87	2.95	-	-	-	1.0000	2.95	2.95	T6
20	KC	41189	0.50	3.93	-	-	-	1.0000	3.93	3.93	T6
21	IM	40074	0.49	2.95	-	-	-	1.0000	2.95	2.95	T6
22	PS	7951	0.12	8.42	-	-	15	0.0129	0.11	0.22 22	T6
23	SMP	0	-	12.03	-	-	22	0.0020	-	- 23	
24	RS	148460	0.72	0.26	-	-	-	1.0000	0.26	0.26	T6
25	BCH	103060	0.71	0.39	-	-	-	1.0000	0.39	0.39	T6
28	NK	128260	0.72	0.18	-	-	-	1.0000	0.18	0.18	T6
30	PSR	95860	0.71	0.44	-	-	-	1.0000	0.44	0.44	T6
31	LP 2	39851	0.49	1.47	-	-	-	1.0000	1.47	1.47	T6
33	LS	101660	0.71	0.98	-	-	-	1.0000	0.98	0.98	T6
35	HM	31154	0.48	8.05	-	-	10	0.1239	1.00	2.04 35	T6
36	RID	85460	0.91	0.39	-	-	-	1.0000	0.39	0.39	T6
37	ASD	36841	0.53	4.42	-	-	-	1.0000	4.42	4.42	T6
41	CHW	86260	0.91	1.11	-	-	-	1.0000	1.11	1.11	T6
42	LP 1	75960	0.87	3.44	-	-	-	1.0000	3.44	3.44	T6
43	TC	39405	0.49	3.68	-	-	-	1.0000	3.68	3.68	T6
44	PTW	37398	0.48	2.95	-	-	-	1.0000	2.95	2.95	T6
45	PKN	14709	0.27	5.03	-	-	-	1.0000	5.03	5.03	T6
50	SS	73660	0.86	2.46	-	-	-	1.0000	2.45	2.46	T6
51	NN	92260	0.71	0.44	-	-	-	1.0000	0.44	0.44	T6
52	PTN	149860	0.72	0.12	-	-	-	1.0000	0.12	0.12	T6
101	TOLL	0	-	10.00	-	-	20	0.0010	-	- 101	
111	SPS	0	-	2.56	-	-	6	0.0100	-	- 111	
T6		40530		111.89	1.11		143	0.0010			

TOTAL 225.00 317

CALCULATION FOR ALTERNATIVE ROUTING NETWORK BANGKOK , THAILAND

FROM I = 24 RS SUB = 800 SYSTEM C 400 TANDEM AREA = 2

J	NAME	CIJ	C/P	AIJ	V/N	MO	NIJ	EIJ	OFL	VAR	ROUTING
1	TK	110860	0.80	0.13	-	-	-	1.0000	0.13	0.13	T2
2/1	SR 1	98660	0.79	0.62	-	-	-	1.0000	0.62	0.62	T2
2/2	SR 2	98660	0.79	0.62	-	-	-	1.0000	0.62	0.62	T2
2/3	SR 3	98660	0.79	0.62	-	-	-	1.0000	0.62	0.62	T2
3/1	SW 1	101260	0.81	0.62	-	-	-	1.0000	0.62	0.62	T2
3/2	SW 2	101260	0.81	0.62	-	-	-	1.0000	0.62	0.62	T2
3/3	SW 3	101260	0.81	0.62	-	-	-	1.0000	0.62	0.62	T2
4/1	PL 1	94660	0.77	0.80	-	-	-	1.0000	0.80	0.80	T2
4/2	PL 2	94660	0.77	0.80	-	-	-	1.0000	0.80	0.80	T2
5	TH 2	106260	0.83	0.59	-	-	-	1.0000	0.59	0.59	T2
6/1	PY 1	82660	0.74	0.89	-	-	-	1.0000	0.89	0.89	T2
6/2	PY 2	82660	0.74	0.45	-	-	-	1.0000	0.45	0.45	T2
7/1	KK 1	94260	0.77	0.89	-	-	-	1.0000	0.89	0.89	T2
7/2	KK 2	94260	0.77	0.89	-	-	-	1.0000	0.89	0.89	T2
8/1	CP 1	106860	0.79	0.59	-	-	-	1.0000	0.59	0.59	T2
8/2	CP 2	106860	0.79	0.59	-	-	-	1.0000	0.59	0.59	T2
9	TM	104460	0.82	0.48	-	-	-	1.0000	0.48	0.48	T2
10	SP	113660	0.81	0.10	-	-	-	1.0000	0.10	0.10	T2
11	NNW	81860	0.64	0.31	-	-	-	1.0000	0.31	0.31	T2
12	PD	128860	0.85	0.08	-	-	-	1.0000	0.08	0.08	T2
13	DN	103485	0.09	4.64	-	-	-	1.0000	4.64	4.64	T2
14	SN	123060	0.83	0.33	-	-	-	1.0000	0.33	0.33	T2
15	SK	39405	0.32	0.74	-	-	-	1.0000	0.74	0.74	T2
16	RC	112860	0.80	0.23	-	-	-	1.0000	0.23	0.23	T2
17	CK	114460	0.81	0.31	-	-	-	1.0000	0.31	0.31	T2
18	AS	89660	0.74	0.89	-	-	-	1.0000	0.89	0.89	T2
19	SP	98860	0.79	0.69	-	-	-	1.0000	0.69	0.69	T2
20	KC	91260	0.64	0.50	-	-	-	1.0000	0.50	0.50	T2
21	LN	84260	0.70	0.41	-	-	-	1.0000	0.41	0.41	T2
22	PS	133260	0.72	0.16	-	-	-	1.0000	0.16	0.16	T2
23	SMP	148460	0.72	0.16	-	-	-	1.0000	0.16	0.16	T2
24	RS	0	-	1.77	-	-	6	0.0024	-	-	24
25	BCH	94060	0.49	0.05	-	-	-	1.0000	0.05	0.05	T2
28	NK	156260	0.72	0.03	-	-	-	1.0000	0.03	0.03	T2
30	PSR	123860	0.83	0.08	-	-	-	1.0000	0.08	0.08	T2
31	LP 2	89860	0.72	0.19	-	-	-	1.0000	0.19	0.19	T2
33	LS	30151	0.21	0.30	-	-	-	1.0000	0.30	0.30	T2
35	HN	100260	0.79	0.48	-	-	-	1.0000	0.48	0.48	T2
36	RID	76461	0.52	0.05	-	-	-	1.0000	0.05	0.05	T2
37	ASD	89660	0.75	0.40	-	-	-	1.0000	0.40	0.40	T2
41	CPW	109460	0.79	0.15	-	-	-	1.0000	0.15	0.15	T2
42	LP 1	77860	0.64	0.45	-	-	-	1.0000	0.45	0.45	T2
43	TC	107260	0.79	0.22	-	-	-	1.0000	0.22	0.22	T2
44	PTW	95660	0.78	0.45	-	-	-	1.0000	0.45	0.45	T2
45	PKN	113660	0.81	0.30	-	-	-	1.0000	0.30	0.30	T2
50	SS	91660	0.76	0.45	-	-	-	1.0000	0.45	0.45	T2
51	NN	92660	0.73	0.19	-	-	-	1.0000	0.19	0.19	T2
52	PTN	11894	0.05	0.05	-	-	-	1.0000	0.05	0.05	T2
101	TOLL	0	-	1.60	-	-	7	0.0016	-	-	101
111	SPS	0	-	0.40	-	-	2	0.0100	-	-	111
T2		84330		24.21	-		40	0.0010			

TOTAL 27.98 55

CALCULATION FOR ALTERNATIVE ROUTING NETWORK BANGKOK , THAILAND

FROM I = 25 BCH SUB = 800 SYSTEM C 400 TANDEM AREA = 2

J	NAME	CIJ	C/P	AIJ	V/M	MQ	NIJ	FIJ	OFL	VAR	ROUTING
1	TK	89060	0.81	0.10	-	-	-	1.0000	0.10	0.10	T2
2/1	SR 1	76860	0.81	0.54	-	-	-	1.0000	0.54	0.54	T2
2/2	SR 2	76860	0.81	0.54	-	-	-	1.0000	0.54	0.54	T2
2/3	SR 3	76860	0.81	0.54	-	-	-	1.0000	0.54	0.54	T2
3/1	SA 1	79460	0.82	0.86	-	-	-	1.0000	0.86	0.86	T2
3/2	SA 2	79460	0.82	0.86	-	-	-	1.0000	0.86	0.86	T2
3/3	SA 3	79460	0.82	0.86	-	-	-	1.0000	0.86	0.86	T2
4/1	PL 1	72060	0.77	1.02	-	-	-	1.0000	1.02	1.02	T2
4/2	PL 2	72060	0.77	1.02	-	-	-	1.0000	1.02	1.02	T2
5	TH 2	84460	0.86	0.91	-	-	-	1.0000	0.91	0.91	T2
6/1	PY 1	35726	0.43	1.24	-	-	-	1.0000	1.24	1.24	T2
6/2	PY 2	35726	0.43	0.62	-	-	-	1.0000	0.62	0.62	T2
7/1	KK 1	72460	0.77	0.97	-	-	-	1.0000	0.97	0.97	T2
7/2	KK 2	72460	0.77	0.97	-	-	-	1.0000	0.97	0.97	T2
8/1	CP 1	37621	0.35	1.02	-	-	-	1.0000	1.02	1.02	T2
8/2	CP 2	37621	0.35	1.02	-	-	-	1.0000	1.02	1.02	T2
9	TM	79260	0.81	0.54	-	-	-	1.0000	0.54	0.54	T2
10	SP	88460	0.79	0.14	-	-	-	1.0000	0.14	0.14	T2
11	NNW	35280	0.36	0.51	-	-	-	1.0000	0.51	0.51	T2
12	PD	107060	0.87	0.14	-	-	-	1.0000	0.14	0.14	T2
13	DM	37064	0.30	0.31	-	-	-	1.0000	0.31	0.31	T2
14	BN	77660	0.65	0.57	-	-	-	1.0000	0.57	0.57	T2
15	BK	27252	0.29	0.51	-	-	-	1.0000	0.51	0.51	T2
16	BC	91760	0.82	0.27	-	-	-	1.0000	0.27	0.27	T2
17	DK	92660	0.82	0.37	-	-	-	1.0000	0.37	0.37	T2
18	BS	39628	0.43	0.89	-	-	-	1.0000	0.89	0.89	T2
19	RP	77960	0.81	0.65	-	-	-	1.0000	0.65	0.65	T2
20	KC	13974	0.12	1.27	-	-	-	1.0000	1.27	1.27	T2
21	IM	36618	0.40	0.81	-	-	-	1.0000	0.81	0.81	T2
22	PS	87860	0.96	0.28	-	-	-	1.0000	0.28	0.28	T2
23	SNP	103060	0.58	0.28	-	-	-	1.0000	0.28	0.28	T2
24	RS	94060	0.49	0.08	-	-	-	1.0000	0.08	0.08	T2
25	BCH	0	-	0.18	-	-	2	0.0020	-	-	25
28	NK	134460	0.72	0.04	-	-	-	1.0000	0.04	0.04	T2
30	PSR	102060	0.85	0.09	-	-	-	1.0000	0.09	0.09	T2
31	LP 2	30931	0.32	0.47	-	-	-	1.0000	0.47	0.47	T2
33	LS	28144	0.25	0.20	-	-	-	1.0000	0.20	0.20	T2
35	HM	33719	0.34	0.82	-	-	-	1.0000	0.82	0.82	T2
36	RID	8566	0.07	0.13	-	-	-	1.0000	0.13	0.13	T2
37	ASD	39628	0.43	0.51	-	-	-	1.0000	0.51	0.51	T2
41	CHA	87660	0.81	0.23	-	-	-	1.0000	0.23	0.23	T2
42	LP 1	33050	0.35	0.62	-	-	-	1.0000	0.62	0.62	T2
43	TC	85460	0.80	0.17	-	-	-	1.0000	0.17	0.17	T2
44	PTW	73860	0.78	0.48	-	-	-	1.0000	0.48	0.48	T2
45	PKN	39851	0.36	0.51	-	-	-	1.0000	0.51	0.51	T2
50	SS	46743	0.44	0.44	-	-	-	1.0000	0.44	0.44	T2
51	NN	41361	0.42	0.31	-	-	-	1.0000	0.31	0.31	T2
52	PTN	116260	0.59	0.08	-	-	-	1.0000	0.08	0.08	T2
101	TOLL	0	-	1.60	-	-	7	0.0010	-	-	101
111	SPS	0	-	0.40	-	-	2	0.0100	-	-	111
T2		62530		25.81	-	-	42	0.0010			
	TOTAL			27.99			53				

CALCULATION FOR ALTERNATIVE ROUTING NETWORK BANGKOK , THAILAND

FROM I = 28 NK SUB = 800 SYSTEM C 400 TANDEM AREA = 5

J	NAME	CIJ	C/P	AIJ	V/M	MQ	NIJ	FIJ	OFL	VAR	ROUTING
1	TK	80660	0.81	0.12	-	-	-	1.0000	0.12	0.12	T5
2/1	SR 1	37064	0.45	0.66	-	-	-	1.0000	0.66	0.66	T5
2/2	SR 2	37064	0.45	0.66	-	-	-	1.0000	0.66	0.66	T5
2/3	SR 3	37064	0.45	0.66	-	-	-	1.0000	0.66	0.66	T5
3/1	SW 1	41412	0.48	0.74	-	-	-	1.0000	0.74	0.74	T5
3/2	SW 2	41412	0.48	0.74	-	-	-	1.0000	0.74	0.74	T5
3/3	SW 3	41412	0.48	0.74	-	-	-	1.0000	0.74	0.74	T5
4/1	PL 1	74460	0.85	0.56	-	-	-	1.0000	0.56	0.56	T5
4/2	PL 2	74460	0.85	0.56	-	-	-	1.0000	0.56	0.56	T5
5	TH 2	31935	0.43	3.54	-	-	-	1.0000	3.54	3.54	T5
6/1	PY 1	77660	0.87	0.56	-	-	-	1.0000	0.56	0.56	T5
6/2	PY 2	77660	0.87	0.28	-	-	-	1.0000	0.28	0.28	T5
7/1	KK 1	38625	0.46	0.68	-	-	-	1.0000	0.68	0.68	T5
7/2	KK 2	38625	0.46	0.68	-	-	-	1.0000	0.68	0.68	T5
8/1	CP 1	86660	0.83	0.56	-	-	-	1.0000	0.56	0.56	T5
8/2	CP 2	86660	0.83	0.56	-	-	-	1.0000	0.56	0.56	T5
9	TM	78060	0.87	0.31	-	-	-	1.0000	0.31	0.31	T5
10	SP	85860	0.83	0.09	-	-	-	1.0000	0.09	0.09	T5
11	NAW	97260	0.87	0.26	-	-	-	1.0000	0.26	0.26	T5
12	PD	76660	0.86	0.22	-	-	-	1.0000	0.22	0.22	T5
13	DN	125460	0.72	0.15	-	-	-	1.0000	0.15	0.15	T5
14	SN	102860	0.71	0.31	-	-	-	1.0000	0.31	0.31	T5
15	BK	92860	0.86	0.26	-	-	-	1.0000	0.26	0.26	T5
16	BC	28255	0.34	1.21	-	-	-	1.0000	1.21	1.21	T5
17	DK	36536	0.44	0.59	-	-	-	1.0000	0.59	0.59	T5
18	BS	83260	0.82	0.51	-	-	-	1.0000	0.51	0.51	T5
19	BP	72660	0.83	0.59	-	-	-	1.0000	0.59	0.59	T5
20	KC	115060	0.71	0.41	-	-	-	1.0000	0.41	0.41	T5
21	LM	84260	0.82	0.31	-	-	-	1.0000	0.31	0.31	T5
22	PS	113060	0.71	0.15	-	-	-	1.0000	0.15	0.15	T5
23	SMP	128260	0.72	0.15	-	-	-	1.0000	0.15	0.15	T5
24	RS	156260	0.72	0.04	-	-	-	1.0000	0.04	0.04	T5
25	BCH	134460	0.72	0.04	-	-	-	1.0000	0.04	0.04	T5
28	NK	0	-	0.23	-	-	2	0.0000	-	-	28
30	PSR	14280	0.16	0.40	-	-	-	1.0000	0.40	0.40	T5
31	LP 2	96260	0.87	0.15	-	-	-	1.0000	0.15	0.15	T5
33	LS	109460	0.71	0.10	-	-	-	1.0000	0.10	0.10	T5
35	HN	89260	0.84	0.44	-	-	-	1.0000	0.44	0.44	T5
36	RID	116860	0.71	0.04	-	-	-	1.0000	0.04	0.04	T5
37	ASD	78260	0.85	0.28	-	-	-	1.0000	0.28	0.28	T5
41	CHN	37064	0.45	0.89	-	-	-	1.0000	0.89	0.89	T5
42	LP 1	88860	0.84	0.28	-	-	-	1.0000	0.28	0.28	T5
43	TC	77760	0.86	0.21	-	-	-	1.0000	0.21	0.21	T5
44	PTW	46743	0.47	0.34	-	-	-	1.0000	0.34	0.34	T5
45	PKN	93460	0.86	0.28	-	-	-	1.0000	0.28	0.28	T5
50	SS	73460	0.84	0.26	-	-	-	1.0000	0.26	0.26	T5
51	NN	91760	0.85	0.15	-	-	-	1.0000	0.15	0.15	T5
52	PTN	153460	0.72	0.04	-	-	-	1.0000	0.04	0.04	T5
101	TCLL	0	-	1.00	-	-	7	0.0000	-	-	101
111	SPS	0	-	0.40	-	-	2	0.0000	-	-	111
T5		55730		21.76	-		37	0.0000			

TOTAL 23.99 48

CALCULATION FOR ALTERNATIVE ROUTING NETWORK BANGKOK , THAILAND

FROM I = 30 PSR SUB = 2000 SYSTEM C 400 TANDEM AREA = 5

J	NAME	CIJ	C/P	AIJ	V/N	NQ	NIJ	FIJ	OFL	VAR	ROUTING
1	TK	28701	0.63	0.36	-	-	-	1.0000	0.36	0.36	TS
2/1	SR 1	12261	0.42	1.94	-	-	-	1.0000	1.94	1.94	TS
2/2	SR 2	12261	0.42	1.94	-	-	-	1.0000	1.94	1.94	TS
2/3	SR 3	12261	0.42	1.94	-	-	-	1.0000	1.94	1.94	TS
3/1	SW 1	14648	0.44	2.18	-	-	-	1.0000	2.18	2.18	TS
3/2	SW 2	14648	0.44	2.18	-	-	-	1.0000	2.18	2.18	TS
3/3	SW 3	14648	0.44	2.18	-	-	-	1.0000	2.18	2.18	TS
4/1	PL 1	25245	0.73	1.63	-	-	-	1.0000	1.63	1.63	TS
4/2	PL 2	25245	0.73	1.63	-	-	-	1.0000	1.63	1.63	TS
5	TH 2	8566	0.41	10.41	-	-	13	0.0980	1.02	2.28 5	TS
6/1	PY 1	27029	0.76	1.63	-	-	-	1.0000	1.63	1.63	TS
6/2	PY 2	27029	0.76	0.82	-	-	-	1.0000	0.82	0.82	TS
7/1	KK 1	13118	0.42	2.00	-	-	-	1.0000	2.00	2.00	TS
7/2	KK 2	13118	0.42	2.00	-	-	-	1.0000	2.00	2.00	TS
8/1	CP 1	32046	0.64	1.63	-	-	-	1.0000	1.63	1.63	TS
8/2	CP 2	32046	0.64	1.63	-	-	-	1.0000	1.63	1.63	TS
9	TM	27252	0.76	0.91	-	-	-	1.0000	0.91	0.91	TS
10	SP	31600	0.63	0.27	-	-	-	1.0000	0.27	0.27	TS
11	NAW	37956	0.65	0.76	-	-	-	1.0000	0.76	0.76	TS
12	PD	26471	0.75	0.65	-	-	-	1.0000	0.65	0.65	TS
13	DM	93060	0.77	0.45	-	-	-	1.0000	0.45	0.45	TS
14	BN	41078	0.45	0.91	-	-	-	1.0000	0.91	0.91	TS
15	BK	35503	0.65	0.76	-	-	-	1.0000	0.76	0.76	TS
16	BC	6876	0.24	3.56	-	-	-	1.0000	3.56	3.56	TS
17	DK	11955	0.41	1.74	-	-	-	1.0000	1.74	1.74	TS
18	BS	30151	0.63	1.51	-	-	-	1.0000	1.51	1.51	TS
19	BP	24241	0.72	1.74	-	-	-	1.0000	1.74	1.74	TS
20	KC	77660	0.77	1.21	-	-	-	1.0000	1.21	1.21	TS
21	IM	30708	0.63	0.91	-	-	-	1.0000	0.91	0.91	TS
22	PS	80660	0.77	0.45	-	-	-	1.0000	0.45	0.45	TS
23	SMP	95860	0.77	0.45	-	-	-	1.0000	0.45	0.45	TS
24	RS	123860	0.76	0.12	-	-	-	1.0000	0.12	0.12	TS
25	BCH	102060	0.77	0.12	-	-	-	1.0000	0.12	0.12	TS
28	NK	14280	0.15	0.47	-	-	-	1.0000	0.47	0.47	TS
30	PSR	0	-	1.70	-	-	6	0.0020	-	- 30	
31	LP 2	37398	0.65	0.45	-	-	-	1.0000	0.45	0.45	TS
33	LS	77060	0.77	0.30	-	-	-	1.0000	0.30	0.30	TS
35	HM	33496	0.64	1.31	-	-	-	1.0000	1.31	1.31	TS
36	RID	84460	0.77	0.12	-	-	-	1.0000	0.12	0.12	TS
37	ASD	27363	0.62	0.82	-	-	-	1.0000	0.82	0.82	TS
41	CHW	12261	0.42	2.60	-	-	-	1.0000	2.60	2.60	TS
42	LP 1	33273	0.64	0.82	-	-	-	1.0000	0.82	0.82	TS
43	TC	26694	0.75	0.61	-	-	-	1.0000	0.61	0.61	TS
44	PTW	14280	0.44	1.00	-	-	-	1.0000	1.00	1.00	TS
45	PKN	35837	0.65	0.82	-	-	-	1.0000	0.82	0.82	TS
50	SS	24687	0.73	0.76	-	-	-	1.0000	0.76	0.76	TS
51	NN	34499	0.64	0.45	-	-	-	1.0000	0.45	0.45	TS
52	PTN	121060	0.76	0.12	-	-	-	1.0000	0.12	0.12	TS
'0'	TOLL	0	-	4.00	-	-	11	0.0010	-	- '0'	
'1'	SPS	0	-	1.00	-	-	4	0.0100	-	- '1'	
TS		15542		53.88	1.02		76	0.0010			
	TOTAL			69.97			110				

CALCULATION FOR ALTERNATIVE ROUTING NETWORK BANGKOK , THAILAND

FROM I = 31 LP 2 SUB = 3000 SYSTEM C 400 TANDEM AREA = 2

J	NAME	CIJ	C/P	AIJ	V/N	MQ	NIJ	EIJ	OFL	VAR	ROUTING
1	TK	29482	0.62	0.45	-	-	-	1.0000	0.45	0.45	T2
2/1	SR 1	14648	0.44	2.32	-	-	-	1.0000	2.32	2.32	T2
2/2	SR 2	14648	0.44	2.32	-	-	-	1.0000	2.32	2.32	T2
2/3	SR 3	14648	0.44	2.32	-	-	-	1.0000	2.32	2.32	T2
3/1	SW 1	24130	0.70	3.70	-	-	-	1.0000	3.70	3.70	T2
3/2	SW 2	24130	0.70	3.70	-	-	-	1.0000	3.70	3.70	T2
3/3	SW 3	24130	0.70	3.70	-	-	-	1.0000	3.70	3.70	T2
4/1	PL 1	12322	0.39	4.40	-	-	-	1.0000	4.40	4.40	T2
4/2	PL 2	12322	0.39	4.40	-	-	-	1.0000	4.40	4.40	T2
5	TH 2	27586	0.76	3.94	-	-	-	1.0000	3.94	3.94	T2
6/1	PY 1	8822	0.41	5.33	-	-	-	1.0000	5.33	5.33	T2
6/2	PY 2	8822	0.41	2.66	-	-	-	1.0000	2.66	2.66	T2
7/1	KK 1	13301	0.42	4.17	-	-	-	1.0000	4.17	4.17	T2
7/2	KK 2	13301	0.42	4.17	-	-	-	1.0000	4.17	4.17	T2
8/1	CP 1	10976	0.24	4.40	-	-	-	1.0000	4.40	4.40	T2
8/2	CP 2	10976	0.24	4.40	-	-	-	1.0000	4.40	4.40	T2
9	TM	24576	0.69	2.32	-	-	-	1.0000	2.32	2.32	T2
10	SP	29705	0.60	0.59	-	-	-	1.0000	0.59	0.59	T2
11	NKW	24576	0.67	2.20	-	-	-	1.0000	2.20	2.20	T2
12	PD	40186	0.66	0.59	-	-	-	1.0000	0.59	0.59	T2
13	DM	34722	0.56	1.32	-	-	-	1.0000	1.32	1.32	T2
14	BN	25691	0.45	2.43	-	-	-	1.0000	2.43	2.43	T2
15	BK	10914	0.33	2.20	-	-	-	1.0000	2.20	2.20	T2
16	BC	31266	0.63	1.18	-	-	-	1.0000	1.18	1.18	T2
17	DK	32158	0.64	1.57	-	-	-	1.0000	1.57	1.57	T2
18	BS	11343	0.38	3.82	-	-	-	1.0000	3.82	3.82	T2
19	BP	14709	0.44	2.78	-	-	-	1.0000	2.78	2.78	T2
20	KC	8105	0.15	5.45	-	-	10	0.0280	0.15	0.28	20 T2
21	IM	7132	0.24	3.47	-	-	-	1.0000	3.47	3.47	T2
22	PS	31377	0.33	1.22	-	-	-	1.0000	1.22	1.22	T2
23	SMP	39851	0.35	1.22	-	-	-	1.0000	1.22	1.22	T2
24	RS	89860	0.68	0.35	-	-	-	1.0000	0.35	0.35	T2
25	BCH	30931	0.30	0.54	-	-	-	1.0000	0.54	0.54	T2
28	NK	96260	0.77	0.16	-	-	-	1.0000	0.16	0.16	T2
30	PSR	37398	0.65	0.39	-	-	-	1.0000	0.39	0.39	T2
31	LP 2	0	-	2.92	-	-	9	0.0020	-	-	31
33	LS	25802	0.51	0.88	-	-	-	1.0000	0.88	0.88	T2
35	HM	8054	0.22	3.52	-	-	-	1.0000	3.52	3.52	T2
36	RID	13424	0.24	0.54	-	-	-	1.0000	0.54	0.54	T2
37	ASD	10792	0.37	2.20	-	-	-	1.0000	2.20	2.20	T2
41	CHW	29370	0.63	0.98	-	-	-	1.0000	0.98	0.98	T2
42	LP 1	7132	0.23	2.66	-	-	-	1.0000	2.66	2.66	T2
43	TC	27475	0.61	0.75	-	-	-	1.0000	0.75	0.75	T2
44	PTW	13362	0.42	2.08	-	-	-	1.0000	2.08	2.08	T2
45	PKN	13056	0.26	2.20	-	-	-	1.0000	2.20	2.20	T2
50	SS	12506	0.42	1.91	-	-	-	1.0000	1.91	1.91	T2
51	NN	24353	0.68	1.32	-	-	-	1.0000	1.32	1.32	T2
52	PTN	97060	0.73	0.35	-	-	-	1.0000	0.35	0.35	T2
101	TOLL	0	-	6.00	-	-	14	0.0010	-	-	101
111	SPS	0	-	1.50	-	-	5	0.0100	-	-	111
T2		16099		104.27	1.00		133	0.0010			

TOTAL 119.99 171

CALCULATION FOR ALTERNATIVE ROUTING NETWORK BANGKOK , THAILAND

FROM I = 35. BM SUB = 8000 SYSTEM C 400 TANDEM AREA = 6

J	NAME	CIJ	C/P	AIJ	V/M	MQ	MIJ	SIJ	OFL	VAR	ROUTING	
1	TK	14342	0.33	2.12	-	-	-	1.0000	2.12	2.12		T6
2/1	SR 1	12444	0.30	14.85	-	-	20	0.0436	0.64	1.63	2/1	T6
2/2	SR 2	12444	0.30	14.85	-	-	20	0.0436	0.64	1.63	2/2	T6
2/3	SR 3	12444	0.30	14.85	-	-	20	0.0436	0.64	1.63	2/3	T6
3/1	SW 1	11526	0.29	11.14	-	-	16	0.0416	0.45	1.06	3/1	T6
3/2	SW 2	11526	0.29	11.14	-	-	16	0.0416	0.45	1.06	3/2	T6
3/3	SW 3	11526	0.29	11.14	-	-	16	0.0416	0.45	1.06	3/3	T6
4/1	PL 1	7849	0.30	13.74	-	-	19	0.0397	0.55	1.35	4/1	T6
4/2	PL 2	7849	0.30	13.74	-	-	19	0.0397	0.55	1.35	4/2	T6
5	TH 2	14831	0.31	6.68	-	-	10	0.0664	0.44	0.87	5	T6
6/1	PY 1	10976	0.26	8.91	-	-	13	0.0520	0.45	0.99	6/1	T6
6/2	PY 2	10976	0.26	4.46	-	-	-	1.0000	4.46	4.46		T6
7/1	KK 1	11159	0.29	10.40	-	-	15	0.0448	0.47	1.05	7/1	T6
7/2	KK 2	11159	0.29	10.40	-	-	15	0.0448	0.47	1.05	7/2	T6
8/1	CP 1	5852	0.28	15.60	-	-	21	0.0403	0.63	1.63	8/1	T6
8/2	CP 2	5852	0.28	15.60	-	-	21	0.0403	0.63	1.63	8/2	T6
9	TM	10792	0.39	16.71	-	-	21	0.0594	0.99	2.65	9	T6
10	SP	13607	0.33	1.67	-	-	-	1.0000	1.67	1.67		T6
11	NNW	29928	0.33	1.86	-	-	-	1.0000	1.86	1.86		T6
12	PD	36283	0.36	0.67	-	-	-	1.0000	0.67	0.67		T6
13	DM	47520	0.33	2.45	-	-	-	1.0000	2.45	2.45		T6
14	BN	11159	0.51	9.65	-	-	11	0.1482	1.43	3.04	14	T6
15	BK	14097	0.27	2.60	-	-	-	1.0000	2.60	2.60		T6
16	BC	27363	0.52	2.01	-	-	-	1.0000	2.01	2.01		T6
17	DK	28255	0.52	2.67	-	-	-	1.0000	2.67	2.67		T6
18	BS	13974	0.29	4.08	-	-	-	1.0000	4.08	4.08		T6
19	BP	14036	0.30	5.35	-	-	-	1.0000	5.35	5.35		T6
20	KC	10425	0.25	7.72	-	-	12	0.0438	0.34	0.69	20	T6
21	IM	8156	0.20	3.12	-	-	-	1.0000	3.12	3.12		T6
22	PS	14280	0.54	4.83	-	-	-	1.0000	4.83	4.83		T6
23	SNP	31184	0.70	4.83	-	-	-	1.0000	4.83	4.83		T6
24	RS	100260	0.61	0.65	-	-	-	1.0000	0.65	0.65		T6
25	BCH	33719	0.32	0.77	-	-	-	1.0000	0.77	0.77		T6
28	NK	89260	0.65	0.27	-	-	-	1.0000	0.27	0.27		T6
30	PSR	33496	0.35	0.67	-	-	-	1.0000	0.67	0.67		T6
31	LP 2	8054	0.20	2.90	-	-	-	1.0000	2.90	2.90		T6
33	LS	31600	0.31	1.04	-	-	-	1.0000	1.04	1.04		T6
35	HM	0	-	12.48	-	-	23	0.0026	-	-	35	
36	RID	23907	0.45	0.77	-	-	-	1.0000	0.77	0.77		T6
37	ASD	10119	0.36	6.87	-	-	10	0.0736	0.51	1.00	37	T6
41	CHW	28144	0.52	1.67	-	-	-	1.0000	1.67	1.67		T6
42	LP 1	10914	0.24	4.46	-	-	-	1.0000	4.46	4.46		T6
43	TC	12873	0.32	3.53	-	-	-	1.0000	3.53	3.53		T6
44	PTW	10425	0.28	5.20	-	-	-	1.0000	5.20	5.20		T6
45	PKN	7593	0.57	5.46	-	-	-	1.0000	5.46	5.46		T6
50	SS	13424	0.30	2.04	-	-	-	1.0000	2.04	2.04		T6
51	NN	29147	0.32	1.11	-	-	-	1.0000	1.11	1.11		T6
52	PTN	106660	0.64	0.30	-	-	-	1.0000	0.30	0.30		T6
'0'	TOLL	0	-	16.00	-	-	29	0.0010	-	-	'0'	
'1'	SPS	0	-	4.00	-	-	9	0.0100	-	-	'1'	
T6		9953		84.32	1.17		113	0.0010				

TOTAL 320.03 469

CALCULATION FOR ALTERNATIVE ROUTING NETWORK BANGKOK , THAILAND

FROM I = 36 RID SUB = 800 SYSTEM C 400 TANDEM AREA = 2

J	NAME	CIJ	C/P	AIJ	V/M	MQ	NIJ	EIJ	OFL	VAR	ROUTING
1	TK	71460	0.83	0.09	-	-	-	1.0000	0.09	0.09	T2
2/1	SR 1	34834	0.48	0.46	-	-	-	1.0000	0.46	0.46	T2
2/2	SR 2	34834	0.48	0.46	-	-	-	1.0000	0.46	0.46	T2
2/3	SR 3	34834	0.48	0.46	-	-	-	1.0000	0.46	0.46	T2
3/1	SW 1	36283	0.50	0.73	-	-	-	1.0000	0.73	0.73	T2
3/2	SW 2	36283	0.50	0.73	-	-	-	1.0000	0.73	0.73	T2
3/3	SW 3	36283	0.50	0.73	-	-	-	1.0000	0.73	0.73	T2
4/1	PL 1	32158	0.46	0.87	-	-	-	1.0000	0.87	0.87	T2
4/2	PL 2	32158	0.46	0.87	-	-	-	1.0000	0.87	0.87	T2
5	TH 2	39071	0.52	0.77	-	-	-	1.0000	0.77	0.77	T2
6/1	PY 1	25914	0.43	1.05	-	-	-	1.0000	1.05	1.05	T2
6/2	PY 2	25914	0.43	0.52	-	-	-	1.0000	0.52	0.52	T2
7/1	KK 1	32381	0.46	0.82	-	-	-	1.0000	0.82	0.82	T2
7/2	KK 2	32381	0.46	0.82	-	-	-	1.0000	0.82	0.82	T2
8/1	CP 1	27809	0.33	0.87	-	-	-	1.0000	0.87	0.87	T2
8/2	CP 2	27809	0.33	0.87	-	-	-	1.0000	0.87	0.87	T2
9	TM	36172	0.49	0.46	-	-	-	1.0000	0.46	0.46	T2
10	SP	41301	0.47	0.12	-	-	-	1.0000	0.12	0.12	T2
11	NNW	25468	0.34	0.43	-	-	-	1.0000	0.43	0.43	T2
12	PD	89460	0.96	0.12	-	-	-	1.0000	0.12	0.12	T2
13	DM	27252	0.27	0.26	-	-	-	1.0000	0.26	0.26	T2
14	BN	35280	0.37	0.48	-	-	-	1.0000	0.48	0.48	T2
15	BK	11464	0.16	0.43	-	-	-	1.0000	0.43	0.43	T2
16	BC	73460	0.84	0.23	-	-	-	1.0000	0.23	0.23	T2
17	DK	75360	0.84	0.31	-	-	-	1.0000	0.31	0.31	T2
18	BS	29816	0.43	0.75	-	-	-	1.0000	0.75	0.75	T2
19	BP	34945	0.49	0.55	-	-	-	1.0000	0.55	0.55	T2
20	KC	7849	0.09	1.07	-	-	-	1.0000	1.07	1.07	T2
21	IN	26806	0.40	0.68	-	-	-	1.0000	0.68	0.68	T2
22	PS	40966	0.31	0.24	-	-	-	1.0000	0.24	0.24	T2
23	SMP	85460	0.56	0.24	-	-	-	1.0000	0.24	0.24	T2
24	RS	76460	0.45	0.07	-	-	-	1.0000	0.07	0.07	T2
25	BCH	8566	0.06	0.11	-	-	-	1.0000	0.11	0.11	T2
28	NK	116860	0.71	0.03	-	-	-	1.0000	0.03	0.03	T2
30	PSR	84460	0.88	0.08	-	-	-	1.0000	0.08	0.08	T2
31	LP 2	13424	0.18	0.40	-	-	-	1.0000	0.40	0.40	T2
33	LS	11894	0.13	0.17	-	-	-	1.0000	0.17	0.17	T2
35	HP	23907	0.32	0.69	-	-	-	1.0000	0.69	0.69	T2
36	RID	0	-	0.15	-	-	2	0.0020	-	- 36	
37	ASD	29816	0.44	0.43	-	-	-	1.0000	0.43	0.43	T2
41	CHW	40855	0.48	0.19	-	-	-	1.0000	0.19	0.19	T2
42	LP 1	14586	0.21	0.52	-	-	-	1.0000	0.52	0.52	T2
43	TC	39628	0.47	0.15	-	-	-	1.0000	0.15	0.15	T2
44	PTW	33161	0.47	0.41	-	-	-	1.0000	0.41	0.41	T2
45	PKN	30039	0.34	0.43	-	-	-	1.0000	0.43	0.43	T2
50	SS	30931	0.45	0.38	-	-	-	1.0000	0.38	0.38	T2
51	NN	31489	0.42	0.26	-	-	-	1.0000	0.26	0.26	T2
52	PTN	98660	0.57	0.07	-	-	-	1.0000	0.07	0.07	T2
101	TOLL	0	-	1.60	-	-	7	0.0010	-	- 101	
111	SPS	0	-	0.40	-	-	2	0.0100	-	- 111	
T2		44930		21.88	-		37	0.0010			
	TOTAL			24.03			48				

CALCULATION FOR ALTERNATIVE ROUTING NETWORK BANGKOK , THAILAND

FROM I = 37. ASD SUB = 5000 SYSTEM C 400 TANDEM AREA = 3

J	NAME	CIJ	C/P	AIJ	V/M	MQ	NIJ	EIJ	OFL	VAR	ROUTING
1	TK	11282	0.50	1.01	-	-	-	1.0000	1.01	1.01	T3
2/1	SR 1	7900	0.40	10.11	-	-	13	0.0879	0.89	1.98 2/1	T3
2/2	SR 2	7900	0.40	10.11	-	-	13	0.0879	0.89	1.98 2/2	T3
2/3	SR 3	7900	0.40	10.11	-	-	13	0.0879	0.89	1.98 2/3	T3
3/1	SW 1	7644	0.42	23.97	-	-	28	0.0661	1.59	4.82 3/1	T3
3/2	SW 2	7644	0.42	23.97	-	-	28	0.0661	1.59	4.82 3/2	T3
3/3	SW 3	7644	0.42	23.97	-	-	28	0.0661	1.59	4.82 3/3	T3
4/1	PL 1	5340	0.57	11.61	-	-	12	0.1831	2.13	4.63 4/1	T3
4/2	PL 2	5340	0.57	11.61	-	-	12	0.1831	2.13	4.63 4/2	T3
5	TH 2	11465	0.50	10.99	-	-	13	0.1182	1.30	2.92 5	T3
6/1	PY 1	5852	0.30	5.99	-	-	-	1.0000	5.99	5.99	T3
6/2	PY 2	5852	0.30	3.00	-	-	-	1.0000	3.00	3.00	T3
7/1	KK 1	7439	0.42	10.49	-	-	13	0.1007	1.06	2.37 7/1	T3
7/2	KK 2	7439	0.42	10.49	-	-	13	0.1007	1.06	2.37 7/2	T3
8/1	CP 1	8463	0.43	9.11	-	-	12	0.0869	0.79	1.71 8/1	T3
8/2	CP 2	8463	0.43	9.11	-	-	12	0.0869	0.79	1.71 8/2	T3
9	TM	7849	0.43	5.99	-	-	-	1.0000	5.99	5.99	T3
10	SP	11404	0.51	1.24	-	-	-	1.0000	1.24	1.24	T3
11	NNW	13485	0.33	2.25	-	-	-	1.0000	2.25	2.25	T3
12	PC	30151	0.65	1.27	-	-	-	1.0000	1.27	1.27	T3
13	DM	34611	0.37	1.98	-	-	-	1.0000	1.98	1.98	T3
14	BN	14280	0.40	4.37	-	-	-	1.0000	4.37	4.37	T3
15	BK	10853	0.31	2.12	-	-	-	1.0000	2.12	2.12	T3
16	RC	13485	0.39	2.32	-	-	-	1.0000	2.32	2.32	T3
17	DK	13974	0.39	2.00	-	-	-	1.0000	2.06	2.00	T3
18	BS	8361	0.35	4.49	-	-	-	1.0000	4.49	4.49	T3
19	BP	10976	0.50	3.00	-	-	-	1.0000	3.00	3.00	T3
20	KC	25133	0.61	2.00	-	-	-	1.0000	2.00	2.00	T3
21	IM	6620	0.32	1.57	-	-	-	1.0000	1.57	1.57	T3
22	PS	28367	0.65	2.18	-	-	-	1.0000	2.18	2.18	T3
23	SMP	36841	0.43	2.18	-	-	-	1.0000	2.18	2.18	T3
24	RS	89660	0.66	0.53	-	-	-	1.0000	0.53	0.53	T3
25	BCH	39628	0.38	0.20	-	-	-	1.0000	0.20	0.20	T3
28	NK	78269	0.72	0.31	-	-	-	1.0000	0.31	0.31	T3
30	PSR	27363	0.64	0.77	-	-	-	1.0000	0.77	0.77	T3
31	LP 2	10792	0.31	0.75	-	-	-	1.0000	0.75	0.75	T3
33	LS	25691	0.54	0.85	-	-	-	1.0000	0.85	0.85	T3
35	HM	10119	0.49	7.29	-	-	-	1.0000	7.29	7.29	T3
36	RID	29816	0.36	0.20	-	-	-	1.0000	0.20	0.20	T3
37	ASD	0	-	5.80	-	-	13	0.0020	-	- 37	
41	CHW	14219	0.40	2.75	-	-	-	1.0000	2.75	2.75	T3
42	LP 1	8258	0.35	3.00	-	-	-	1.0000	3.00	3.00	T3
43	TC	10180	0.48	1.69	-	-	-	1.0000	1.69	1.69	T3
44	PTW	6219	0.37	5.24	-	-	-	1.0000	5.24	5.24	T3
45	PKN	11404	0.51	4.56	-	-	-	1.0000	4.56	4.56	T3
50	SS	8156	0.38	2.25	-	-	-	1.0000	2.25	2.25	T3
51	NN	13056	0.32	1.35	-	-	-	1.0000	1.35	1.35	T3
52	PTN	91060	0.66	0.36	-	-	-	1.0000	0.36	0.36	T3
'0'	TOLL	0	-	10.00	-	-	20	0.0010	-	- '0'	
'1'	SPS	0	-	2.50	-	-	6	0.0100	-	- '1'	
T3		7010		97.73	1.25		129	0.0010			

TOTAL 275.01 378

CALCULATION FOR ALTERNATIVE ROUTING NETWORK BANGKOK , THAILAND

FROM I = 41 CHW SUB. = 5000 SYSTEM C 400 TANDEM AREA = 5

J	NAME	CIJ	C/P	AIJ	V/M	MQ	NIJ	EIJ	OFL	VAR	ROUTING
1	TK	24018	0.66	1.37	-	-	-	1.0000	1.37	1.37	T5
2/1	SR 1	8770	0.44	12.92	-	-	16	0.0839	1.08	2.62	2/1 T5
2/2	SR 2	8770	0.44	12.92	-	-	16	0.0839	1.08	2.62	2/2 T5
2/3	SR 3	8770	0.44	12.92	-	-	16	0.0839	1.08	2.62	2/3 T5
3/1	SW 1	12077	0.51	11.13	-	-	13	0.1232	1.37	3.09	3/1 T5
3/2	SW 2	12077	0.51	11.13	-	-	13	0.1232	1.37	3.09	3/2 T5
3/3	SW 3	12077	0.51	11.13	-	-	13	0.1232	1.37	3.09	3/3 T5
4/1	PL 1	12750	0.51	4.77	-	-	-	1.0000	4.77	4.77	T5
4/2	PL 2	12750	0.51	4.77	-	-	-	1.0000	4.77	4.77	T5
5	TH 2	6415	0.56	25.44	-	-	27	0.1092	2.78	8.30	5 T5
6/1	PY 1	12261	0.46	4.77	-	-	-	1.0000	4.77	4.77	T5
6/2	PY 2	12261	0.46	2.38	-	-	-	1.0000	2.38	2.38	T5
7/1	KK 1	10180	0.47	10.53	-	-	13	0.1021	1.07	2.41	7/1 T5
7/2	KK 2	10180	0.47	10.53	-	-	13	0.1021	1.07	2.41	7/2 T5
8/1	CP 1	26694	0.65	4.17	-	-	-	1.0000	4.17	4.17	T5
8/2	CP 2	26694	0.65	4.17	-	-	-	1.0000	4.17	4.17	T5
9	TM	14219	0.53	2.58	-	-	-	1.0000	2.58	2.58	T5
10	SP	26917	0.67	0.78	-	-	-	1.0000	0.78	0.78	T5
11	NWK	26248	0.54	0.99	-	-	-	1.0000	0.99	0.99	T5
12	PD	13791	0.53	1.67	-	-	-	1.0000	1.67	1.67	T5
13	DM	78660	0.70	1.25	-	-	-	1.0000	1.25	1.25	T5
14	BN	35726	0.44	1.79	-	-	-	1.0000	1.79	1.79	T5
15	BK	27475	0.60	0.99	-	-	-	1.0000	0.99	0.99	T5
16	BC	8105	0.43	5.13	-	-	-	1.0000	5.13	5.13	T5
17	DK	8514	0.43	6.84	-	-	-	1.0000	6.84	6.84	T5
18	BS	12383	0.32	2.58	-	-	-	1.0000	2.58	2.58	T5
19	BP	6774	0.28	6.84	-	-	11	0.0431	0.29	0.58	19 T5
20	KC	38179	0.42	2.07	-	-	-	1.0000	2.07	2.07	T5
21	IM	14280	0.36	1.67	-	-	-	1.0000	1.67	1.67	T5
22	PS	41412	0.43	0.89	-	-	-	1.0000	0.89	0.89	T5
23	SPP	86260	0.75	0.89	-	-	-	1.0000	0.89	0.89	T5
24	RS	109460	0.72	0.33	-	-	-	1.0000	0.33	0.33	T5
25	BCH	87660	0.71	0.21	-	-	-	1.0000	0.21	0.21	T5
28	NK	37064	0.44	0.68	-	-	-	1.0000	0.68	0.68	T5
30	PSR	12261	0.51	1.71	-	-	-	1.0000	1.71	1.71	T5
31	LP 2	29370	0.61	0.78	-	-	-	1.0000	0.78	0.78	T5
33	LS	36729	0.41	0.40	-	-	-	1.0000	0.40	0.40	T5
35	HM	28144	0.65	3.34	-	-	-	1.0000	3.34	3.34	T5
36	RID	40855	0.41	0.21	-	-	-	1.0000	0.21	0.21	T5
37	ASD	14219	0.41	2.38	-	-	-	1.0000	2.38	2.38	T5
41	CHW	0	-	6.36	-	-	14	0.0020	-	-	41
42	LP 1	25245	0.59	2.38	-	-	-	1.0000	2.38	2.38	T5
43	TC	13913	0.53	2.29	-	-	-	1.0000	2.29	2.29	T5
44	PTW	11649	0.50	5.27	-	-	-	1.0000	5.27	5.27	T5
45	PKN	30485	0.66	2.09	-	-	-	1.0000	2.09	2.09	T5
50	SS	8617	0.35	1.29	-	-	-	1.0000	1.29	1.29	T5
51	NN	12934	0.29	0.60	-	-	-	1.0000	0.60	0.60	T5
52	PTN	100060	0.67	0.16	-	-	-	1.0000	0.16	0.16	T5
'0'	TCLL	0	-	10.00	-	-	20	0.0010	-	-	'0'
'1'	SPS	0	-	2.50	-	-	6	0.0100	-	-	'1'
T5		8545		93.23	1.20		124	0.0010			
	TOTAL			224.99			315				

CALCULATION FOR ALTERNATIVE ROUTING NETWORK BANGKOK , THAILAND

FROM I = 42 LP 1 SUB = .5000 SYSTEM C 400 TANDEM AREA = 2

J	NAME	CIJ	C/P	AIJ	V/N	MQ	NIJ	FIJ	OFL	VAR	ROUTING
1	TK	26025	0.67	1.48	-	-	-	1.0000	1.48	1.48	T2
2/1	SR 1	12383	0.51	8.88	-	-	10	0.1623	1.44	2.96	2/1 T2
2/2	SR 2	12383	0.51	8.88	-	-	10	0.1623	1.44	2.96	2/2 T2
2/3	SR 3	12383	0.51	8.88	-	-	10	0.1623	1.44	2.96	2/3 T2
3/1	SW 1	13179	0.52	7.89	-	-	-	1.0000	7.89	7.89	T2
3/2	SW 2	13179	0.52	7.89	-	-	-	1.0000	7.89	7.89	T2
3/3	SW 3	13179	0.52	7.89	-	-	-	1.0000	7.89	7.89	T2
4/1	PL 1	10608	0.47	9.47	-	-	11	0.1406	1.33	2.82	4/1 T2
4/2	PL 2	10608	0.47	9.47	-	-	11	0.1406	1.33	2.82	4/2 T2
5	TH 2	14709	0.54	10.26	-	-	11	0.1744	1.79	3.79	5 T2
6/1	PY 1	6927	0.57	14.79	-	-	16	0.1382	2.04	4.97	6/1 T2
6/2	PY 2	6927	0.57	7.40	-	-	-	1.0000	7.40	7.40	T2
7/1	KK 1	11037	0.49	8.88	-	-	11	0.1159	1.03	2.17	7/1 T2
7/2	KK 2	11037	0.49	8.88	-	-	11	0.1159	1.03	2.17	7/2 T2
8/1	CP 1	13056	0.37	5.13	-	-	-	1.0000	5.13	5.13	T2
8/2	CP 2	13056	0.37	5.13	-	-	-	1.0000	5.13	5.13	T2
9	TM	13607	0.51	3.95	-	-	-	1.0000	3.95	3.95	T2
10	SP	26583	0.65	1.18	-	-	-	1.0000	1.18	1.18	T2
11	NNW	11649	0.43	2.56	-	-	-	1.0000	2.56	2.56	T2
12	PD	36060	0.69	0.77	-	-	-	1.0000	0.77	0.77	T2
13	DM	28032	0.53	3.55	-	-	-	1.0000	3.55	3.55	T2
14	BN	29482	0.62	5.52	-	-	-	1.0000	5.52	5.52	T2
15	BK	6722	0.28	6.81	-	-	10	0.0713	0.49	0.96	15 T2
16	BC	27140	0.68	1.78	-	-	-	1.0000	1.78	1.78	T2
17	DK	28032	0.68	2.37	-	-	-	1.0000	2.37	2.37	T2
18	BS	7081	0.34	12.82	-	-	17	0.0577	0.74	1.79	18 T2
19	BP	12444	0.51	6.47	-	-	-	1.0000	6.47	6.47	T2
20	KC	12567	0.29	4.10	-	-	-	1.0000	4.10	4.10	T2
21	IM	5698	0.29	5.44	-	-	-	1.0000	5.44	5.44	T2
22	PS	35168	0.41	2.76	-	-	-	1.0000	2.76	2.76	T2
23	SMP	75060	0.71	2.76	-	-	-	1.0000	2.76	2.76	T2
24	RS	77860	0.64	0.95	-	-	-	1.0000	0.95	0.95	T2
25	BCH	33050	0.35	0.41	-	-	-	1.0000	0.41	0.41	T2
28	NK	80860	0.77	0.24	-	-	-	1.0000	0.24	0.24	T2
30	PSR	33273	0.69	0.59	-	-	-	1.0000	0.59	0.59	T2
31	LP 2	7132	0.28	1.54	-	-	-	1.0000	1.54	1.54	T2
33	LS	12322	0.30	2.72	-	-	-	1.0000	2.72	2.72	T2
35	HM	10914	0.41	4.10	-	-	-	1.0000	4.10	4.10	T2
36	RID	14586	0.31	0.41	-	-	-	1.0000	0.41	0.41	T2
37	ASD	8258	0.41	4.73	-	-	-	1.0000	4.73	4.73	T2
41	CHW	25245	0.67	2.56	-	-	-	1.0000	2.56	2.56	T2
42	LP 1	0	-	7.40	-	-	16	0.0020	-	-	42
43	TC	24018	0.67	2.47	-	-	-	1.0000	2.47	2.47	T2
44	PTW	11465	0.50	4.44	-	-	-	1.0000	4.44	4.44	T2
45	PKN	24241	0.60	2.56	-	-	-	1.0000	2.56	2.56	T2
50	SS	10241	0.49	6.41	-	-	-	1.0000	6.41	6.41	T2
51	NN	11526	0.43	1.54	-	-	-	1.0000	1.54	1.54	T2
52	PTN	85060	0.68	0.41	-	-	-	1.0000	0.41	0.41	T2
'0'	TCLL	0	-	10.00	-	-	20	0.0010	-	-	'0'
'1'	SPS	0	-	2.50	-	-	6	0.0100	-	-	'1'
T2		9157		136.20	1.12		170	0.0010			
TOTAL				250.02			340				

CALCULATION FOR ALTERNATIVE ROUTING NETWORK BANGKOK , THAILAND

FROM I = 43 TC = SUB = 5000 SYSTEM C 400 TANDEM AREA = 7

J	NAME	CIJ	C/P	AIJ	V/M	MQ	NIJ	EIJ	OFL	VAR	ROUTING	
1	TK	5289	0.29	13.33	-	-	18	0.0489	0.65	1.60	1	T7
2/1	SR 1	7593	0.43	7.51	-	-	10	0.1000	0.75	1.52	2/1	T7
2/2	SR 2	7593	0.43	7.51	-	-	10	0.1000	0.75	1.52	2/2	T7
2/3	SR 3	7593	0.43	7.51	-	-	10	0.1000	0.75	1.52	2/3	T7
3/1	SW 1	5596	0.58	17.60	-	-	18	0.1554	2.73	6.90	3/1	T7
3/2	SW 2	5596	0.58	17.60	-	-	18	0.1554	2.73	6.90	3/2	T7
3/3	SW 3	5596	0.58	17.60	-	-	18	0.1554	2.73	6.90	3/3	T7
4/1	PL 1	8054	0.44	8.37	-	-	11	0.0954	0.80	1.67	4/1	T7
4/2	PL 2	8054	0.44	8.37	-	-	11	0.0954	0.80	1.67	4/2	T7
5	TH 2	11098	0.50	18.88	-	-	21	0.1052	1.99	5.39	5	T7
6/1	PY 1	11588	0.51	5.79	-	-	-	1.0000	5.79	5.79		T7
6/2	PY 2	11588	0.51	2.90	-	-	-	1.0000	2.90	2.90		T7
7/1	KK 1	8054	0.44	6.22	-	-	-	1.0000	6.22	6.22		T7
7/2	KK 2	8054	0.44	6.22	-	-	-	1.0000	6.22	6.22		T7
8/1	CP 1	10731	0.45	3.65	-	-	-	1.0000	3.65	3.65		T7
8/2	CP 2	10731	0.45	3.65	-	-	-	1.0000	3.65	3.65		T7
9	TM	5801	0.33	7.94	-	-	11	0.0791	0.63	1.30	9	T7
10	SP	6313	0.30	1.93	-	-	-	1.0000	1.93	1.93		T7
11	NNW	30151	0.66	1.72	-	-	-	1.0000	1.72	1.72		T7
12	PC	29482	0.66	1.03	-	-	-	1.0000	1.03	1.03		T7
13	DM	76460	0.74	1.03	-	-	-	1.0000	1.03	1.03		T7
14	BN	25245	0.58	3.22	-	-	-	1.0000	3.22	3.22		T7
15	BK	26248	0.65	1.72	-	-	-	1.0000	1.72	1.72		T7
16	BC	13118	0.53	2.06	-	-	-	1.0000	2.06	2.06		T7
17	DK	13607	0.40	2.75	-	-	-	1.0000	2.75	2.75		T7
18	BS	14697	0.40	3.43	-	-	-	1.0000	3.43	3.43		T7
19	BP	11710	0.51	2.75	-	-	-	1.0000	2.75	2.75		T7
20	KC	31712	0.65	2.23	-	-	-	1.0000	2.23	2.23		T7
21	IM	13240	0.53	1.67	-	-	-	1.0000	1.67	1.67		T7
22	PS	30931	0.39	1.61	-	-	-	1.0000	1.61	1.61		T7
23	SMP	39405	0.40	1.61	-	-	-	1.0000	1.61	1.61		T7
24	RS	107260	0.74	0.27	-	-	-	1.0000	0.27	0.27		T7
25	BCH	85460	0.74	0.22	-	-	-	1.0000	0.22	0.22		T7
28	NK	77060	0.74	0.27	-	-	-	1.0000	0.27	0.27		T7
30	PSR	26694	0.65	0.69	-	-	-	1.0000	0.69	0.69		T7
31	LP 2	27475	0.66	0.84	-	-	-	1.0000	0.84	0.84		T7
33	LS	35503	0.43	0.69	-	-	-	1.0000	0.69	0.69		T7
35	HM	12873	0.39	2.92	-	-	-	1.0000	2.92	2.92		T7
36	RID	39628	0.43	0.22	-	-	-	1.0000	0.22	0.22		T7
37	ASD	10180	0.49	4.18	-	-	-	1.0000	4.18	4.18		T7
41	CHW	13913	0.40	4.72	-	-	-	1.0000	4.72	4.72		T7
42	LP 1	24018	0.64	2.90	-	-	-	1.0000	2.90	2.90		T7
43	TC	0	-	22.21	-	-	35	0.0020	-	-	43	
44	PTW	7030	0.41	3.11	-	-	-	1.0000	3.11	3.11		T7
45	PKN	12812	0.35	1.82	-	-	-	1.0000	1.82	1.82		T7
50	SS	11098	0.50	1.72	-	-	-	1.0000	1.72	1.72		T7
51	NN	28255	0.66	1.03	-	-	-	1.0000	1.03	1.03		T7
52	PTN	107060	0.74	0.27	-	-	-	1.0000	0.27	0.27		T7
101	TOLL	0	-	10.00	-	-	20	0.0010	-	-	101	
111	SPS	0	-	2.50	-	-	6	0.0100	-	-	111	
T7		7266		98.38	1.22		130	0.0010				
	TOTAL			249.99			347					

CALCULATION FOR ALTERNATIVE ROUTING NETWORK BANGKOK , THAILAND

FROM I = 44. PTW SUB = 5000 SYSTEM C 400 TANDEM AREA = 1

J	NAME	CIJ	C/P	AIJ	V/M	MQ	NIJ	EIJ	OFL	VAR	ROUTING
1	TK	7951	0.35	1.44	-	-	-	1.0000	1.44	1.44	T1
2/1	SR 1	5750	0.36	22.76	-	-	28	0.0485	1.10	3.31 2/1	T1
2/2	SR 2	5750	0.36	22.76	-	-	28	0.0485	1.10	3.31 2/2	T1
2/3	SR 3	5750	0.36	22.76	-	-	28	0.0485	1.10	3.31 2/3	T1
3/1	SW 1	5494	0.31	21.75	-	-	28	0.0358	0.78	2.28 3/1	T1
3/2	SW 2	5494	0.31	21.75	-	-	28	0.0358	0.78	2.28 3/2	T1
3/3	SW 3	5494	0.31	21.75	-	-	28	0.0358	0.78	2.28 3/3	T1
4/1	PL 1	5596	0.32	20.23	-	-	26	0.0401	0.81	2.32 4/1	T1
4/2	PL 2	5596	0.32	20.23	-	-	26	0.0401	0.81	2.32 4/2	T1
5	TH 2	8105	0.41	9.61	-	-	12	0.1050	1.01	2.20 5	T1
6/1	PY 1	7388	0.38	10.11	-	-	13	0.0879	0.89	1.98 6/1	T1
6/2	PY 2	7388	0.38	5.06	-	-	-	1.0000	5.06	5.06	T1
7/1	KK 1	5289	0.57	23.52	-	-	25	0.1136	2.67	7.73 7/1	T1
7/2	KK 2	5289	0.57	23.52	-	-	25	0.1136	2.67	7.73 7/2	T1
8/1	CP 1	8719	0.38	4.80	-	-	-	1.0000	4.80	4.80	T1
8/2	CP 2	8719	0.38	4.80	-	-	-	1.0000	4.80	4.80	T1
9	TM	6978	0.33	7.59	-	-	11	0.0666	0.51	1.03 9	T1
10	SP	10302	0.31	1.52	-	-	-	1.0000	1.52	1.52	T1
11	NkW	24130	0.64	2.53	-	-	-	1.0000	2.53	2.53	T1
12	PD	25468	0.63	0.99	-	-	-	1.0000	0.99	0.99	T1
13	DM	37956	0.40	3.19	-	-	-	1.0000	3.19	3.19	T1
14	BN	14586	0.35	3.54	-	-	-	1.0000	3.54	3.54	T1
15	BK	12689	0.37	3.67	-	-	-	1.0000	3.67	3.67	T1
16	BC	10914	0.49	2.88	-	-	-	1.0000	2.88	2.88	T1
17	DK	11404	0.50	3.64	-	-	-	1.0000	3.64	3.64	T1
18	BS	10792	0.50	5.82	-	-	-	1.0000	5.82	5.82	T1
19	BP	7695	0.43	9.51	-	-	12	0.1013	0.96	2.09 19	T1
20	KC	27252	0.57	4.65	-	-	-	1.0000	4.65	4.65	T1
21	IM	8770	0.40	3.49	-	-	-	1.0000	3.49	3.49	T1
22	PS	28924	0.58	1.77	-	-	-	1.0000	1.77	1.77	T1
23	SMP	37398	0.38	1.77	-	-	-	1.0000	1.77	1.77	T1
24	RS	95660	0.71	0.85	-	-	-	1.0000	0.85	0.85	T1
25	BCH	73860	0.70	0.47	-	-	-	1.0000	0.47	0.47	T1
28	NK	40743	0.42	0.38	-	-	-	1.0000	0.38	0.38	T1
30	PSR	14280	0.39	0.96	-	-	-	1.0000	0.96	0.96	T1
31	LP 2	13362	0.36	1.74	-	-	-	1.0000	1.74	1.74	T1
33	LS	29036	0.62	1.47	-	-	-	1.0000	1.47	1.47	T1
35	HM	10425	0.43	3.84	-	-	-	1.0000	3.84	3.84	T1
36	RID	33161	0.40	0.47	-	-	-	1.0000	0.47	0.47	T1
37	ASD	6210	0.31	10.11	-	-	14	0.0597	0.60	1.35 37	T1
41	CHW	11649	0.51	2.40	-	-	-	1.0000	2.40	2.40	T1
42	LP 1	11465	0.48	5.06	-	-	-	1.0000	5.06	5.06	T1
43	TC	7030	0.33	2.40	-	-	-	1.0000	2.40	2.40	T1
44	PTW	0	-	11.76	-	-	22	0.0020	-	- 44	-
45	PKN	11710	0.33	2.40	-	-	-	1.0000	2.40	2.40	T1
50	SS	7030	0.41	2.91	-	-	-	1.0000	2.91	2.91	T1
51	NN	14036	0.40	1.52	-	-	-	1.0000	1.52	1.52	T1
52	PTN	96260	0.73	0.40	-	-	-	1.0000	0.40	0.40	T1
'0'	TOLL	0	-	10.00	-	-	20	0.0010	-	- '0'	
'1'	SPS	0	-	2.50	-	-	6	0.0100	-	- '1'	
T1		6959		99.42	1.29		132	0.0010			

TOTAL 375.05 512

CALCULATION FOR ALTERNATIVE ROUTING NETWORK BANGKOK , THAILAND

FROM I = 50 SS SUB = 5000 SYSTEM C 400 TANDEN AREA = 1

J	NAME	CIJ	C/P	AIJ	V/M	MQ	NIJ	EIJ	OFL	VAR	ROUTING
1	TK	12200	0.51	1.16	-	-	-	1.0000	1.16	1.16	T1
2/1	SR 1	7081	0.40	7.75	-	-	10	0.1105	0.86	1.74 2/1	T1
2/2	SR 2	7081	0.40	7.75	-	-	10	0.1105	0.86	1.74 2/2	T1
2/3	SR 3	7081	0.40	7.75	-	-	10	0.1105	0.86	1.74 2/3	T1
3/1	SW 1	8412	0.43	9.56	-	-	12	0.1032	0.99	2.14 3/1	T1
3/2	SW 2	8412	0.43	9.56	-	-	12	0.1032	0.99	2.14 3/2	T1
3/3	SW 3	8412	0.43	9.56	-	-	12	0.1032	0.99	2.14 3/3	T1
4/1	PL 1	8105	0.43	9.30	-	-	12	0.0937	0.87	1.88 4/1	T1
4/2	PL 2	8105	0.43	9.30	-	-	12	0.0937	0.87	1.88 4/2	T1
5	TH 2	9996	0.48	10.33	-	-	12	0.1325	1.37	3.00 5	T1
6/1	PY 1	6364	0.31	10.59	-	-	15	0.0496	0.52	1.18 6/1	T1
6/2	PY 2	6364	0.31	5.29	-	-	-	1.0000	5.29	5.29	T1
7/1	KK 1	5954	0.56	11.62	-	-	13	0.1409	1.64	3.69 7/1	T1
7/2	KK 2	5954	0.56	11.62	-	-	13	0.1409	1.64	3.69 7/2	T1
8/1	CP 1	12628	0.52	4.65	-	-	-	1.0000	4.65	4.65	T1
8/2	CP 2	12628	0.52	4.65	-	-	-	1.0000	4.65	4.65	T1
9	TM	11098	0.49	3.87	-	-	-	1.0000	3.87	3.87	T1
10	SP	13791	0.40	1.16	-	-	-	1.0000	1.16	1.16	T1
11	NNW	11526	0.29	9.04	-	-	13	0.0555	0.50	1.08 11	T1
12	PC	27475	0.66	1.55	-	-	-	1.0000	1.55	1.55	T1
13	DY	35726	0.37	3.10	-	-	-	1.0000	3.10	3.10	T1
14	BN	28701	0.66	3.87	-	-	-	1.0000	3.87	3.87	T1
15	BK	11465	0.32	5.17	-	-	-	1.0000	5.17	5.17	T1
16	BC	12916	0.51	3.10	-	-	-	1.0000	3.10	3.10	T1
17	DK	12506	0.51	4.13	-	-	-	1.0000	4.13	4.13	T1
18	BS	6722	0.29	16.45	-	-	22	0.0392	0.65	1.70 18	T1
19	BP	5903	0.31	8.26	-	-	12	0.0590	0.49	1.02 19	T1
20	KC	28255	0.58	8.26	-	-	-	1.0000	8.26	8.26	T1
21	IN	8054	0.34	6.20	-	-	-	1.0000	6.20	6.20	T1
22	PS	34388	0.67	1.94	-	-	-	1.0000	1.94	1.94	T1
23	SMP	73660	0.74	1.94	-	-	-	1.0000	1.94	1.94	T1
24	RS	91660	0.67	0.83	-	-	-	1.0000	0.83	0.83	T1
25	BCH	40743	0.38	0.83	-	-	-	1.0000	0.83	0.83	T1
28	NK	73460	0.74	0.41	-	-	-	1.0000	0.41	0.41	T1
30	PSR	24687	0.65	1.03	-	-	-	1.0000	1.03	1.03	T1
31	LP 2	12506	0.32	3.10	-	-	-	1.0000	3.10	3.10	T1
33	LS	26806	0.55	2.07	-	-	-	1.0000	2.07	2.07	T1
35	HM	13424	0.53	3.72	-	-	-	1.0000	3.72	3.72	T1
36	RID	30931	0.37	0.83	-	-	-	1.0000	0.83	0.83	T1
37	ASD	8156	0.38	4.65	-	-	-	1.0000	4.65	4.65	T1
41	CHW	8617	0.36	2.58	-	-	-	1.0000	2.58	2.58	T1
42	LP 1	10241	0.40	5.29	-	-	-	1.0000	5.29	5.29	T1
43	TC	11098	0.49	1.94	-	-	-	1.0000	1.94	1.94	T1
44	PTW	7830	0.40	5.81	-	-	-	1.0000	5.81	5.81	T1
45	PKN	14709	0.40	2.32	-	-	-	1.0000	2.32	2.32	T1
50	SS	0	-	11.75	-	-	22	0.0020	-	- 50	
51	NN	11098	0.30	5.42	-	-	-	1.0000	5.42	5.42	T1
52	PTN	84660	0.64	1.45	-	-	-	1.0000	1.45	1.45	T1
101	TOLL	0	-	10.00	-	-	20	0.0010	-	- 101	
111	SPS	0	-	2.50	-	-	6	0.0100	-	- 111	
T1		7994		116.39	1.14		149	0.0010			

TOTAL 275.01 387

CALCULATION FOR ALTERNATIVE ROUTING NETWORK BANGKOK , THAILAND

FROM I = 51 NN SUB = 3000 SYSTEM C 40 TANDEM AREA = 2

J	NAME	CIJ	C/P	AIJ	V/N	MQ	NIJ	EIJ	OFL	VAR	ROUTING
1	TK	30262	0.60	0.34	-	-	-	1.0000	0.34	0.34	T2
2/1	SR 1	13913	0.38	5.21	-	-	-	1.0000	5.21	5.21	T2
2/2	SR 2	13913	0.38	5.21	-	-	-	1.0000	5.21	5.21	T2
2/3	SR 3	13913	0.38	5.21	-	-	-	1.0000	5.21	5.21	T2
3/1	SW 1	24910	0.67	1.74	-	-	-	1.0000	1.74	1.74	T2
3/2	SW 2	24910	0.67	1.74	-	-	-	1.0000	1.74	1.74	T2
3/3	SW 3	24910	0.67	1.74	-	-	-	1.0000	1.74	1.74	T2
4/1	PL 1	14586	0.42	2.76	-	-	-	1.0000	2.76	2.76	T2
4/2	PL 2	14586	0.42	2.76	-	-	-	1.0000	2.76	2.76	T2
5	TH 2	24687	0.63	2.66	-	-	-	1.0000	2.66	2.66	T2
6/1	PY 1	10914	0.45	7.97	-	-	10	0.1203	0.96	1.96	6/1 T2
6/2	PY 2	10914	0.45	3.98	-	-	-	1.0000	3.98	3.98	T2
7/1	KK 1	12567	0.36	5.93	-	-	-	1.0000	5.93	5.93	T2
7/2	KK 2	12567	0.36	5.93	-	-	-	1.0000	5.93	5.93	T2
8/1	CP 1	30039	0.63	1.33	-	-	-	1.0000	1.33	1.33	T2
8/2	CP 2	30039	0.63	1.33	-	-	-	1.0000	1.33	1.33	T2
9	TM	28590	0.74	1.23	-	-	-	1.0000	1.23	1.23	T2
10	SP	33161	0.63	0.25	-	-	-	1.0000	0.25	0.25	T2
11	NWW	6825	0.17	17.34	-	-	25	0.0186	0.32	0.84	11 T2
12	PD	37287	0.58	0.28	-	-	-	1.0000	0.28	0.28	T2
13	DM	36283	0.56	0.70	-	-	-	1.0000	0.70	0.70	T2
14	BN	39071	0.65	1.12	-	-	-	1.0000	1.12	1.12	T2
15	BK	11771	0.33	1.17	-	-	-	1.0000	1.17	1.17	T2
16	BC	28367	0.54	0.74	-	-	-	1.0000	0.74	0.74	T2
17	DK	29259	0.55	0.98	-	-	-	1.0000	0.98	0.98	T2
18	BS	7286	0.22	7.36	-	-	12	0.0349	0.26	0.51	18 T2
19	BP	8770	0.24	2.21	-	-	-	1.0000	2.21	2.21	T2
20	KC	33161	0.60	1.39	-	-	-	1.0000	1.39	1.39	T2
21	IM	12934	0.40	1.41	-	-	-	1.0000	1.41	1.41	T2
22	PS	77060	0.79	0.56	-	-	-	1.0000	0.56	0.56	T2
23	SMP	92260	0.79	0.56	-	-	-	1.0000	0.56	0.56	T2
24	RS	92660	0.69	0.19	-	-	-	1.0000	0.19	0.19	T2
25	BCH	41361	0.39	0.14	-	-	-	1.0000	0.14	0.14	T2
28	NK	91060	0.71	0.10	-	-	-	1.0000	0.10	0.10	T2
30	PSR	34499	0.57	0.25	-	-	-	1.0000	0.25	0.25	T2
31	LP 2	24353	0.65	0.52	-	-	-	1.0000	0.52	0.52	T2
33	LS	27363	0.51	0.47	-	-	-	1.0000	0.47	0.47	T2
35	HM	29147	0.75	1.06	-	-	-	1.0000	1.06	1.06	T2
36	RID	31489	0.54	0.14	-	-	-	1.0000	0.14	0.14	T2
37	ASD	13056	0.41	1.38	-	-	-	1.0000	1.38	1.38	T2
41	CHW	12934	0.26	0.66	-	-	-	1.0000	0.66	0.66	T2
42	LP 1	11526	0.34	3.98	-	-	-	1.0000	3.98	3.98	T2
43	TC	28255	0.59	0.56	-	-	-	1.0000	0.56	0.56	T2
44	PTW	14036	0.40	2.96	-	-	-	1.0000	2.96	2.96	T2
45	PKN	33830	0.64	0.66	-	-	-	1.0000	0.66	0.66	T2
50	SS	11098	0.34	3.68	-	-	-	1.0000	3.68	3.68	T2
51	NN	0	-	14.86	-	-	26	0.0029	-	-	51
52	PTN	41412	0.30	2.77	-	-	-	1.0000	2.77	2.77	T2
101	TOLL	0	-	6.00	-	-	14	0.0010	-	-	101
111	SPS	0	-	1.50	-	-	5	0.0100	-	-	111
T2		18218		81.53	1.02		108	0.0010			
	TOTAL			135.02			200				

CALCULATION FOR ALTERNATIVE ROUTING NETWORK BANGKOK , THAILAND

FROM I = 52 PTN SUB = 800 SYSTEM C 400 TANDEM AREA = 2

J	NAME	CIJ	C/P	AIJ	V/M	MQ	NIJ	EIJ	CFL	VAR	ROUTING
1	TK	110660	0.79	0.08	-	-	-	1.0000	0.08	0.08	T2
2/1	SR 1	95860	0.76	1.26	-	-	-	1.0000	1.26	1.26	T2
2/2	SR 2	95860	0.76	1.26	-	-	-	1.0000	1.26	1.26	T2
2/3	SR 3	95860	0.76	1.26	-	-	-	1.0000	1.26	1.26	T2
3/1	SW 1	101060	0.79	0.42	-	-	-	1.0000	0.42	0.42	T2
3/2	SW 2	101060	0.79	0.42	-	-	-	1.0000	0.42	0.42	T2
3/3	SW 3	101060	0.79	0.42	-	-	-	1.0000	0.42	0.42	T2
4/1	PL 1	96060	0.77	0.67	-	-	-	1.0000	0.67	0.67	T2
4/2	PL 2	96060	0.77	0.67	-	-	-	1.0000	0.67	0.67	T2
5	TH 2	103460	0.80	0.64	-	-	-	1.0000	0.64	0.64	T2
6/1	PY 1	84060	0.74	1.92	-	-	-	1.0000	1.92	1.92	T2
6/2	PY 2	84060	0.74	0.96	-	-	-	1.0000	0.96	0.96	T2
7/1	KK 1	91460	0.73	1.43	-	-	-	1.0000	1.43	1.43	T2
7/2	KK 2	91460	0.73	1.43	-	-	-	1.0000	1.43	1.43	T2
8/1	CP 1	108260	0.79	0.32	-	-	-	1.0000	0.32	0.32	T2
8/2	CP 2	108260	0.79	0.32	-	-	-	1.0000	0.32	0.32	T2
9	TM	105860	0.82	0.30	-	-	-	1.0000	0.30	0.30	T2
10	SP	115560	0.81	0.06	-	-	-	1.0000	0.06	0.06	T2
11	NW	35391	0.27	4.19	-	-	-	1.0000	4.19	4.19	T2
12	PC	126060	0.82	0.07	-	-	-	1.0000	0.07	0.07	T2
13	DM	35503	0.23	0.17	-	-	-	1.0000	0.17	0.17	T2
14	BN	124460	0.83	0.27	-	-	-	1.0000	0.27	0.27	T2
15	BK	74660	0.59	0.28	-	-	-	1.0000	0.28	0.28	T2
16	BC	110060	0.77	0.18	-	-	-	1.0000	0.18	0.18	T2
17	DK	111660	0.78	0.24	-	-	-	1.0000	0.24	0.24	T2
18	BS	74260	0.60	1.78	-	-	-	1.0000	1.78	1.78	T2
19	BP	89460	0.71	0.53	-	-	-	1.0000	0.53	0.53	T2
20	KC	112860	0.78	0.34	-	-	-	1.0000	0.34	0.34	T2
21	IM	90660	0.74	0.34	-	-	-	1.0000	0.34	0.34	T2
22	PS	134660	0.72	0.14	-	-	-	1.0000	0.14	0.14	T2
23	SHP	149860	0.72	0.14	-	-	-	1.0000	0.14	0.14	T2
24	RS	11804	0.05	0.05	-	-	-	1.0000	0.05	0.05	T2
25	BCH	116260	0.59	0.03	-	-	-	1.0000	0.03	0.03	T2
28	NK	153460	0.70	0.02	-	-	-	1.0000	0.02	0.02	T2
30	PSR	121060	0.81	0.06	-	-	-	1.0000	0.06	0.06	T2
31	LP 2	97560	0.76	0.13	-	-	-	1.0000	0.13	0.13	T2
33	LS	76460	0.53	0.11	-	-	-	1.0000	0.11	0.11	T2
35	HM	106660	0.83	0.26	-	-	-	1.0000	0.26	0.26	T2
36	RID	98660	0.66	0.03	-	-	-	1.0000	0.03	0.03	T2
37	ASD	91760	0.75	0.33	-	-	-	1.0000	0.33	0.33	T2
41	CHW	100060	0.72	0.16	-	-	-	1.0000	0.16	0.16	T2
42	LP 1	85060	0.68	0.96	-	-	-	1.0000	0.96	0.96	T2
43	TC	107960	0.78	0.14	-	-	-	1.0000	0.14	0.14	T2
44	PTW	96260	0.77	0.72	-	-	-	1.0000	0.72	0.72	T2
45	PKN	115060	0.81	0.16	-	-	-	1.0000	0.16	0.16	T2
50	SS	84660	0.69	0.89	-	-	-	1.0000	0.89	0.89	T2
51	NN	41412	0.32	2.51	-	-	-	1.0000	2.51	2.51	T2
52	PTN	0	-	0.96	-	-	5	0.0020	-	-	52
101	TCLL	0	-	1.60	-	-	7	0.0010	-	-	101
111	SPS	0	-	0.40	-	-	2	0.0100	-	-	111
T2		85730		29.07	-		46	0.0010			
	TOTAL			32.03			60				

CALCULATION FOR ALTERNATIVE ROUTING NETWORK BANGKOK , THAILAND

FROM I = 101 TOLL SUB = 1000 SYSTEM C 400 TANDEM AREA = 1

J	NAME	CIJ	C/P	AIJ	V/M	MQ	NIJ	FIJ	OFL	VAR	ROUTING
1	TK	8975	-	12.00	-	-	22	0.0020	-	-	1
2/1	SR 1	5186	-	40.00	-	-	57	0.0020	-	-	2/1
2/2	SR 2	5186	-	40.00	-	-	57	0.0020	-	-	2/2
2/3	SR 3	5186	-	40.00	-	-	57	0.0020	-	-	2/3
3/1	SK 1	6518	-	40.00	-	-	57	0.0020	-	-	3/1
3/2	SK 2	6518	-	40.00	-	-	57	0.0020	-	-	3/2
3/3	SK 3	6518	-	40.00	-	-	57	0.0020	-	-	3/3
4/1	PL 1	6210	-	40.00	-	-	57	0.0020	-	-	4/1
4/2	PL 2	6210	-	40.00	-	-	57	0.0020	-	-	4/2
5	TH 2	7132	-	80.00	-	-	102	0.0020	-	-	5
6/1	PY 1	7030	-	40.00	-	-	57	0.0020	-	-	6/1
6/2	PY 2	7030	-	20.00	-	-	33	0.0020	-	-	6/2
7/1	KK 1	0	-	40.00	-	-	57	0.0020	-	-	7/1
7/2	KK 2	0	-	40.00	-	-	57	0.0020	-	-	7/2
8/1	CP 1	10364	-	40.00	-	-	57	0.0020	-	-	8/1
8/2	CP 2	10364	-	40.00	-	-	57	0.0020	-	-	8/2
9	TM	8207	-	40.00	-	-	57	0.0020	-	-	9
10	SP	11526	-	12.00	-	-	22	0.0020	-	-	10
11	NAW	13607	-	20.00	-	-	33	0.0020	-	-	11
12	PD	14648	-	12.00	-	-	22	0.0020	-	-	12
13	DM	37175	-	12.00	-	-	22	0.0020	-	-	13
14	BN	24576	-	40.00	-	-	57	0.0020	-	-	14
15	BK	12261	-	20.00	-	-	33	0.0020	-	-	15
16	SC	8822	-	24.00	-	-	38	0.0020	-	-	16
17	DK	10241	-	32.00	-	-	47	0.0020	-	-	17
18	BS	8463	-	40.00	-	-	57	0.0020	-	-	18
19	BP	6466	-	32.00	-	-	47	0.0020	-	-	19
20	KC	28590	-	32.00	-	-	47	0.0020	-	-	20
21	IM	8719	-	24.00	-	-	38	0.0020	-	-	21
22	PS	30262	-	20.00	-	-	33	0.0020	-	-	22
23	SMP	38736	-	20.00	-	-	33	0.0020	-	-	23
24	RS	94260	-	3.20	-	-	9	0.0020	-	-	24
25	BCH	72460	-	3.20	-	-	9	0.0020	-	-	25
28	NK	38625	-	3.20	-	-	9	0.0020	-	-	28
30	PSR	13118	-	8.00	-	-	17	0.0020	-	-	30
31	LP 2	13301	-	12.00	-	-	22	0.0020	-	-	31
33	LS	28255	-	8.00	-	-	17	0.0020	-	-	33
35	HM	11159	-	32.00	-	-	47	0.0020	-	-	35
36	RID	32381	-	3.20	-	-	9	0.0020	-	-	36
37	ASD	7439	-	20.00	-	-	33	0.0020	-	-	37
41	CHA	10180	-	20.00	-	-	33	0.0020	-	-	41
42	LP 1	11037	-	20.00	-	-	33	0.0020	-	-	42
43	TC	8054	-	20.00	-	-	33	0.0020	-	-	43
44	PTW	5289	-	20.00	-	-	33	0.0020	-	-	44
45	PKN	12444	-	20.00	-	-	33	0.0020	-	-	45
50	SS	5954	-	20.00	-	-	33	0.0020	-	-	50
51	NN	12567	-	12.00	-	-	22	0.0020	-	-	51
52	PTN	91460	-	3.20	-	-	9	0.0020	-	-	52

CALCULATION FOR ALTERNATIVE ROUTING NETWORK BANGKOK , THAILAND

TANDEM 1 SYSTEM ARF 102

J	NAME	CIJ	C/P	AIJ	V/M	MC	NIJ	EIJ	OFL	VAR	ROUTING
1	TK	9935	-	17.58	-	-	32	0.0010	-	-	1
2/1	SR 1	5186	-	6.39	3.30	-	27	0.0010	-	-	2/1
2/2	SR 2	5186	-	6.39	3.30	-	27	0.0010	-	-	2/2
2/3	SR 3	5186	-	6.39	3.30	-	27	0.0010	-	-	2/3
3/1	SW 1	6518	-	11.99	3.56	-	38	0.0010	-	-	3/1
3/2	SW 2	6518	-	11.99	3.56	-	38	0.0010	-	-	3/2
3/3	SW 3	6518	-	11.99	3.56	-	38	0.0010	-	-	3/3
4/1	PL 1	6210	-	12.33	3.42	-	38	0.0010	-	-	4/1
4/2	PL 2	6210	-	12.33	3.42	-	38	0.0010	-	-	4/2
5	TH 2	7732	-	14.72	2.31	-	36	0.0010	-	-	5
6/1	PY 1	7610	-	39.17	1.44	-	63	0.0010	-	-	6/1
6/2	PY 2	7610	-	15.63	1.40	-	32	0.0010	-	-	6/2
7/1	KK 1	0	-	18.31	3.27	-	46	0.0010	-	-	7/1
7/2	KK 2	0	-	18.31	3.27	-	46	0.0010	-	-	7/2
8/1	CP 1	10364	-	26.00	1.62	-	47	0.0010	-	-	8/1
8/2	CP 2	10364	-	26.00	1.62	-	47	0.0010	-	-	8/2
9	TM	9017	-	16.12	1.68	-	34	0.0010	-	-	9
10	SP	17663	-	22.89	-	-	39	0.0010	-	-	10
11	NWW	21454	-	37.70	1.02	-	57	0.0010	-	-	11
12	PD	23349	-	21.89	-	-	37	0.0010	-	-	12
13	DM	63460	-	33.04	-	-	51	0.0010	-	-	13
14	BN	24576	-	42.78	-	-	63	0.0010	-	-	14
15	BK	19001	-	25.94	1.05	-	42	0.0010	-	-	15
16	BC	9752	-	36.77	-	-	56	0.0010	-	-	16
17	DK	10241	-	31.78	1.06	-	50	0.0010	-	-	17
18	BS	9323	-	14.18	1.87	-	33	0.0010	-	-	18
19	BP	6466	-	7.04	2.47	-	25	0.0010	-	-	19
20	KC	28590	-	39.38	1.20	-	61	0.0010	-	-	20
21	IM	9629	-	26.60	1.10	-	44	0.0010	-	-	21
22	PS	30262	-	21.39	-	-	37	0.0010	-	-	22
23	SMP	66260	-	21.39	-	-	37	0.0010	-	-	23
30	PSR	20562	-	12.26	-	-	25	0.0010	-	-	30
31	LP 2	20896	-	24.37	-	-	40	0.0010	-	-	31
33	LS	28255	-	16.24	-	-	30	0.0010	-	-	33
35	HM	11159	-	21.42	1.58	-	41	0.0010	-	-	35
37	ASD	8099	-	16.97	1.73	-	36	0.0010	-	-	37
41	CHW	10180	-	17.86	1.15	-	33	0.0010	-	-	41
42	LP 1	11037	-	17.83	1.48	-	35	0.0010	-	-	42
43	TC	8834	-	29.30	-	-	47	0.0010	-	-	43
44	PTW	5289	-	12.11	1.91	-	30	0.0010	-	-	44
45	PKN	19335	-	21.47	1.17	-	38	0.0010	-	-	45
50	SS	5954	-	37.13	1.01	-	56	0.0010	-	-	50
51	NN	19558	-	27.74	-	-	45	0.0010	-	-	51
	TOTAL			909.13			1742				

CALCULATION FOR ALTERNATIVE ROUTING NETWORK BANGKOK , THAILAND

TANDEM 2 SYSTEM C 400

J	NAME	CIJ	C/P	AIJ	V/M	MQ	NIJ	EIJ	OFL	VAR	ROUTING
1	TK	19781	-	12.09	-	-	24	0.0010	-	-	1
2/1	SR 1	8956	-	21.13	1.37	-	39	0.0010	-	-	2/1
2/2	SR 2	8956	-	21.13	1.37	-	39	0.0010	-	-	2/2
2/3	SR 3	8956	-	21.13	1.37	-	39	0.0010	-	-	2/3
3/1	SW 1	9752	-	21.75	1.40	-	40	0.0010	-	-	3/1
3/2	SW 2	9752	-	21.75	1.40	-	40	0.0010	-	-	3/2
3/3	SW 3	9752	-	21.75	1.40	-	40	0.0010	-	-	3/3
4/1	PL 1	7732	-	16.59	1.57	-	34	0.0010	-	-	4/1
4/2	PL 2	7732	-	16.59	1.57	-	34	0.0010	-	-	4/2
5	TH 2	11282	-	20.95	1.66	-	41	0.0010	-	-	5
6/1	PY 1	0	-	18.34	1.62	-	37	0.0010	-	-	6/1
6/2	PY 2	0	-	24.82	1.09	-	42	0.0010	-	-	6/2
7/1	KK 1	7610	-	19.91	1.45	-	38	0.0010	-	-	7/1
7/2	KK 2	7610	-	19.91	1.45	-	38	0.0010	-	-	7/2
8/1	CP 1	17551	-	21.77	1.14	-	38	0.0010	-	-	8/1
8/2	CP 2	17551	-	21.77	1.14	-	38	0.0010	-	-	8/2
9	TM	10731	-	30.48	1.06	-	48	0.0010	-	-	9
10	SP	21342	-	10.84	-	-	23	0.0010	-	-	10
11	NWW	11343	-	26.55	1.06	-	43	0.0010	-	-	11
12	PD	29816	-	9.57	-	-	21	0.0010	-	-	12
13	DM	30708	-	34.35	-	-	53	0.0010	-	-	13
14	BN	26583	-	33.97	1.10	-	53	0.0010	-	-	14
15	BK	8711	-	14.30	1.35	-	30	0.0010	-	-	15
16	BC	20896	-	20.61	-	-	36	0.0010	-	-	16
17	DK	21788	-	27.46	-	-	44	0.0010	-	-	17
18	BS	6569	-	13.23	1.69	-	30	0.0010	-	-	18
19	BP	9017	-	24.72	1.18	-	42	0.0010	-	-	19
20	KC	23238	-	18.82	1.33	-	36	0.0010	-	-	20
21	IM	5750	-	15.39	1.25	-	30	0.0010	-	-	21
22	PS	54660	-	16.41	1.04	-	30	0.0010	-	-	22
23	SMP	69860	-	16.41	1.04	-	30	0.0010	-	-	23
24	RS	82660	-	43.65	-	-	64	0.0010	-	-	24
25	BCH	60860	-	28.94	-	-	46	0.0010	-	-	25
30	PSR	27029	-	6.87	-	-	17	0.0010	-	-	30
31	LP 2	9752	-	19.62	-	-	34	0.0010	-	-	31
33	LS	21788	-	15.28	1.04	-	29	0.0010	-	-	33
35	HM	10976	-	29.58	1.05	-	47	0.0010	-	-	35
36	RID	25914	-	28.96	-	-	46	0.0010	-	-	36
37	ASD	5852	-	23.25	1.10	-	40	0.0010	-	-	37
41	CHW	19001	-	16.26	1.03	-	30	0.0010	-	-	41
42	LP 1	7487	-	18.23	1.16	-	34	0.0010	-	-	42
43	TC	17774	-	20.16	-	-	35	0.0010	-	-	43
44	PTW	8038	-	24.86	1.13	-	42	0.0010	-	-	44
45	PKN	21342	-	24.51	-	-	41	0.0010	-	-	45
50	SS	6364	-	21.49	1.19	-	38	0.0010	-	-	50
51	NN	10914	-	15.94	1.04	-	29	0.0010	-	-	51
52	PTN	84060	-	35.35	-	-	54	0.0010	-	-	52
TOTAL				1007.44			1776				

CALCULATION FOR ALTERNATIVE ROUTING NETWORK BANGKOK , THAILAND

TANDEM 3 SYSTEM C 400

J	NAME	CIJ	C/P	AIJ	V/M	MQ	NIJ	EIJ	CFL	VAR	ROUTIN
1	TK	9935	-	7.14	1.03	-	17	0.0010	-	-	1
2/1	SR 1	7916	-	5.52	3.06	-	25	0.0010	-	-	2/1
2/2	SR 2	7916	-	5.52	3.06	-	25	0.0010	-	-	2/2
2/3	SR 3	7916	-	5.52	3.06	-	25	0.0010	-	-	2/3
3/1	SW 1	6518	-	7.63	4.23	-	34	0.0010	-	-	3/1
3/2	SW 2	6518	-	7.63	4.23	-	34	0.0010	-	-	3/2
3/3	SW 3	6518	-	7.63	4.23	-	34	0.0010	-	-	3/3
4/1	PL 1	0	-	5.35	2.89	-	23	0.0010	-	-	4/1
4/2	PL 2	0	-	5.35	2.89	-	23	0.0010	-	-	4/2
5	TH 2	10302	-	10.20	2.56	-	30	0.0010	-	-	5
6/1	PY 1	7732	-	21.37	1.29	-	39	0.0010	-	-	6/1
6/2	PY 2	7732	-	11.58	1.18	-	25	0.0010	-	-	6/2
7/1	KK 1	6210	-	5.15	3.01	-	24	0.0010	-	-	7/1
7/2	KK 2	6210	-	5.15	3.01	-	24	0.0010	-	-	7/2
8/1	CP 1	7793	-	5.18	3.00	-	24	0.0010	-	-	8/1
8/2	CP 2	7793	-	5.18	3.00	-	24	0.0010	-	-	8/2
9	TM	6569	-	8.49	1.50	-	22	0.0010	-	-	9
10	SP	9874	-	13.05	-	-	26	0.0010	-	-	10
11	NWW	24018	-	19.92	-	-	35	0.0010	-	-	11
12	PD	28032	-	11.44	-	-	23	0.0010	-	-	12
13	DM	63860	-	16.58	-	-	30	0.0010	-	-	13
14	BN	19893	-	7.00	1.52	-	20	0.0010	-	-	14
15	BK	19224	-	21.38	-	-	37	0.0010	-	-	15
16	BC	19112	-	18.55	-	-	33	0.0010	-	-	16
17	DK	20004	-	20.18	-	-	35	0.0010	-	-	17
18	BS	10731	-	13.71	1.30	-	29	0.0010	-	-	18
19	BP	9507	-	6.21	1.58	-	19	0.0010	-	-	19
20	KC	23907	-	19.76	-	-	35	0.0010	-	-	20
21	IM	8650	-	14.08	-	-	27	0.0010	-	-	21
22	PS	25579	-	20.78	-	-	36	0.0010	-	-	22
23	SMP	57860	-	20.78	-	-	36	0.0010	-	-	23
30	PSR	25245	-	6.18	-	-	16	0.0010	-	-	30
31	LP 2	19113	-	7.42	-	-	18	0.0010	-	-	31
33	LS	28478	-	8.56	-	-	19	0.0010	-	-	33
35	HM	8589	-	11.79	1.72	-	28	0.0010	-	-	35
37	ASD	5340	-	2.98	2.47	-	17	0.0010	-	-	37
41	CHW	19893	-	8.92	1.15	-	21	0.0010	-	-	41
42	LP 1	10608	-	12.36	1.22	-	26	0.0010	-	-	42
43	TC	8834	-	11.83	1.04	-	24	0.0010	-	-	43
44	PTW	5596	-	7.97	1.51	-	21	0.0010	-	-	44
45	RKN	9874	-	8.05	1.62	-	22	0.0010	-	-	45
50	SS	8895	-	18.37	-	-	33	0.0010	-	-	50
51	NN	23238	-	11.94	-	-	24	0.0010	-	-	51
	TOTAL			469.40			1142				

CALCULATION FOR ALTERNATIVE ROUTING NETWORK BANGKOK , THAILAND

TANDEM 4 SYSTEM C 4CC

J	NAME	CIJ	C/P	AIJ	V/M	MQ	NIJ	EIJ	OFL	VAR	ROUTING
1	TK	64060	-	2.36	-	-	9	0.0010	-	-	1
2/1	SR 1	30708	-	6.35	1.18	-	17	0.0010	-	-	2/1
2/2	SR 2	30708	-	6.35	1.18	-	17	0.0010	-	-	2/2
2/3	SR 3	30708	-	6.35	1.18	-	17	0.0010	-	-	2/3
3/1	SW 1	54460	-	10.22	1.02	-	22	0.0010	-	-	3/1
3/2	SW 2	54460	-	10.22	1.02	-	22	0.0010	-	-	3/2
3/3	SW 3	54460	-	10.22	1.02	-	22	0.0010	-	-	3/3
4/1	PL 1	28478	-	14.31	1.03	-	27	0.0010	-	-	4/1
4/2	PL 2	28478	-	14.31	1.03	-	27	0.0010	-	-	4/2
5	TH 2	59460	-	14.20	-	-	27	0.0010	-	-	5
6/1	PY 1	21788	-	28.42	1.03	-	45	0.0010	-	-	6/1
6/2	PY 2	21788	-	4.92	1.08	-	14	0.0010	-	-	6/2
7/1	KK 1	28255	-	9.52	1.10	-	21	0.0010	-	-	7/1
7/2	KK 2	28255	-	9.52	1.10	-	21	0.0010	-	-	7/2
8/1	CP 1	60060	-	8.30	1.04	-	19	0.0010	-	-	8/1
8/2	CP 2	60060	-	8.30	1.04	-	19	0.0010	-	-	8/2
9	TM	57660	-	11.92	-	-	24	0.0010	-	-	9
10	SP	66860	-	2.95	-	-	10	0.0010	-	-	10
11	NW	21342	-	7.21	-	-	17	0.0010	-	-	11
12	PD	82060	-	1.74	-	-	8	0.0010	-	-	12
13	DM	8956	-	5.36	-	-	14	0.0010	-	-	13
14	BN	76260	-	11.30	-	-	23	0.0010	-	-	14
15	BK	9140	-	9.50	-	-	21	0.0010	-	-	15
16	BC	66060	-	4.30	-	-	13	0.0010	-	-	16
17	DK	67660	-	5.72	-	-	15	0.0010	-	-	17
18	BS	25691	-	9.34	1.08	-	20	0.0010	-	-	18
19	BP	30820	-	10.72	1.02	-	22	0.0010	-	-	19
20	KC	26583	-	14.33	-	-	27	0.0010	-	-	20
21	IM	22680	-	11.71	-	-	24	0.0010	-	-	21
22	PS	86460	-	5.66	-	-	15	0.0010	-	-	22
23	SMP	101660	-	5.66	-	-	15	0.0010	-	-	23
30	PSR	77060	-	1.43	-	-	7	0.0010	-	-	30
31	LP 2	25802	-	5.38	-	-	14	0.0010	-	-	31
33	LS	0	-	8.18	-	-	19	0.0010	-	-	33
35	HM	53460	-	6.49	1.01	-	16	0.0010	-	-	35
37	ASD	25691	-	7.27	1.04	-	17	0.0010	-	-	37
41	CHW	62660	-	3.41	-	-	11	0.0010	-	-	41
42	LP 1	19112	-	4.92	1.08	-	14	0.0010	-	-	42
43	TC	60460	-	3.93	-	-	12	0.0010	-	-	43
44	PTW	29036	-	10.61	1.02	-	22	0.0010	-	-	44
45	PKN	66860	-	7.15	-	-	17	0.0010	-	-	45
50	SS	26806	-	4.77	1.07	-	13	0.0010	-	-	50
51	NN	27363	-	4.51	1.07	-	13	0.0010	-	-	51
'0'	TOLL	0	-	4.00	-	**	12	0.0010	-	-	'0'
'1'	SPS	0	-	1.00	-	**	5	0.0100	-	-	'1'
	TOTAL			354.35			806				

CALCULATION FOR ALTERNATIVE ROUTING NETWORK BANGKOK , THAILAND

TANDEM 5 , SYSTEM C 400

J	NAME	CIJ	C/P	AIJ	V/M	MC	NIJ	EIJ	CFL	VAR	ROUTING
1	TK	18889	-	7.18	1.07	-	17	0.0010	-	-	1
2/1	SR 1	6415	-	14.32	1.82	-	32	0.0010	-	-	2/1
2/2	SR 2	6415	-	14.32	1.82	-	32	0.0010	-	-	2/2
2/3	SR 3	6415	-	14.32	1.82	-	32	0.0010	-	-	2/3
3/1	SW 1	9262	-	22.82	1.49	-	42	0.0010	-	-	3/1
3/2	SW 2	9262	-	22.82	1.49	-	42	0.0010	-	-	3/2
3/3	SW 3	9262	-	22.82	1.49	-	42	0.0010	-	-	3/3
4/1	PL 1	10302	-	25.87	1.15	-	44	0.0010	-	-	4/1
4/2	PL 2	10302	-	25.87	1.15	-	44	0.0010	-	-	4/2
5	TH 2	0	-	15.75	2.62	-	39	0.0010	-	-	5
6/1	PY 1	11282	-	35.51	1.13	-	55	0.0010	-	-	6/1
6/2	PY 2	11282	-	12.79	1.14	-	26	0.0010	-	-	6/2
7/1	KK 1	7732	-	18.88	1.51	-	37	0.0010	-	-	7/1
7/2	KK 2	7732	-	18.88	1.51	-	37	0.0010	-	-	7/2
8/1	CP 1	22234	-	21.17	1.12	-	37	0.0010	-	-	8/1
8/2	CP 2	22234	-	21.17	1.12	-	37	0.0010	-	-	8/2
9	TM	11404	-	18.35	1.11	-	34	0.0010	-	-	9
10	SP	21788	-	8.24	-	-	19	0.0010	-	-	10
11	NWW	28144	-	13.27	-	-	26	0.0010	-	-	11
12	PD	10976	-	6.34	1.25	-	17	0.0010	-	-	12
13	DM	75460	-	11.95	-	-	24	0.0010	-	-	13
14	BN	52860	-	14.28	1.06	-	27	0.0010	-	-	14
15	BK	25691	-	13.80	-	-	27	0.0010	-	-	15
16	BC	5750	-	14.45	1.30	-	30	0.0010	-	-	16
17	DK	6159	-	22.48	1.17	-	39	0.0010	-	-	17
18	BS	20339	-	19.17	1.06	-	34	0.0010	-	-	18
19	BP	9752	-	13.57	1.46	-	29	0.0010	-	-	19
20	KC	60060	-	15.72	1.08	-	29	0.0010	-	-	20
21	IM	20896	-	12.10	1.07	-	24	0.0010	-	-	21
22	PS	63060	-	11.23	-	-	23	0.0010	-	-	22
23	SMP	78260	-	11.23	-	-	23	0.0010	-	-	23
28	NK	54060	-	25.59	-	-	42	0.0010	-	-	28
30	PSR	9446	-	12.63	1.08	-	25	0.0010	-	-	30
31	LP 2	27586	-	9.38	-	-	20	0.0010	-	-	31
33	LS	59460	-	5.51	-	-	15	0.0010	-	-	33
35	HM	23684	-	16.87	1.10	-	31	0.0010	-	-	35
37	ASD	17551	-	12.97	1.10	-	26	0.0010	-	-	37
41	CHW	6415	-	10.51	1.43	-	25	0.0010	-	-	41
42	LP 1	23461	-	12.42	1.11	-	25	0.0010	-	-	42
43	TC	11098	-	12.68	1.15	-	26	0.0010	-	-	43
44	PTW	8895	-	18.12	1.18	-	34	0.0010	-	-	44
45	PKN	26025	-	12.37	1.20	-	26	0.0010	-	-	45
50	SS	9996	-	15.65	-	-	29	0.0010	-	-	50
51	NN	24687	-	7.96	-	-	18	0.0010	-	-	51
TOTAL				693.35			1342				

CALCULATION FOR ALTERNATIVE ROUTING NETWORK BANGKOK, THAILAND

TANDEM 6 SYSTEM C 400

J	NAME	CIJ	C/P	AIJ	V/M	MG	NIJ	EIJ	OFL	VAR	ROUTING
1	TK	22680	-	22.95	-	-	39	0.0010	-	-	1
2/1	SR 1	21677	-	33.95	1.23	-	54	0.0010	-	-	2/1
2/2	SR 2	21677	-	33.95	1.23	-	54	0.0010	-	-	2/2
2/3	SR 3	21677	-	33.95	1.23	-	54	0.0010	-	-	2/3
3/1	SW 1	20004	-	18.28	1.78	-	38	0.0010	-	-	3/1
3/2	SW 2	20004	-	18.28	1.78	-	38	0.0010	-	-	3/2
3/3	SW 3	20004	-	18.28	1.78	-	38	0.0010	-	-	3/3
4/1	PL 1	9874	-	27.67	1.46	-	48	0.0010	-	-	4/1
4/2	PL 2	9874	-	27.67	1.46	-	48	0.0010	-	-	4/2
5	TH 2	26025	-	29.04	1.16	-	48	0.0010	-	-	5
6/1	PY 1	21342	-	51.34	1.15	-	75	0.0010	-	-	6/1
6/2	PY 2	21342	-	23.30	1.08	-	40	0.0010	-	-	6/2
7/1	KK 1	19335	-	26.33	1.34	-	46	0.0010	-	-	7/1
7/2	KK 2	19335	-	26.33	1.34	-	46	0.0010	-	-	7/2
8/1	CP 1	5801	-	16.20	1.47	-	33	0.0010	-	-	8/1
8/2	CP 2	5801	-	16.20	1.47	-	33	0.0010	-	-	8/2
9	TM	10731	-	35.42	1.29	-	57	0.0010	-	-	9
10	SP	21342	-	14.09	-	-	27	0.0010	-	-	10
11	NWW	58860	-	14.44	1.03	-	27	0.0010	-	-	11
12	PD	66060	-	8.43	-	-	19	0.0010	-	-	12
13	DM	82860	-	22.38	-	-	38	0.0010	-	-	13
14	BN	6466	-	19.34	1.44	-	37	0.0010	-	-	14
15	BK	29816	-	32.00	-	-	50	0.0010	-	-	15
16	BC	29705	-	20.84	-	-	36	0.0010	-	-	16
17	DK	30597	-	27.78	-	-	45	0.0010	-	-	17
18	BS	26806	-	29.05	1.08	-	47	0.0010	-	-	18
19	BP	24576	-	23.32	1.11	-	40	0.0010	-	-	19
20	KC	21788	-	23.57	1.13	-	40	0.0010	-	-	20
21	IM	20673	-	18.49	1.06	-	33	0.0010	-	-	21
22	PS	10058	-	15.27	1.28	-	31	0.0010	-	-	22
23	SMP	23461	-	33.08	1.04	-	51	0.0010	-	-	23
30	PSR	61060	-	6.94	-	-	17	0.0010	-	-	30
31	LP 2	20450	-	23.35	1.01	-	39	0.0010	-	-	31
33	LS	66860	-	12.80	-	-	25	0.0010	-	-	33
35	HM	8283	-	12.01	1.68	-	28	0.0010	-	-	35
37	ASD	11404	-	24.20	1.18	-	42	0.0010	-	-	37
41	CHW	30485	-	17.38	-	-	31	0.0010	-	-	41
42	LP 1	24241	-	23.14	1.07	-	39	0.0010	-	-	42
43	TC	20004	-	24.25	1.04	-	40	0.0010	-	-	43
44	PTW	17997	-	28.00	1.04	-	45	0.0010	-	-	44
45	PKN	0	-	33.94	1.20	-	54	0.0010	-	-	45
50	SS	23461	-	27.84	-	-	45	0.0010	-	-	50
51	NN	57460	-	12.34	-	-	25	0.0010	-	-	51
0	TCLL	0	-	10.00	-	**	21	0.0010	-	-	*0*
1	SPS	0	-	2.50	-	**	7	0.0100	-	-	*1*
	TOTAL			1019.88			1768				

CALCULATION FOR ALTERNATIVE ROUTING NETWORK BANGKOK , THAILAND

TANDEM 7 SYSTEM C 4CC

J	NAME	CIJ	C/P	AIJ	V/M	MQ	NIJ	EIJ	OFL	VAR	ROUTING
1	TK	6518	-	4.24	1.64	-	16	0.0010	-	-	1
2/1	SR 1	6057	-	16.10	2.23	-	37	0.0010	-	-	2/1
2/2	SR 2	6057	-	16.10	2.23	-	37	0.0010	-	-	2/2
2/3	SR 3	6057	-	16.10	2.23	-	37	0.0010	-	-	2/3
3/1	SW 1	0	-	10.05	1.61	-	25	0.0010	-	-	3/1
3/2	SW 2	0	-	10.05	1.61	-	25	0.0010	-	-	3/2
3/3	SW 3	0	-	10.05	1.61	-	25	0.0010	-	-	3/3
4/1	PL 1	6518	-	18.54	2.17	-	41	0.0010	-	-	4/1
4/2	PL 2	6518	-	18.54	2.17	-	41	0.0010	-	-	4/2
5	TH 2	9262	-	18.09	2.24	-	40	0.0010	-	-	5
6/1	PY 1	9752	-	30.32	1.25	-	50	0.0010	-	-	6/1
6/2	PY 2	9752	-	9.24	1.40	-	23	0.0010	-	-	6/2
7/1	KK 1	6518	-	20.75	1.95	-	42	0.0010	-	-	7/1
7/2	KK 2	6518	-	20.75	1.95	-	42	0.0010	-	-	7/2
8/1	CP 1	10731	-	17.79	1.96	-	38	0.0010	-	-	8/1
8/2	CP 2	10731	-	17.79	1.96	-	38	0.0010	-	-	8/2
9	TM	5852	-	11.51	2.33	-	31	0.0010	-	-	9
10	SP	8589	-	16.68	-	-	30	0.0010	-	-	10
11	NWW	26806	-	22.46	-	-	38	0.0010	-	-	11
12	PD	26137	-	13.47	-	-	26	0.0010	-	-	12
13	DM	70460	-	15.54	-	-	29	0.0010	-	-	13
14	BN	25245	-	13.70	1.57	-	30	0.0010	-	-	14
15	BK	22903	-	24.08	-	-	40	0.0010	-	-	15
16	BC	11282	-	27.67	-	-	45	0.0010	-	-	16
17	DK	18109	-	7.94	1.32	-	20	0.0010	-	-	17
18	BS	19001	-	11.23	1.44	-	26	0.0010	-	-	18
19	BP	9874	-	9.81	1.62	-	25	0.0010	-	-	19
20	KC	29259	-	30.89	-	-	48	0.0010	-	-	20
21	IM	11404	-	23.17	-	-	39	0.0010	-	-	21
22	PS	52260	-	22.28	-	-	38	0.0010	-	-	22
23	SMP	67460	-	22.28	-	-	38	0.0010	-	-	23
30	PSR	23349	-	9.21	-	-	20	0.0010	-	-	30
31	LP 2	24130	-	11.59	-	-	24	0.0010	-	-	31
33	LS	54460	-	9.62	-	-	21	0.0010	-	-	33
35	HM	17663	-	11.89	1.62	-	28	0.0010	-	-	35
37	ASD	8344	-	14.71	1.72	-	32	0.0010	-	-	37
41	CHW	18666	-	11.36	1.28	-	25	0.0010	-	-	41
42	LP 1	20673	-	8.27	1.32	-	21	0.0010	-	-	42
43	TC	5596	-	6.36	1.70	-	20	0.0010	-	-	43
44	PTW	5494	-	10.79	1.70	-	27	0.0010	-	-	44
45	PKN	20004	-	8.21	1.58	-	22	0.0010	-	-	45
50	SS	9262	-	5.94	1.33	-	17	0.0010	-	-	50
51	NN	24910	-	13.47	-	-	26	0.0010	-	-	51
	TOTAL			648.60			1343				

A. (2) T. O. Tとの公式文書

The Nippon Telecommunications Consulting Co., Ltd.

3-3, UDAGAWA-CHO, SHIBUYA-KU, TOKYO, JAPAN

CABLE ADDRESS:
TOKNITOCO TOKYO
PHONE: TOKYO 462-2221

Bangkok, June 9, 1972.

Director of Planning and Project Department
Telephone Organization of Thailand,
Bangkok.

Dear Sir,

Your revised traffic data for Junction Cable Network Design has been received on June 1st, 1972 and wish to inform you that we are still in doubt of several items for which, according to our understanding, shall be meant as per the following :-

1) Satellite Office shall comprise of 5 exchanges, namely, RS, BCH, RID, NK and PTN exchanges with parent office at PY exchange for RS, BCH, RID, and PTN exchanges and parent office at TH exchange for NK exchange.

2) The estimate of number of subscribers in BK exchange for future demand is as follows :-

For	1976	 5,000	Lines
For	1980	 3,200	Lines
For	1990	 5,500	Lines

The number of subscribers decreased in the year of 1980 is due to the establish of a new exchange office adjacent to the existing office.

3) The connection between Special Service Centre and various exchange offices shall be as follows :-

SW Centre : to be connected with TK, SR, SW, PC, PY, KK, MM, SP, IM, ASD, SKV, TC, PTW and SS exchanges.

PKN Centre : to be connected with CP, BN, KC, PS, SMP, BCH, ON1, ON2, HM and PKN exchanges.

...../2

The Nippon Telecommunications Consulting Co., Ltd.

3-3, UDAGAWA-CHO, SHIBUYA-KU, TOKYO, JAPAN

CABLE ADDRESS:
TOKNITOCO TOKYO
PHONE: TOKYO 462-2221

CHW Centre : to be connected with TH, PD,BC, DK, BP, NK, PSR, BKT, CHW, MSK and PPJ exchanges.

IS Centre : to be connected with NWW, DM, BKN, BS, RS, LP1, LP2, PK, RTN, RID, SDM and NN exchanges.

4) Toll Service shall be rendered by KK exchange as usual.

Your confirmation to our above understanding will be highly appreciated,

Yours Very Truly,

Nippon Telecommunication Consulting
Company, Ltd.

Department of Planning and Project
Telephone Organization of Thailand

June 23, 1972

To Mr. H. Sano
Nippon Telecommunication Consulting Co.
Dusithani Building

Dear Sir.

With reference to your letter dated June 9, 1972 requesting for confirmation on informations which you extracted from the revised traffic data, we are glad to confirm them as follows :-

1. The five exchanges mentioned in item (1) shall remain as satellite office upto 1976 only.

2. Correct as per item (2).

3. Correct as per item (3), the letter IS may be mistake, this should be IS.

4. Correct as per item (4).

We hope that the above answer would satisfy your requirement.

Thank you for your kind assistance.

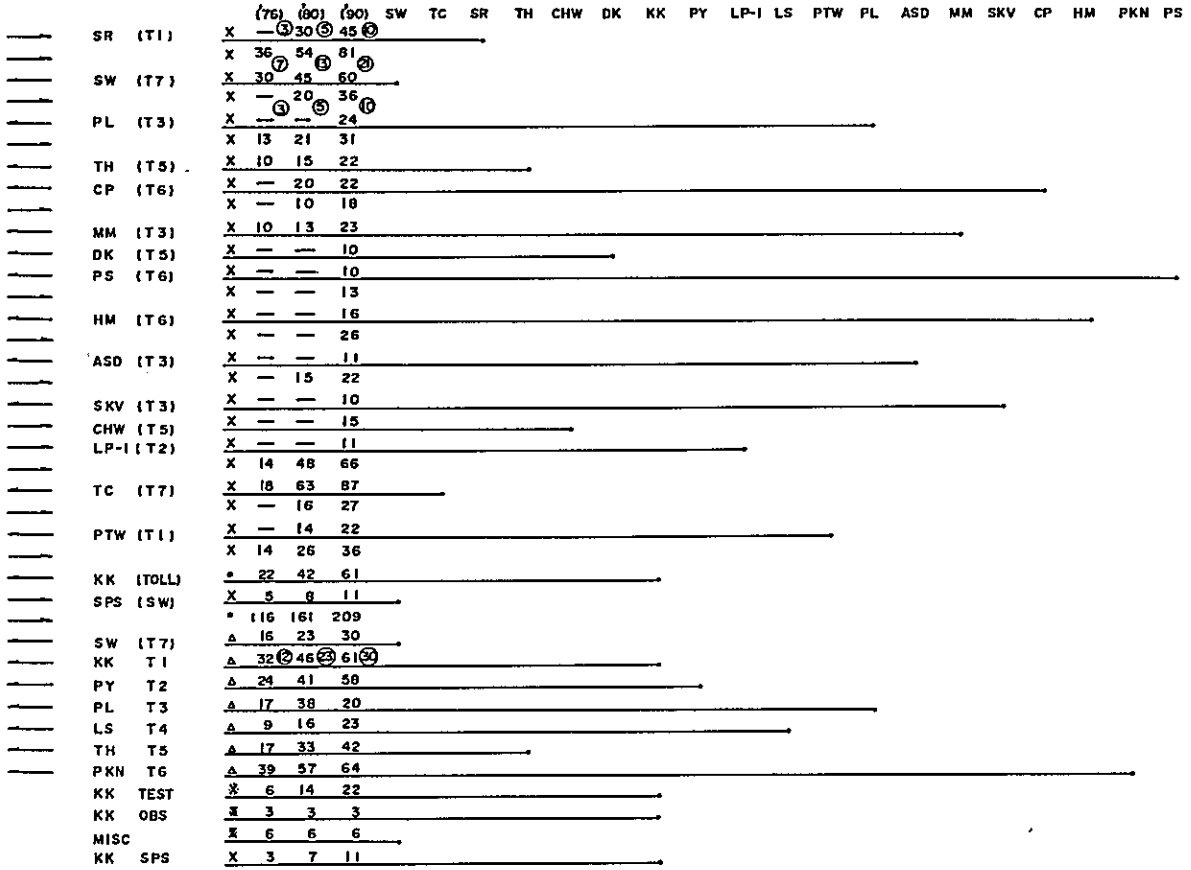
Yours truly

B. Phienpanij

(Mr. Boonchoo Phienpanij)
Direct of Planning and Project Department.

B. 回線計画図

EX. NO.1 TK EXCHANGE T7 SUB. 3,000—7,000—11,000



NOTE

X ----- 11 db

△ ----- 6 db

• ----- 4 db

△ ----- 3 db

※ ----- METALLIC WIRE

O ---- DIRECT LINE

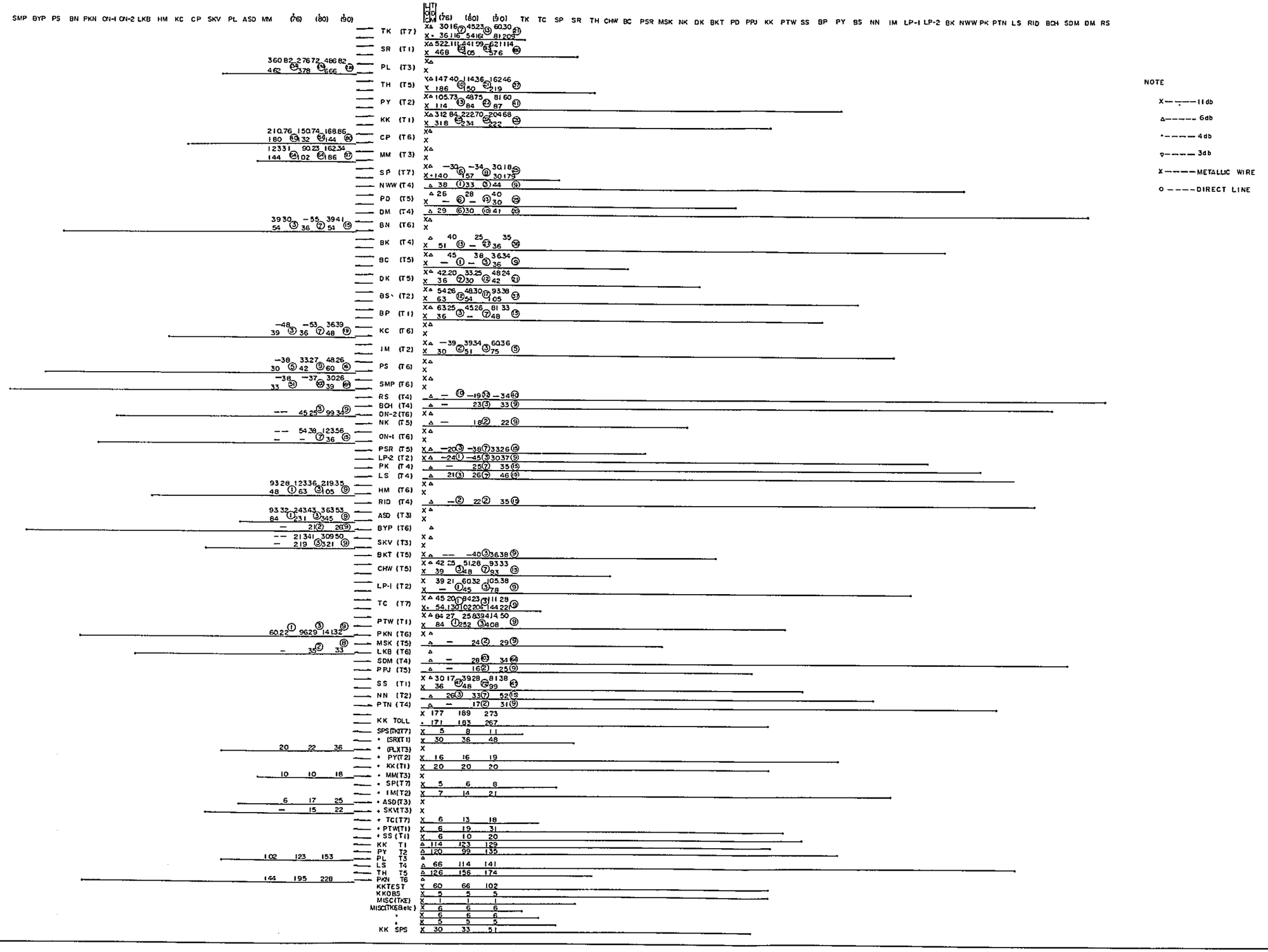
EX. NO. 2 SR EXCHANGE (T1) SUB. 20,000 — 36,000 — 57,000

PO	BKT	DK	CHW	BC	TH	(76)	(80)	(90)		(76)	(80)	(90)	KK	PTW	SS	BP	SW	TK	TC	ST	PL	ASD	MM	SKV	CP	HM	KC	ON-1	ON-2	PKN	BN	PS	PY	BS	NN	IM	LP-1	LP-2	BK	NWW	LS	DM
									TK (T 7)	X	—	(3)	30	(5)	45	(10)																											
									SW (T 7)	X	468	405	(83)	576	(89)																												
										X	522	(29)	441	(83)	621																												
									PL (T 3)	X	258	(29)	222	(18)	396	(83)																											
						120	102	150		X	204		186		324																											
						216	(18)	192	TH (T 5)	X																																
										X	102	(9)	84	(3)	93	(25)																									
									PY (T 2)	X	129		102		108																											
										X	264	(20)	204	(29)	192	(30)																										
									KK (T 1)	X	342		270		258																											
										X	156	(6)	120	(19)	144	(20)																										
									CP (T 6)	X	234		180		210																											
										X	78		60		114																										
									MM (T 3)	X	84	(2)	66	(9)	123	(3)																										
										X	—		—		30																										
									SP (T 7)	X	—		—		30																										
									NWW (T 4)	X	42	(3)	33	(5)	48	(10)																										
		—	—	30						X																														
		30	33	48					PO (T 5)	X																														
									BN (T 6)	X	30	(6)	(13)		33	(25)																										
									BK (T 4)	X	30	(3)	(5)		—	(10)																										
				30						X																														
		—	—	39					BC (T 5)	X																														
		(1)	(3)	30						X																														
		36	30	45					DK (T 5)	X																														
										X	48	(11)	45	(18)	96	(36)																										
									BS (T 2)	X	54		48		99																											
										X	42		33		63																										
									BP (T 1)	X	48		39		69																											
									KC (T 6)	X					33																											
										X		(3)		33	(5)	(10)																								
									IM (T 2)	X	—			36	54																											
									PS (T 6)	X	—		—		39																											
										X	—			39	84																										
									ON-2 (T 6)	X	—		—		39																											
										X	—			42	102																										
									ON-1 (T 6)	X	—		—		54																											
										X	-			—	36																										
									LP-2 (T 2)	X	—		—		30																											
										X	63		96		174																										
									HM (T 6)	X	60		87		150																											
										X	69		195		297																										
									ASD (T 3)	X	39		111		171																											
										X	—		165		246																										
									SKV (T 3)	X	—		102		153																											
		—	—	30						X																														
		—	—	33					BKT (T 5)	X																														
		33	42	81						X																														
		48	63	126					CHW (T 5)	X																														
										X	33		57		108																										
									LP-1 (T 2)	X	30		54		96																											
										X	—		33		42																										
									TC (T 7)	X	30		57		78																											
										X	78		204		435																										
									PTW (T 1)	X	84		282		468																											
									PKN (T 6)	X	45		78		120																											
										X	—	(9)	42	(20)	90	(40)																										
									SS (T 1)	X	30		45		93																											
										X	—		—		36																										
									NN (T 2)	X	—		—		45																											
										X	177		204		300																										
									KK TOLL	•	171		198		294																											
									SPS (SW)	X	30		36		48																											
										•	456		537		624																										
									KK T1	Δ	81		93		111																											
									PY T2	Δ	117		108		96																											
									PL T3	Δ	75		90		114																											
									LS T4	Δ	51		105		159																											
						96	132	141	TH T5	Δ																															
									PKN T6	Δ	162		276		258																											
									SW T7	Δ	111		99		114																											
									KK TEST	X	60		72		114																											
									KK OBS	X	5		5		5																											
		1	1	1					MISC (TKE)	X	1		1		1																											
									*	X	1		1		1																										
									* (etc)	X	14		14		14																											
									DM (T 4)				(5)		(5)		(10)																									
									KK SPS	X	20		36		57																											

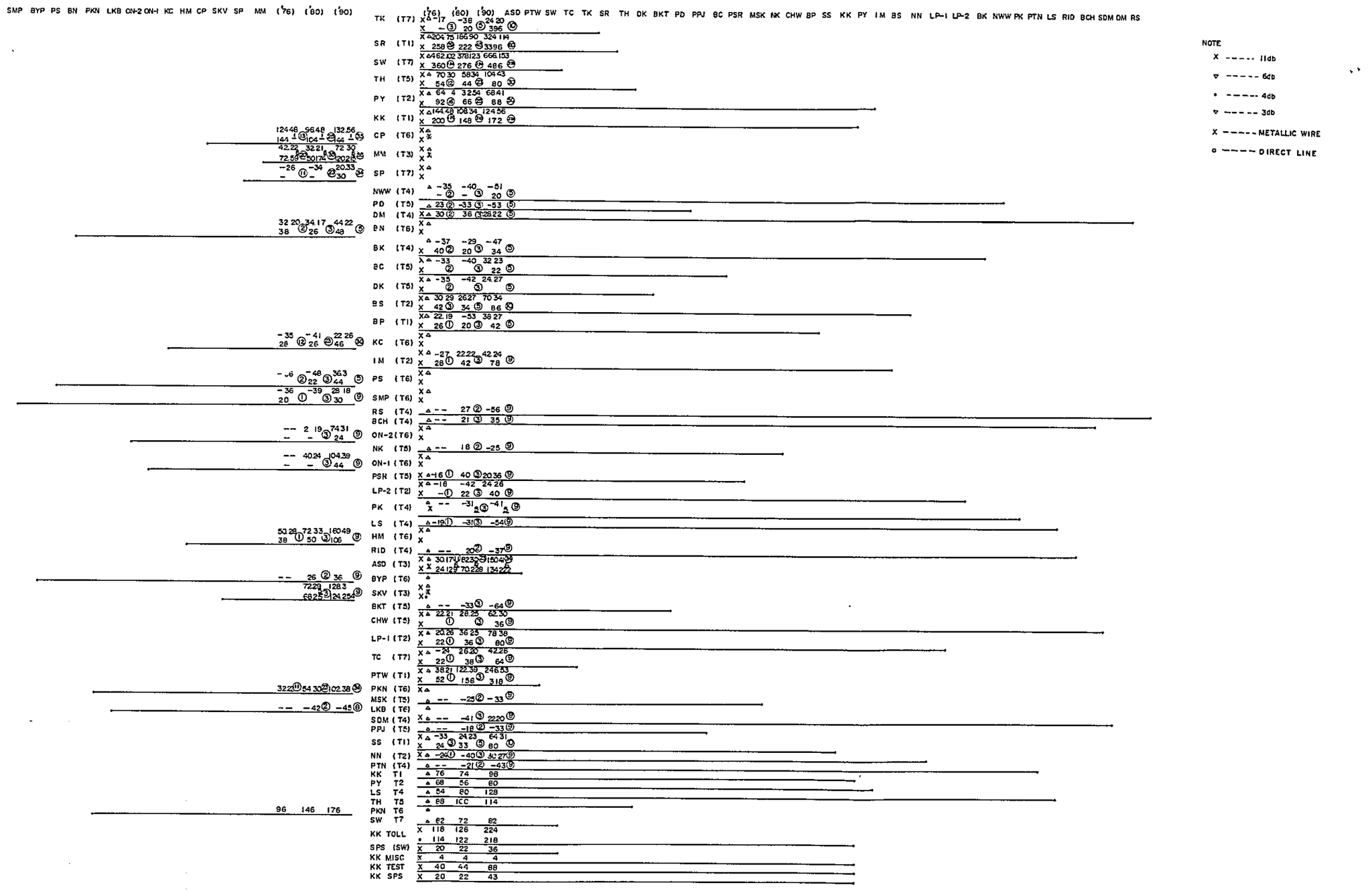
NOTE

X	——— 11db
Δ	——— 6db
•	——— 4db
▽	——— 3db
✕	——— METALLIC WIRE
o	——— DIRECT LINE

EX. NO. 3 SW & T7 EXCHANGE SUB. 30,000—33,000—51,000



EX. NO. 4 PL (T3) EXCHANGE SUB. 20,000 — 22,000 — 43,000

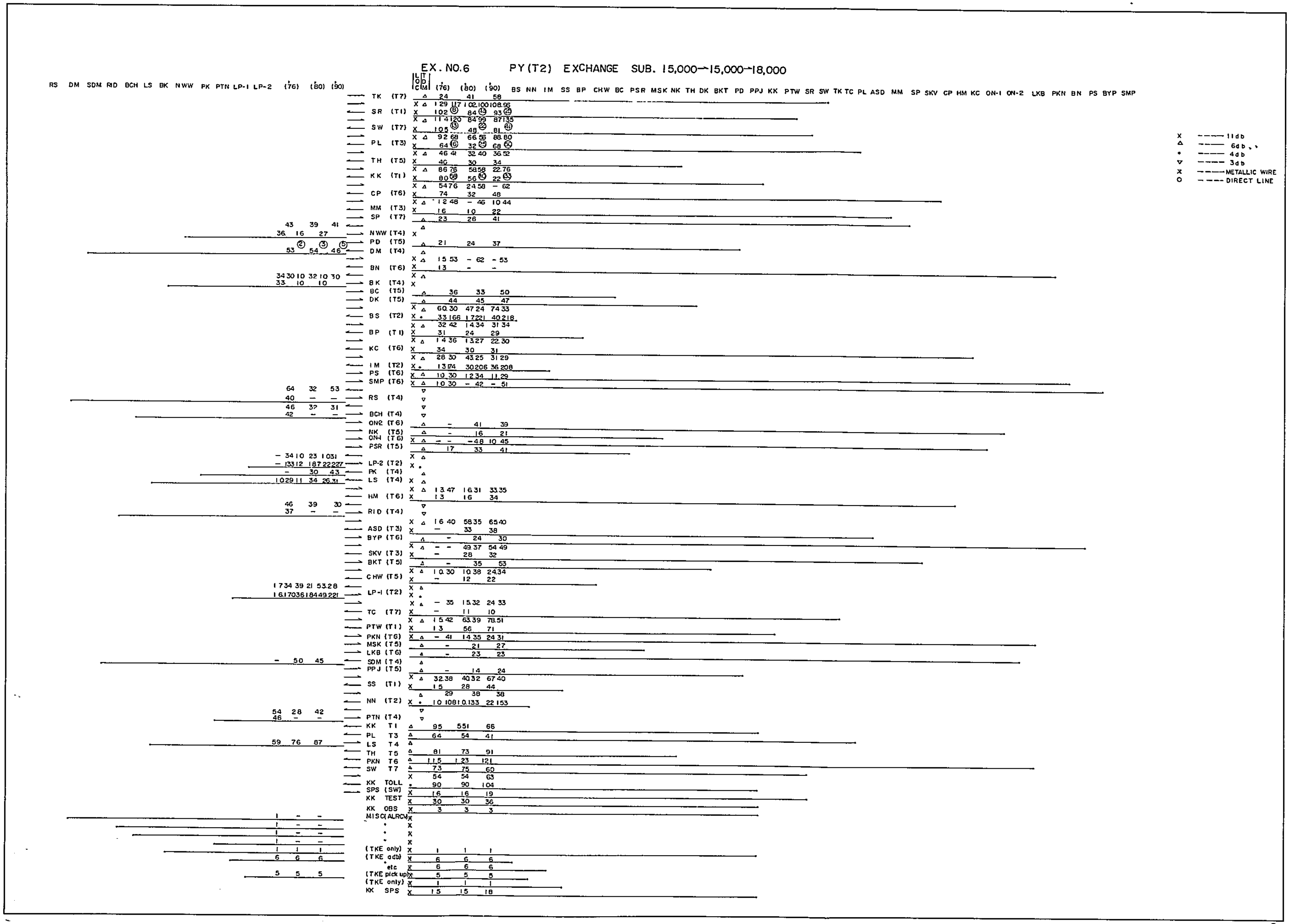


EX. NO. 5 TH EXCHANGE T5 SUB. 20,000—22,000—35,000

BP CHW NK MSK PSR BC PPJ PO BKT DK (76) (80) (90)

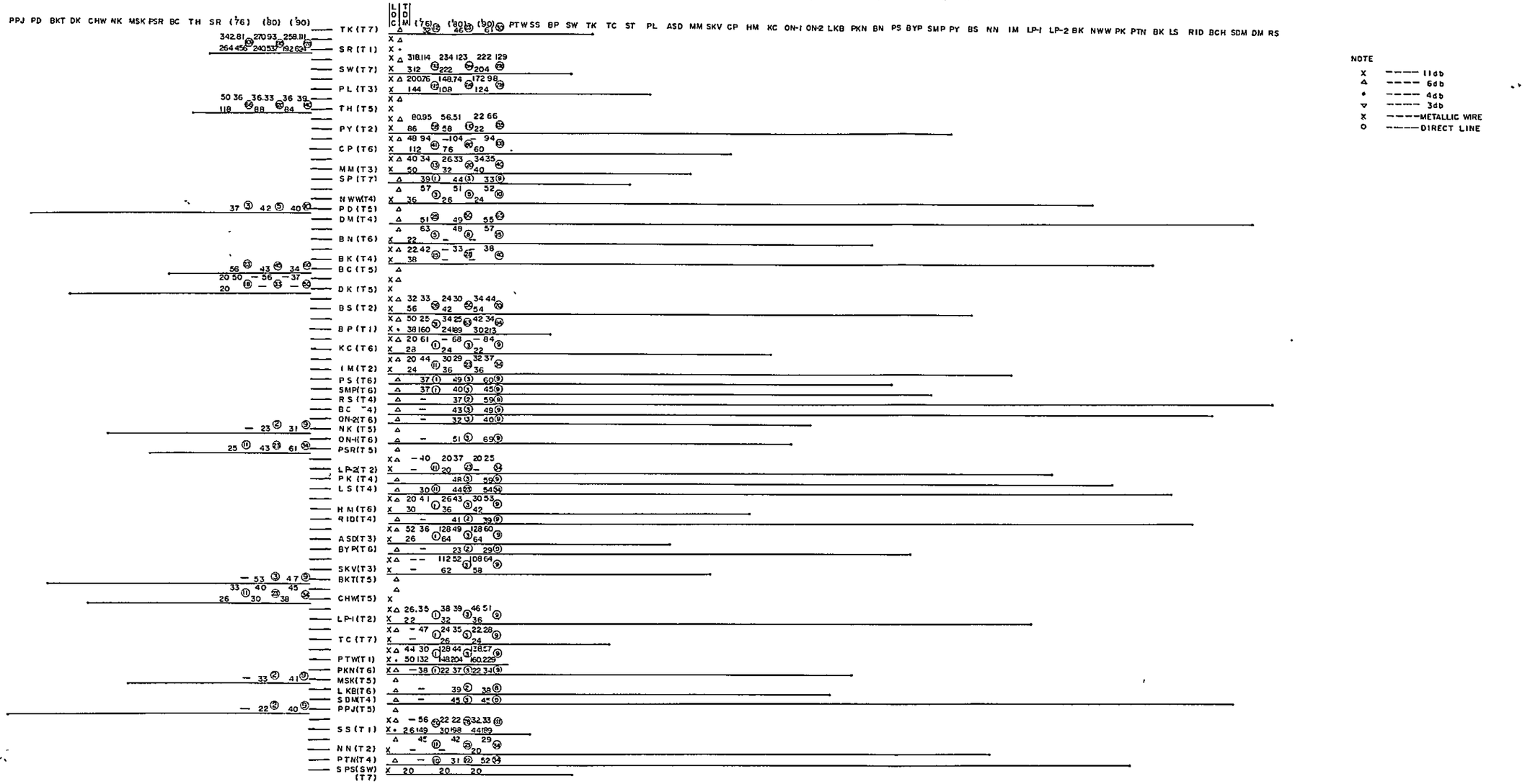
	(76)	(80)	(90)	SR	SW	TC	TK	SP	KK	PTW	PL	MM	ASD	SKV	CP	PKN	BN	PS	SMP	BYP	HM	KC	ON-1	ON-2	LKB	SS	BS	NN	NWW	PK	PTN	PY	IM	LP-1	LP-2	RID	BCH	BK	LS	SDM	DM	RS
T K (T7)	10.17	15.33	22.42																																							
	13	21	31																																							
S R (T1)	216.96	192	132.282	141																																						
	120	(3) 102	(5) 150	(5)																																						
S W (T7)	186.126	150	156.219	174																																						
	147	(3) 114	(5) 162	(5)																																						
P L (T3)	54.88	44.100	80.114																																						
	70	(3) 58	(5) 104	(5)																																						
P Y (T2)	40.81	30.73	34.91																																						
	46	32	36																																						
K K (T1)	118.74	88.96	84.100																																						
	50	(3) 35	(5) 36	(5)																																						
C P (T6)	50.74	38.78	46.100																																						
	38	28	32																																						
M M (T3)	15.34	11.35	21.56																																						
	23	16	31																																						
P D (T5)																																									
B N (T6)	12.27	-37	13.44																																						
B C (T5)																																								
D K (T5)																																								
B S (T2)	17.34	15.42	30.56																																						
	23	19	39																																						
B P (T1)																																								
K C (T6)	13.29	13.40	19.51																																						
	13	12	17																																						
I M (T2)	11.24	19.51	30.55																																						
	11	17	27																																						
P S (T6)	-23	37	13.44																																						
	—	—	10																																						
ON-2 (T6)	—	36	19.60																																						
N K (T5)																																								
ON-1 (T6)	—	15.34	34.43																																						
P S R (T5)																																								
LP-2 (T2)	-20	-44	14.56																																						
H M (T6)	21.31	29.57	54.67																																						
	10	13	23																																						
ASD (T3)	15.26	41.49	63.46																																						
	13	35	54																																						
SKV (T3)	—	36.70	54.61																																						
	—	33	50																																						
BKT (T5)																																								
CHW (T5)																																								
LP-1 (T2)	15.25	26.50	46.62																																					
	11	19	34																																						
T C (T7)	13.26	26.48	37.58																																						
	21	39	55																																						
PTW (T1)	31.34	101.62	169.70																																						
	12	37	62																																						
PKN (T6)	10.26	19.48	29.67																																						
M S K (T5)																																								
S D M (T4)	—	-26	10.25																																						
	-29	1.38	26.49																																						
S S (T1)	12	(2) 16	(3) 35	(5)																																						
"J" TOLL	59	63	94																																						
"I" SPS																																								
P P J (T5)																																								
K K TOLL	102	111	168																																						
K K T1	36	33	39																																						
P Y T2	41	40	52																																						
P L T3	30	34	43																																						
L S T4	27	34	51																																						
PKN T6	46	55	72																																						
S W T7	40	36	46																																						
K K TEST	40	44	70																																						
MISC (OBS)	5	5	5																																						
S P (T7)	-19	-22	-35																																						
NWW (T4)	-26	-26	-37																																						
D M (T4)	-24	-28	-41																																						
B K (T4)	-27	-19	-29																																						
SMP (T6)	-23	-26	-38																																						
R S (T4)	—	-17	-34																																						
BCH (T4)	—	-22	-36																																						
P K (T4)	—	-20	-30																																						
L S (T4)	-15	-21	-39																																						
RID (T4)	—	-21	-38																																						
BYP (T6)	—	-16	-20																																						
LKB (T6)	—	-21	-21																																						
N N (T2)	-18	-26	-44																																						
PTN (T4)	—	-14	-26																																						
K K SPS	20	22	35																																						
MISC (TKE)	1	1	1																																						

x	——— 11db
Δ	——— 6db
•	——— 4db
▾	——— 3db
x̲	——— METALLIC WIRE
o	——— DIRECT LINE



EX. NO.6 PY(T2) EXCHANGE SUB. 15,000→15,000→18,000
RS DM SDM RID BCH LS BK NWW PK PTN LP-1 LP-2 (76) (80) (90)
BS NN IM SS BP CHW BC PSR MSK NK TH DK BKT PD PPJ KK PTW SR SW TK TC PL ASD MM SP SKV CP HM KC ON-1 ON-2 LKB PKN BN PS BYP SMP
X ---- 11db
△ ---- 6db
• ---- 4db
▽ ---- 3db
X ---- METALLIC WIRE
O ---- DIRECT LINE

EX. NO. 7 KK (T1) EXCHANGE SUB. 2,000 → 20,000 → 20,000



EX. NO. 7 KK & TI EXCHANGE

	(76)	(80)	(90)	PTW	SS	BP	SW	TK	TC	SP	PL	ASD	MM	SKV	CP	HM	KC	ON-1	ON-2	LKB	PKN	BN	PS	BYP	SMP	PY	BS	NN	IM	LP-1	LP-2	BK	NWW	PK	PTN	LS	RID	BCH	SDM	DM	RS
TK (T7)																																									
	229	4217	6125																																							
	X	14	26	36																																						
SR (T1)																																										
	17179	19891	294 133	X																																						
	177	204	3.00	X																																						
SW (T7)																																										
	X	177	189	273																																						
PL (T3)																																										
	X	118	126	224																																						
TH (T5)																																										
	10248	111471	6873	X																																						
	59	63	94	X																																						
PY (T2)																																										
	X	54	54	63																																						
CP (T6)																																										
	X	68	68	80																																						
MM (T3)																																										
	X	34	34	61																																						
SP (T7)																																										
	14	17	27																																						
NWW (T4)																																										
	X	20	20	29																																						
PD (T5)																																										
	229	2711	42 17	X																																						
	14	17	26	X																																						
DM (T4)																																										
	X	14	17	25																																						
BN (T6)																																										
	X	34	34	49																																						
BK (T4)																																										
	3815	3815	7129																																						
	X	20	15	22																																						
BC (T5)																																										
	23	23	41																																						
DK (T5)																																										
	4719	5221	8033																																						
	29	31	46																																						
BS (T2)																																										
	X	34	39	77																																						
BP (T1)																																										
	X	29	29	51																																						
KC (T6)																																										
	X	29	36	51																																						
IM (T2)																																										
	X	23	46	73																																						
PS (T6)																																										
	X	20	34	49																																						
SMP (T6)																																										
	X	20	23	33																																						
RS (T4)																																										
	X	7	11	20																																						
BCH (T4)																																										
	X	7	16	25																																						
ON-2 (T6)																																										
	X	-	22	44																																						
NK (T5)																																										
	X																																									
ON-1 T6																																										
	X	-	29	59																																						
PSR (T5)																																										
	X																																									
LP-2 (T2)																																										
	X	14	31	46																																						
PK (T4)																																										
	X	-	16	23																																						
LS (T4)																																										
	X	12	17	30																																						
HM (T6)																																										
	X	29	49	87																																						
RID (T4)																																										
	X	7	15	26																																						
ASD (T3)																																										
	X	20	59	89																																						
BYP (T6)																																										
	X	-	14	17																																						
SKV (T3)																																										
	X	-	53	77																																						
BKT (T5)																																										
	X																																									
CHW (T5)																																										
	X																																									
LP-1 (T2)																																										
	X	20	39	68																																						
TC (T7)																																										
	X	20	44	61																																						
PTW (T1)																																										
	X	20	68	112																																						
PKN (T6)																																										
	X	21	40	60																																						
MSK (T5)																																										
	X																																									
LKB (T6)																																										
	X	-	13	13																																						
SDM (T4)																																										
	X	-	16	20																																						
PPJ (T5)																																										
	X																																									
SS (T1)																																										
	X	20	34	70																																						
NN (T2)																																										
	X	14	20	34																																						
PTN (T4)																																										
	X	7	11	20																																						
PY T2																																										
	Δ	76	58	76																																						
PL T3																																										
	Δ	48	54	56																																						
LS T4																																										
	Δ	42	86	92																																						
TH T5																																										
	Δ																																									
PKN T6																																										
	Δ	92	132	134																																						
SW T7																																										
	Δ	84	70	68																																						

NOTE

X ------ 11 db

Δ ------ 6db

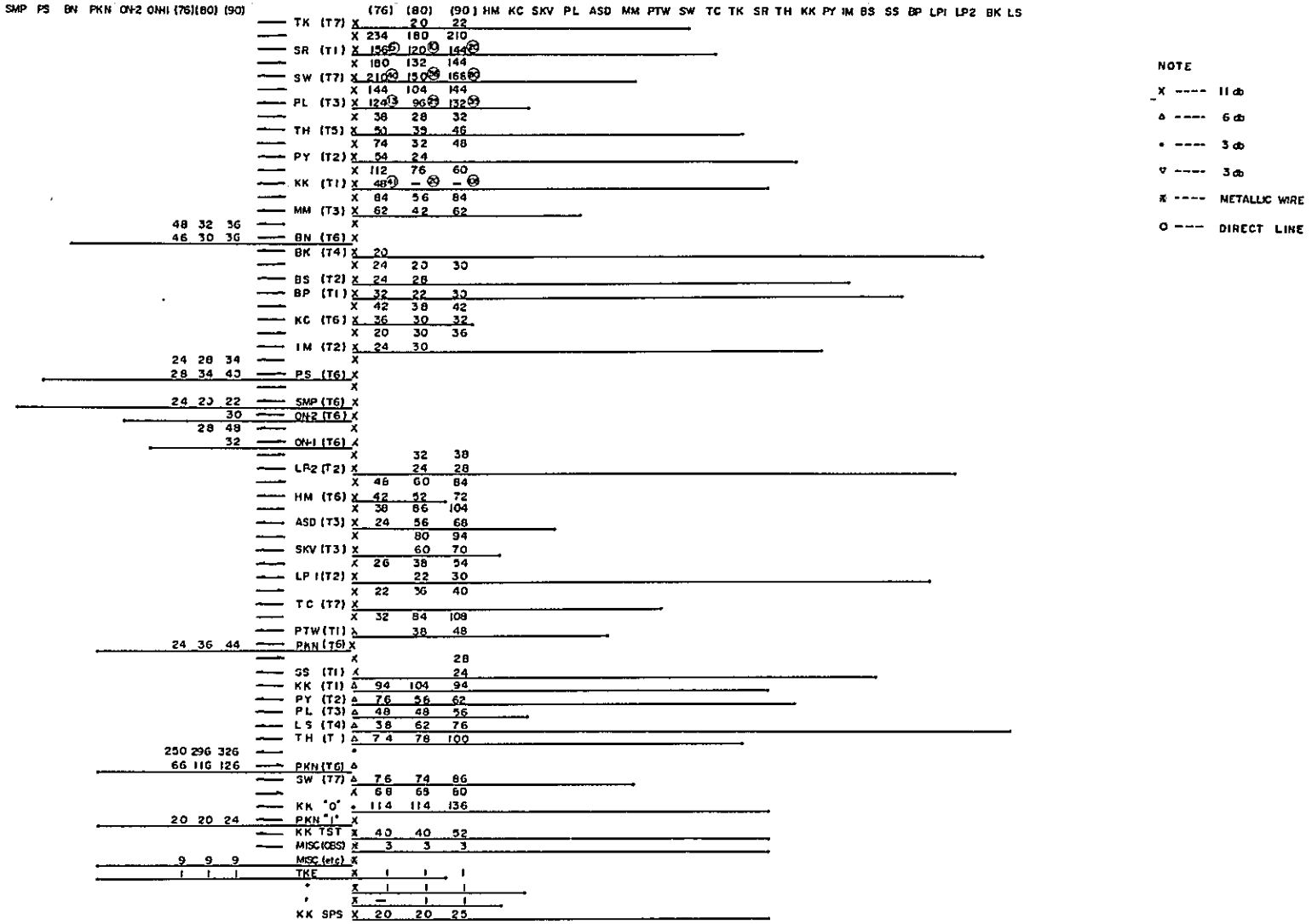
• ------ 4db

▽ ------ 3db

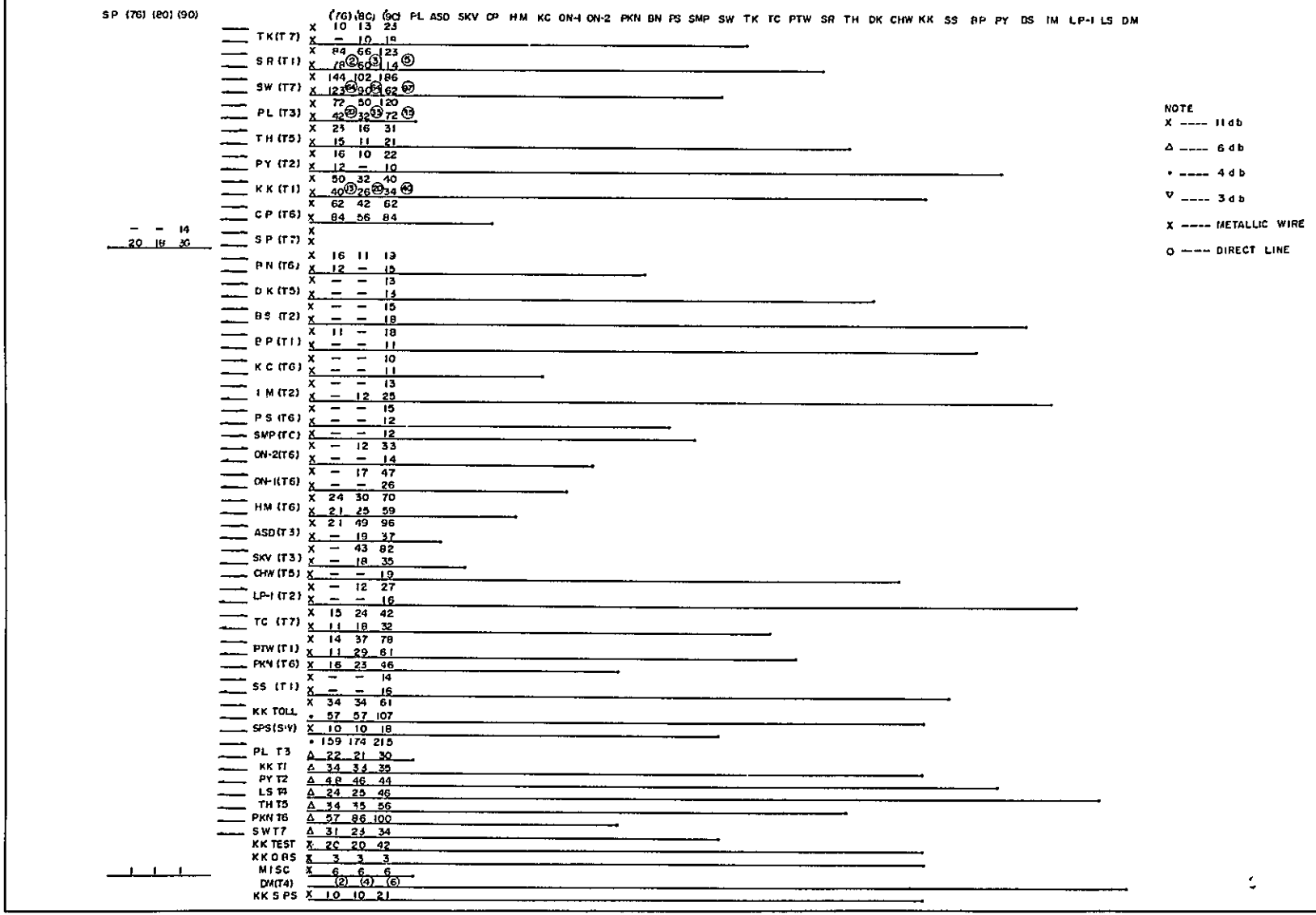
X ------ METALLC WRE

o ---- DIRECT LINE

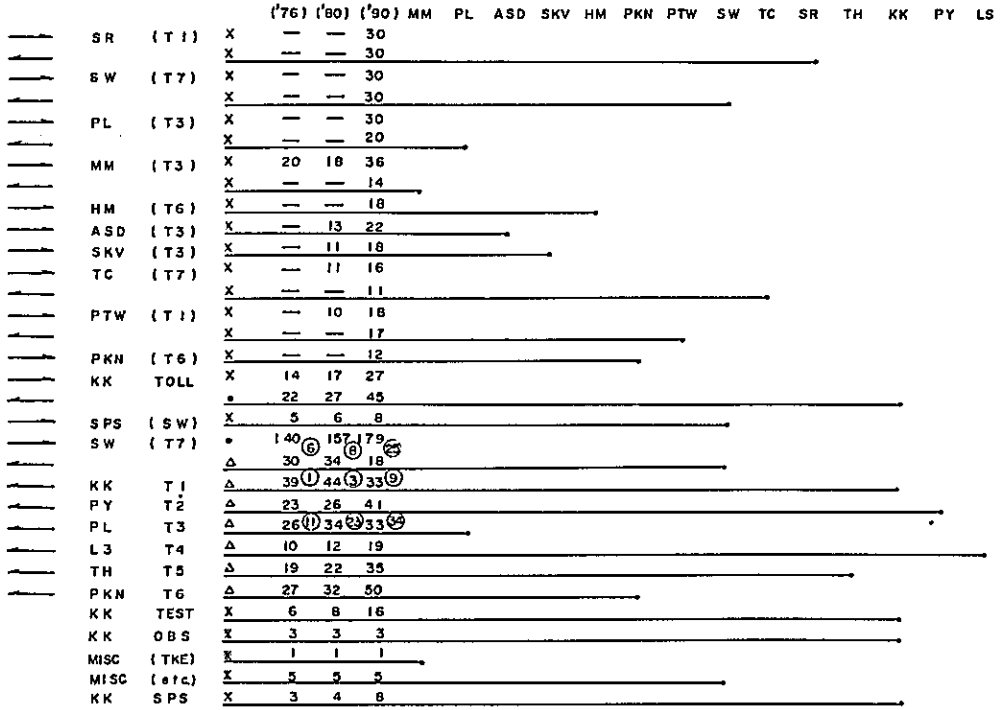
EX.NO 8 CP. EXCHANGE (T6) SUB. 20,000 — 20,000 — 25,000



EX.NO 9 MM EXCHANGE (T3) SUB. 10,000 — 10,000 — 21,000



EX NO.10 SP EXCHANGE (T7) SUB. 3,000—4,000—7,500



NOTE

X ---- 11 db

△ ---- 6 db

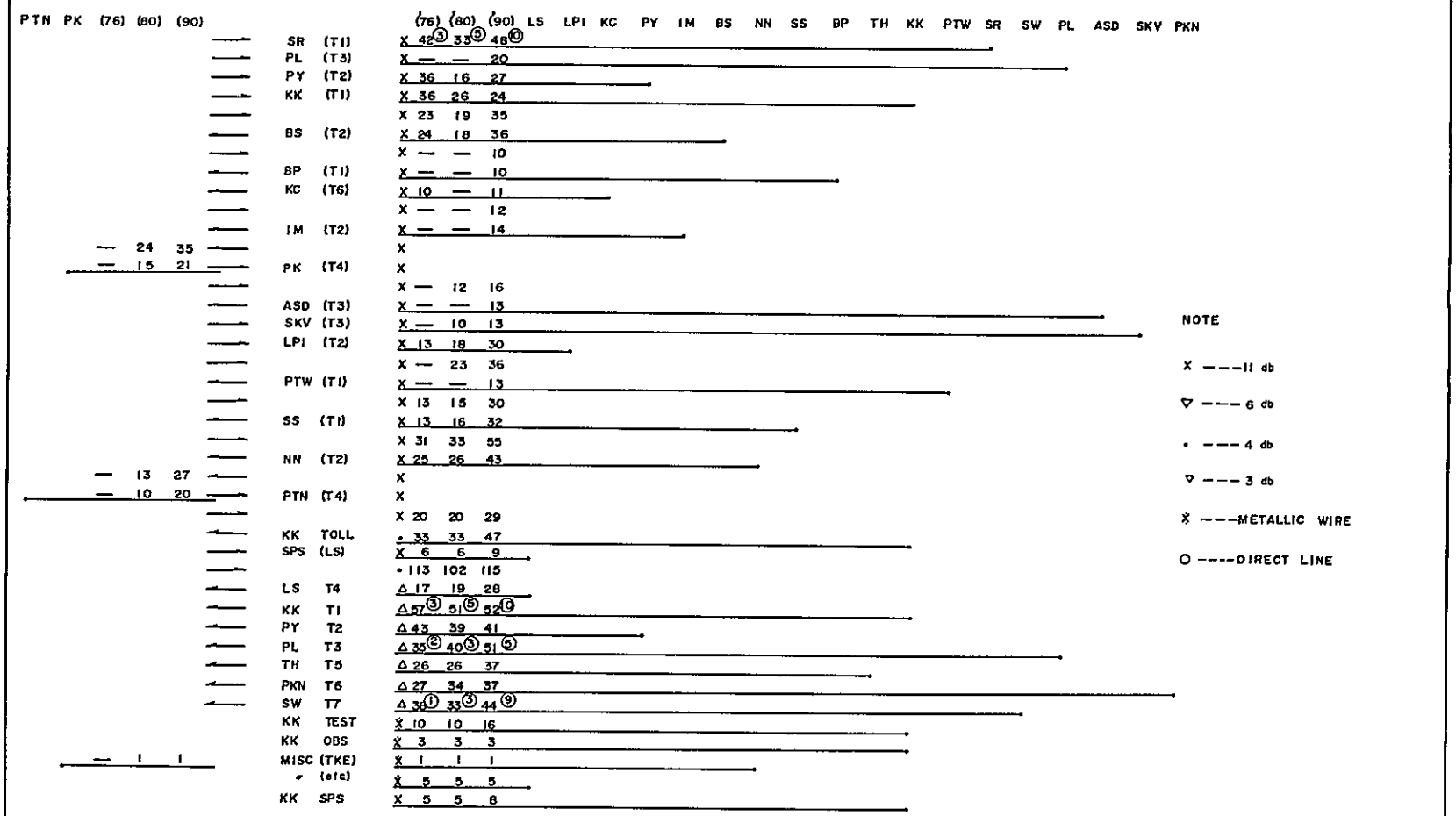
• ---- 4 db

▽ ---- 3 db

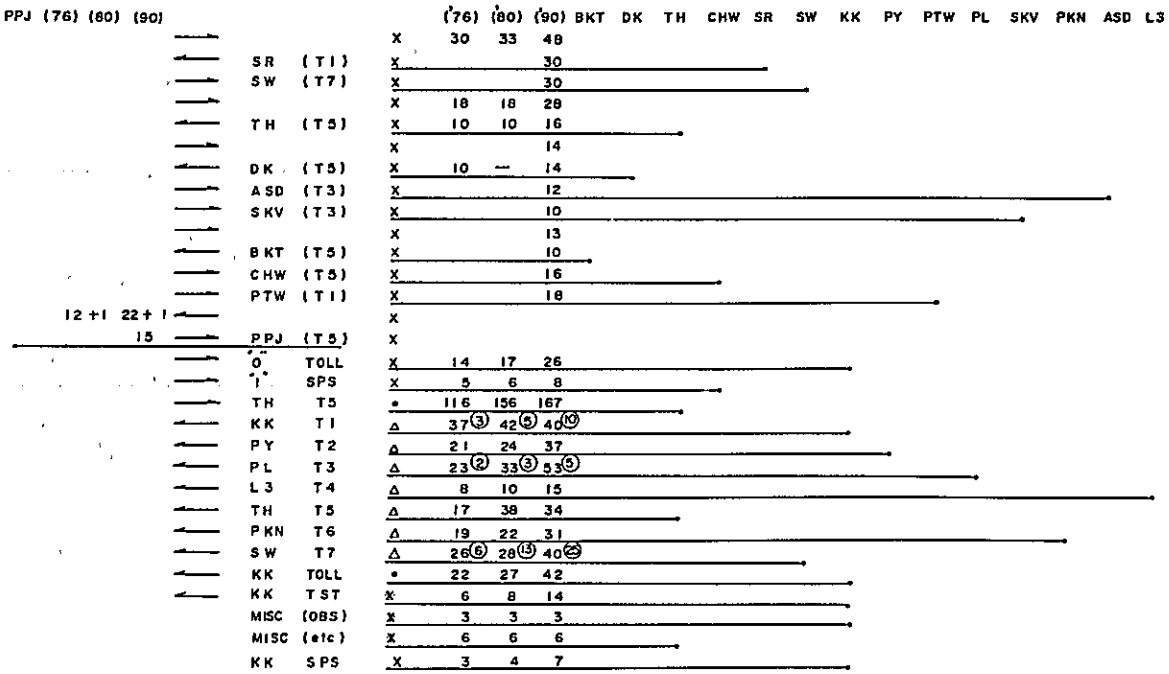
X ---- METALLIC WIRE

○ ---- DIRECT LINE

EX. NO 11 NWW EXCHANGE (T4) SUB. 5,000—5,000—8,000



EX. NO. 12 PD EXCHANGE(T5) SUB. 3,000—4,000—7,000



NOTE

X ---- 11 db

Δ ---- 6 db

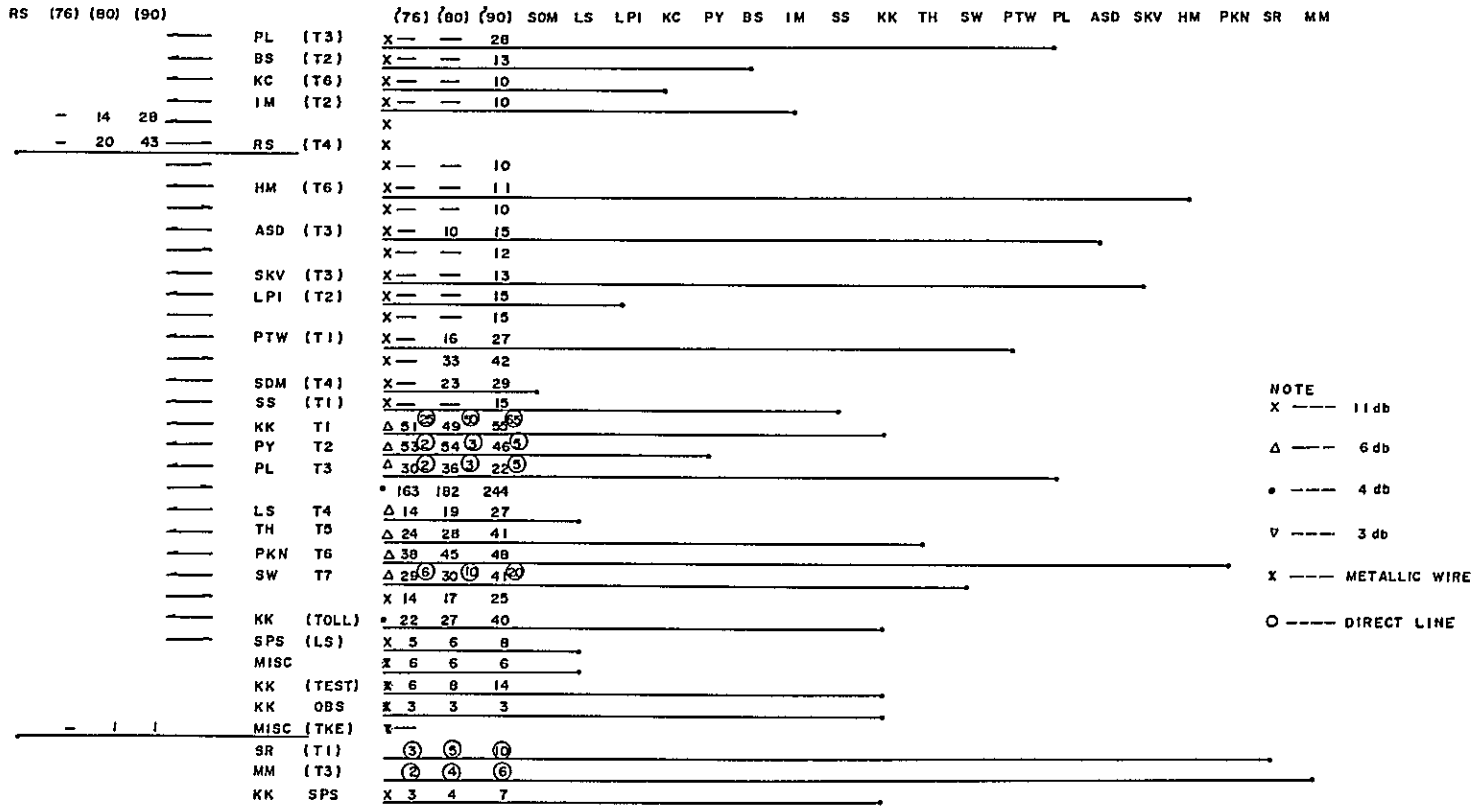
• ---- 4 db

▽ ---- 3 db

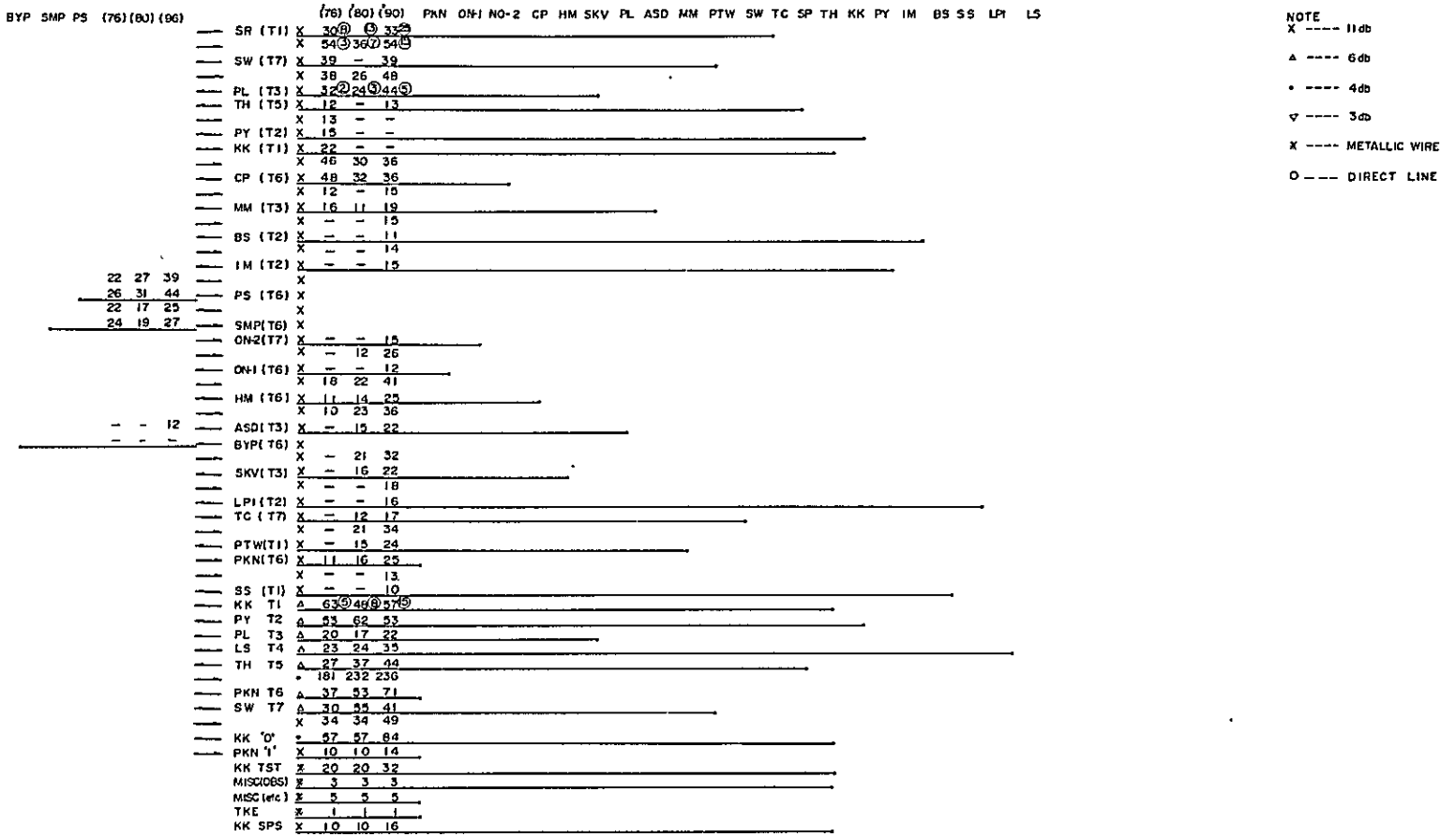
X ---- METALLIC WIRE

O ----- DIRECT LINE

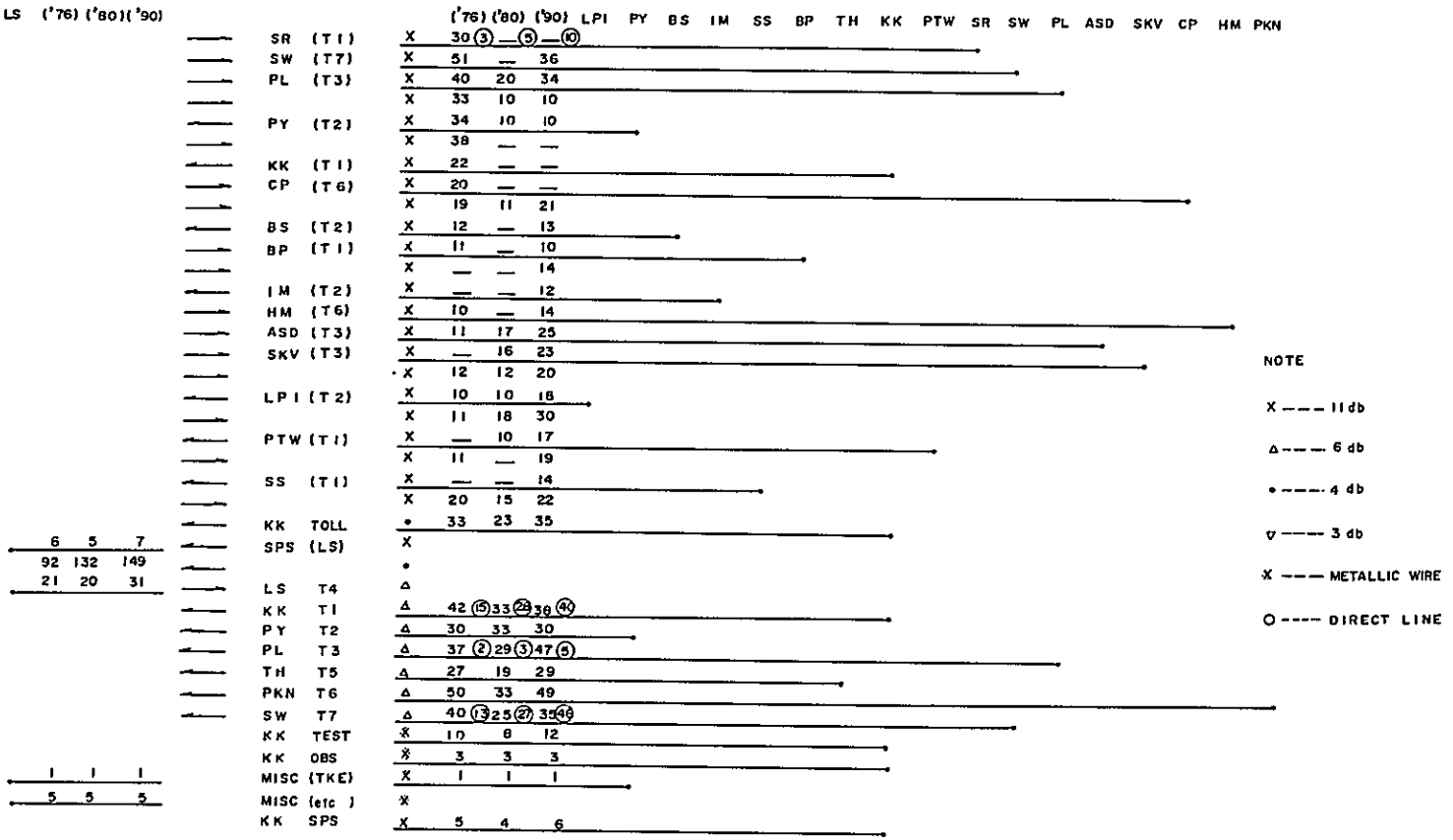
EX. NO.13 DM EXCHANGE (T4) SUB. 3,000—4,000 — 6,500

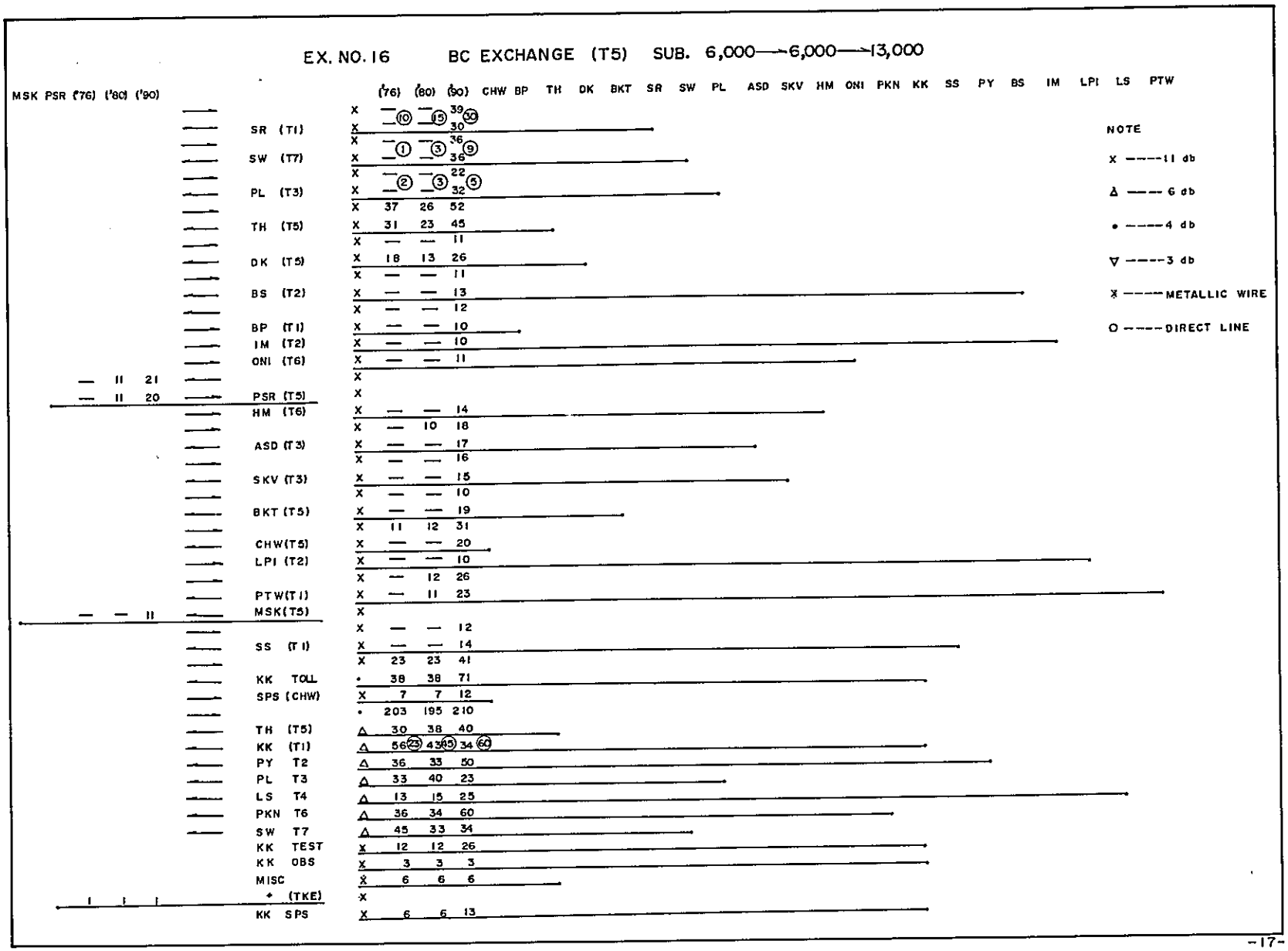


EX. NO 14 BN EXCHANGE (T6) SUB. 10,000—10,000—16,000

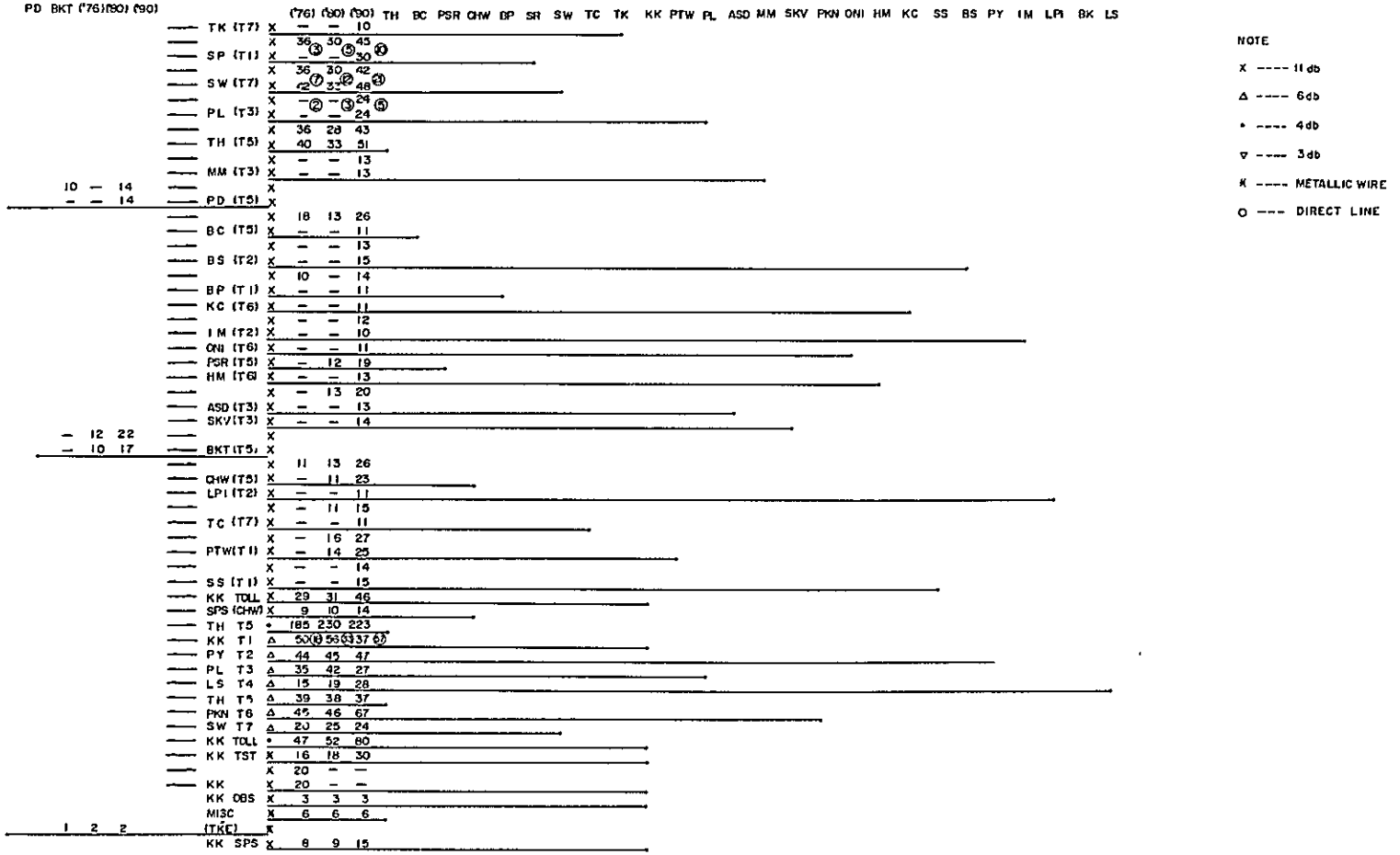


EX. NO. 15 BK EXCHAGE (T 4) SUB. 5,000 — 3,200 — 5,500




EX. NO. 16 BC EXCHANGE (T5) SUB. 6,000→6,000→13,000
MSK PSR ('76) ('80) ('90)
('76) ('80) ('90) CHW BP TH DK BKT SR SW PL ASD SKV HM ONI PKN KK SS PY BS IM LPI LS PTW
SR (T1)
SW (T7)
PL (T3)
TH (T5)
DK (T5)
BS (T2)
BP (T1)
IM (T2)
ONI (T6)
PSR (T5)
HM (T6)
ASD (T3)
SKV (T3)
BKT (T5)
CHW(T5)
LPI (T2)
PTW(T1)
MSK(T5)
SS (T1)
KK TOLL
SPS (CHW)
TH (T5)
KK (T1)
PY T2
PL T3
LS T4
PKN T6
SW T7
KK TEST
KK OBS
MISC
+ (TKE)
KK SPS
NOTE
X ----11 db
Δ ---- 6 db
• ----4 db
▽ ----3 db
ẋ ---- METALLIC WIRE
O ---- DIRECT LINE

EX. NO. 17 DK. EXCHANGE (T5) SUB. 8,000 — 9,000 — 13,000



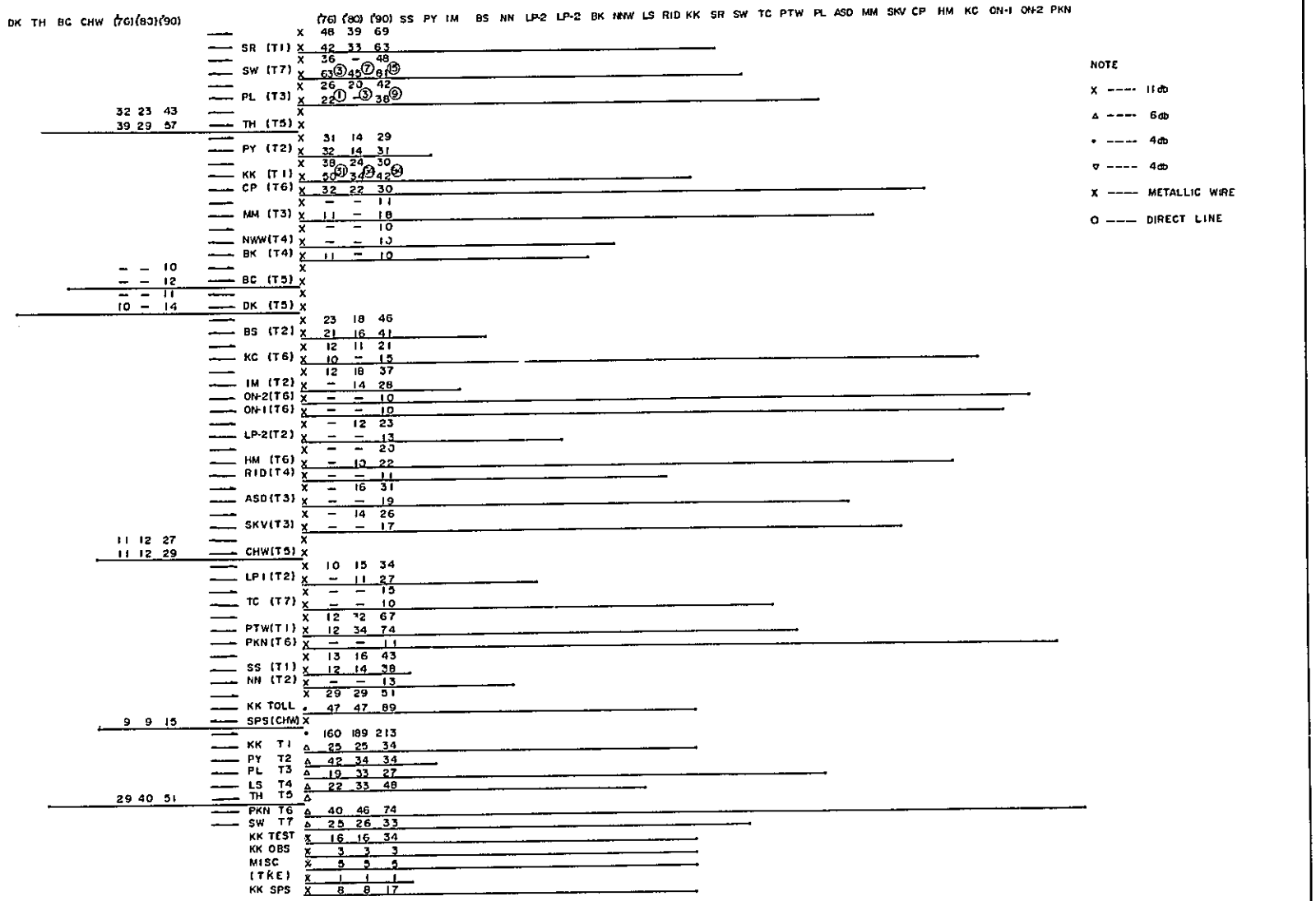
EX. NO.18 BS EXCHANGE (T2) SUB. 10,000—12,000—28,000

NN (76) (80) (90)			(76)	(80)	(90)	PY	IM	LP-1	LP-2	BK	NWW	PK	PTN	LS	RID	BCH	SDM	DM	SS	BP	CHW	BC	PSR	TH	DK	BKT	KK	PTW	SR	SW	TC	PL	ASD	MM	SKV	CP	HM	KC	ON-1	ON-2	PKN	BN	PS
		X	54	48	95																																					
	SR (T1)	X	48	45	98																																						
		X	63	54	105																																						
	SW (T7)	X	54	48	93																																						
		X	42	34	86																																						
	PL (T3)	X	30	26	70																																						
		X	23	19	39																																						
	TH (T5)	X	17	15	30																																						
		X	33	17	40																																						
	PY (T2)	X	60	47	74																																						
		X	56	42	54																																						
	KK (T1)	X	32	24	34																																						
		X	24		28																																						
	CP (T6)	X	24	20	30																																						
		X	—	—	18																																						
	MM (T3)	X	—	—	15																																						
		X	24	18	36																																						
	NWW (T4)	X	23	19	35																																						
	DM (T4)	X	—	—	13																																						
		X	—	—	11																																						
	BN (T6)	X	—	—	15																																						
		X	12	—	13																																						
	BK (T4)	X	19	11	21																																						
		X	—	—	13																																						
	BC (T5)	X	—	—	11																																						
		Y	—	—	15																																						
	DK (T5)	X	—	—	13																																						
		X	21	16	41																																						
	BP (T1)	X	23	18	46																																						
		X	16	17	35																																						
	KC (T6)	X	15	15	28																																						
		X	15	27	59																																						
	IM (T3)	X	11	19	43																																						
		X	—	—	15																																						
	PS (T6)	X	—	—	17																																						
	BCH (T4)	X	—	—	16																																						
	ON2 (T6)	X	—	—	10																																						
	ON1 (T6)	X	—	—	17																																						
	PSR (T5)	X	—	—	10																																						
		X	—	16	34																																						
	LPC (T2)	X	—	11	23																																						
		X	—	14	28																																						
	PK (T4)	X	—	—	16																																						
	LS (T4)	X	—	—	16																																						
		X	—	12	31																																						
	HM (T6)	X	—	10	23																																						
	RID (T4)	X	—	—	14																																						
		X	12	32	67																																						
	ASD (T3)	X	—	18	39																																						
		X	—	26	55																																						
	SKV (T3)	X	—	15	33																																						
	BKT (T5)	X	—	—	14																																						
		X	—	10	24																																						
	CHW (T5)	X	—	—	15																																						
		X	14	24	58																																						
	LP-1 (T2)	X	17	29	72																																						
		X	—	11	20																																						
	TC (T7)	X	—	—	18																																						
		X	13	45	104																																						
	PTW (T1)	X	—	24	58																																						
	PKN (T6)	X	—	—	17																																						
	SDM (T4)	X	—	—	10																																						
		X	21	20	91																																						
	SS (T1)	X	22	21	93																																						
		X																																								
15 18 44	NN (T2)	X																																									
13 14 32		X	—	—	18																																						
	PTN (T4)	X	—	—	12																																						
		Y	34	39	77																																						
	KK TOLL	•	57	66	138																																						
	SPS (LS)	X	10	18	22																																						
		•	166	221	218																																						
	PY T2	Δ	30	24	33																																						
	KK T1	Δ	33	30	44																																						
	PL T3	Δ	29	27	34																																						
	LS T4	Δ	20	43	72																																						
	TH T5	Δ	34	42	56																																						
	PKN T6	Δ	47	51	74																																						
	SW T7	Δ	26	30	38																																						
	KK TEST	X	20	24	56																																						
	KK OBS	X	3	3	3																																						
1 1 1	MISC	X	6	6	6																																						
	KK SPS	X	10	12	28																																						

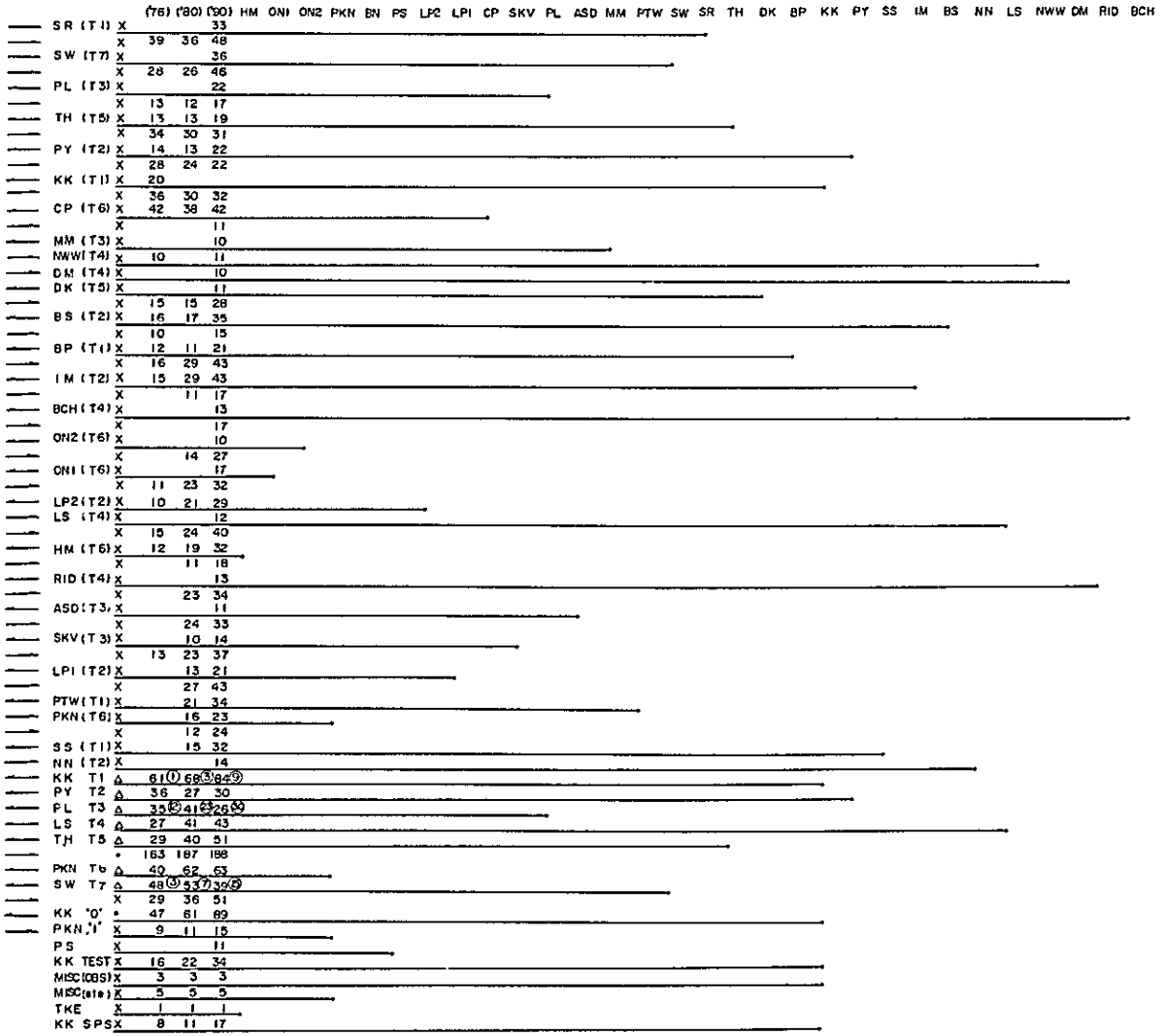
NOTE

- X ——— 11 db
- Δ ——— 6 db
- • ——— 4 db
- ▽ ——— 3 db
- ✕ ———METALLIC WIRE
- o ———DIRECT LINE

EX NO 19 BP EXCHANGE (T1) SUB. 8,000 — 8,000—17,000



EX. NO.20 KC. EXCHANGE (T6) SUB. 8,000—11,000—17,000



NOTE

X ---- 11 db

Δ ---- 6 db

• ---- 4 db

▽ ---- 3 db

X ---- METALLIC WIRE

O --- DIRECT LINE

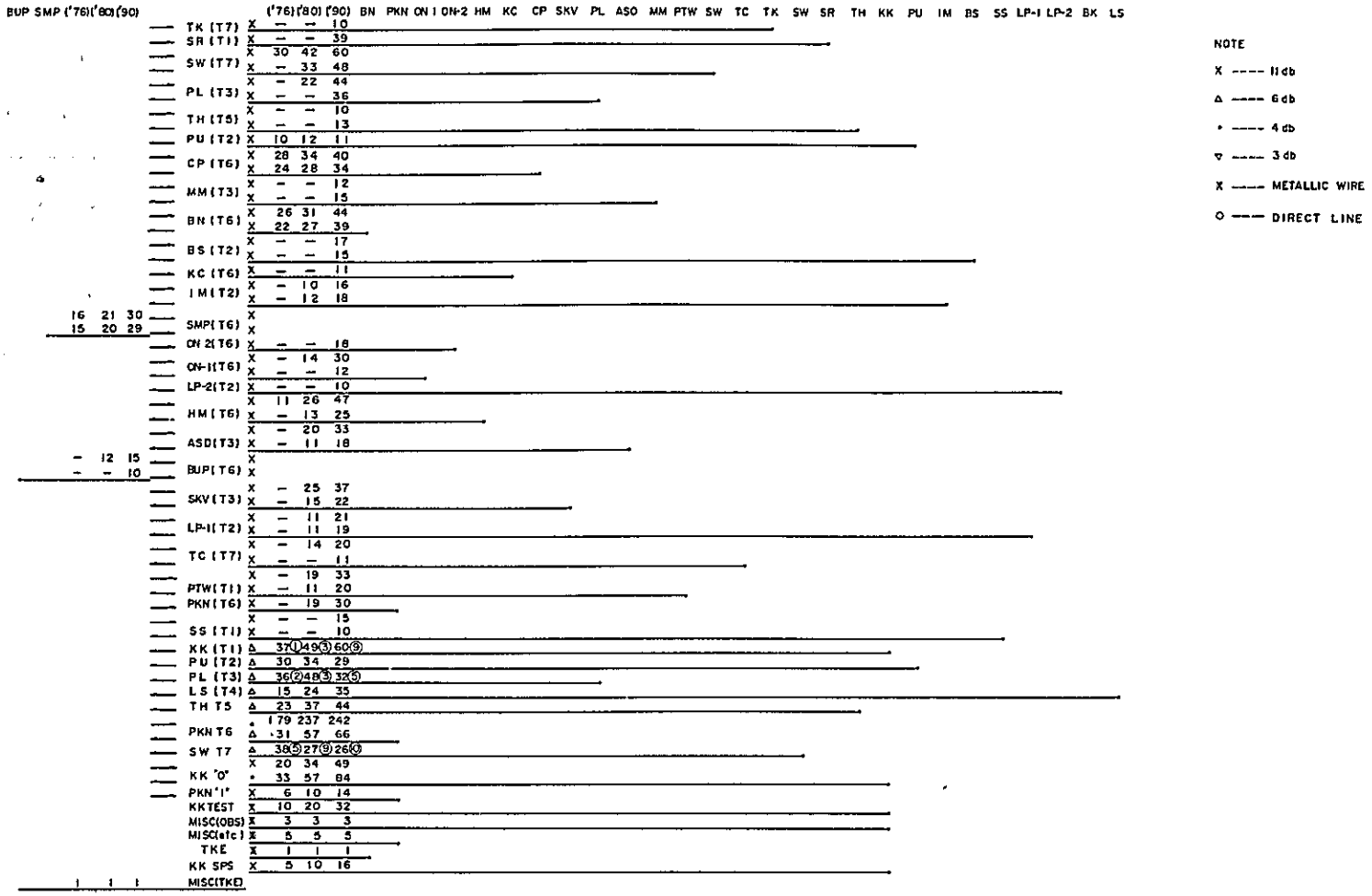
EX. NO.21 IM EXCHANGE (T2) SUB. 6,000—15,000—26,000

		('76)	('80)	('90)	PY	BS	NN	LP-1	LP-2	BK	NWW	LS	RID	BCH	DM	SS	BP	CHW	BC	TH	DK	KK	PTW	SR	SW	TC	PL	ASD	MM	SKV	CP	HM	KC	ON-1	ON-2	PKN	BN	PS	SMP
		X	—	36	54																																			
SR	(T1)	X	—	33	51																																				
		X	30	51	75																																			
SW	(T7)	X	—	39	60																																			
		X	29	42	78																																			
PL	(T3)	X	—	22	42																																			
		X	11	17	27																																			
TH	(T5)	X	11	19	30																																			
		X	13	30	36																																			
PY	(T2)	X	28	43	51																																			
		X	24	36	36																																			
KK	(T1)	X	20	30	32																																			
		X	—	24	30																																			
CP	(T6)	X	20	30	36																																			
		X	—	12	25																																			
MM	(T3)	X	—	—	13																																			
		X	—	—	14																																			
NWW	(T4)	X	—	—	12																																			
DM	(T4)	X	—	—	10																																			
		X	—	—	15																																			
BN	(T6)	X	—	—	14																																			
		X	—	—	12																																			
BK	(T4)	X	—	—	14																																			
BC	(T5)	X	—	—	10																																			
		X	—	—	10																																			
DK	(T5)	X	—	—	12																																			
		X	11	19	43																																			
BS	(T2)	X	15	27	59																																			
		X	—	14	28																																			
BP	(T1)	X	12	18	37																																			
		X	15	29	43																																			
KC	(T6)	X	16	29	43																																			
		X	—	12	18																																			
PS	(T6)	X	—	10	16																																			
		X	—	—	11																																			
SMP	(T6)	X	—	—	11																																			
		X	—	10	17																																			
BCH	(T4)	X	—	—	13																																			
ON-2	(T6)	X	—	—	16																																			
ON-1	(T6)	X	—	—	18																																			
		X	—	24	38																																			
LP-2	(T2)	X	—	21	34																																			
LS	(T4)	X	—	—	16																																			
		X	—	18	34																																			
HM	(T6)	X	—	15	28																																			
		X	—	—	15																																			
RID	(T4)	X	—	—	11																																			
		X	—	37	59																																			
ASD	(T3)	X	—	14	23																																			
		X	—	31	49																																			
SKV	(T3)	X	—	12	19																																			
		X	—	—	17																																			
CHW	(T5)	X	—	—	15																																			
		X	10	29	55																																			
LP-1	(T2)	X	—	27	50																																			
		X	—	11	17																																			
TC	(T7)	X	—	—	13																																			
		X	—	41	71																																			
PTW	(T1)	X	—	32	57																																			
PKN	(T6)	X	—	14	22																																			
		X	—	16	39																																			
SS	(T1)	X	—	24	55																																			
		X	—	—	17																																			
NN	(T2)	X	—	—	10																																			
		X	23	46	73																																			
KK	TOLL	•	38	80	129																																			
SPS	(SW)	X	7	14	21																																			
		•	174	206	208																																			
PY	T2	Δ	30	25	29																																			
KK	T1	Δ	44	29	37																																			
PL	T3	Δ	27	22	24																																			
LS	T4	Δ	24	53	50																																			
TH	T5	Δ	24	51	55																																			
PKN	T6	Δ	33	56	67																																			
SW	T7	Δ	39	34	36																																			
KK	TEST	X	12	30	52																																			
KK	OBS	X	3	3	3																																			
	MISC	X	6	6	6																																			
KK	SPS	X	6	15	26																																			

NOTE

X ----- 11db
Δ ----- 6db
• ----- 4db
----- 3db
X ----- METALLIC WIRE
o ——— DIRECT LINE

EX.NO 22 PS EXCHANGE (T6) SUB. 5,000—10,000—16,000



EX.NO.23 SMP. EXCHANGE (T6) SUB. 5,000→6,000→9,800

	('76)	('80)	('90)	PS	BYP	BN	PKN	CP	HM	SKV	PL	ASD	PTW	MM	SW	TC	SR	TH	KK	PY	LS	IM	ON-1	ON-2
X	33	—	39																					
SM (T 7) X	—	—	30																					
X	20	—	30																					
PL (T 3) X	—	—	28																					
PY (T 2) X	10	—	—																					
CP (T 6) X	24	20	22																					
MM (T 3) X	—	—	12																					
X	24	19	27																					
BN (T 6) X	22	17	25																					
X	—	—	11																					
IM (T 2) X	—	—	11																					
X	15	20	29																					
PS (T 6) X	16	21	30																					
ON-2 (T6) X	—	—	12																					
ON-1 (T6) X	—	—	17																					
X	10	14	26																					
HM (T 6) X	—	—	13																					
X	—	15	23																					
ASD (T 3) X	—	—	14																					
X	—	14	20																					
SKV (T 3) X	—	10	14																					
TC (T 7) X	—	—	13																					
X	—	12	21																					
PTW (T 1) X	—	—	15																					
PKN (T 6) X	—	13	20																					
KK (T 1) Δ	37 (1)	40 (3)	45 (9)																					
PY T 2 Δ	30	42	51																					
PL T 3 Δ	36 (1)	39 (3)	18 (9)																					
LS T 4 Δ	15	17	25																					
TH T 5 Δ	23	26	38																					
•	143	190	206																					
PKN T 6 Δ	51	61	77																					
SW T 7 Δ	38 (5)	37 (10)	26 (64)																					
X	20	23	33																					
KK "0" •	33	38	56																					
PKN "1" X	6	7	10																					
KK TEST X	10	12	20																					
MISC(OBS) X	3	3	3																					
MISC(etc) X	5	5	5																					
TKE X	1	1	1																					
KK SPS X	5	6	10																					

NOTE

X ——— 11 db

Δ ——— 6 db

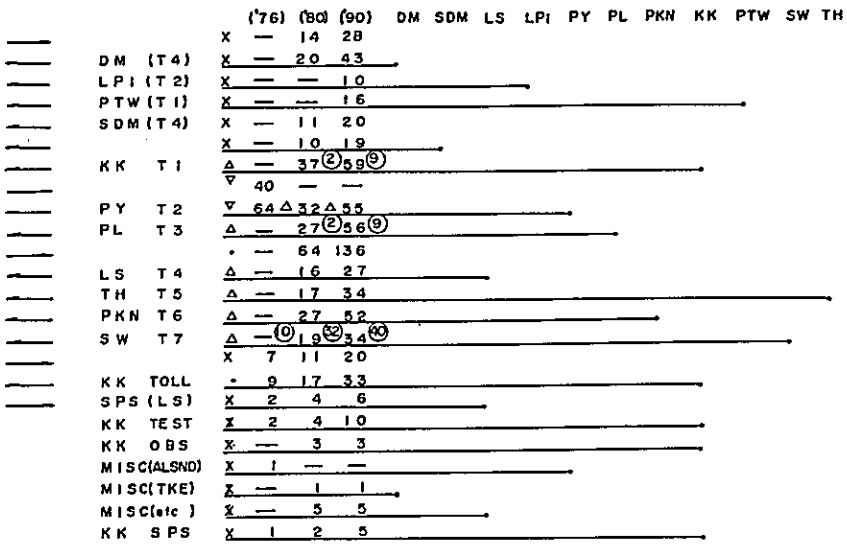
• ——— 4 db

▽ ——— 3 db

X ——— METALLIC WIRE

O ——— DIRECT LINE

EX. NO. 24 RS EXCHANGE (T4) SUB. 800—2,000—5,000



NOTE

X —— 11 db

△ —— 6 db

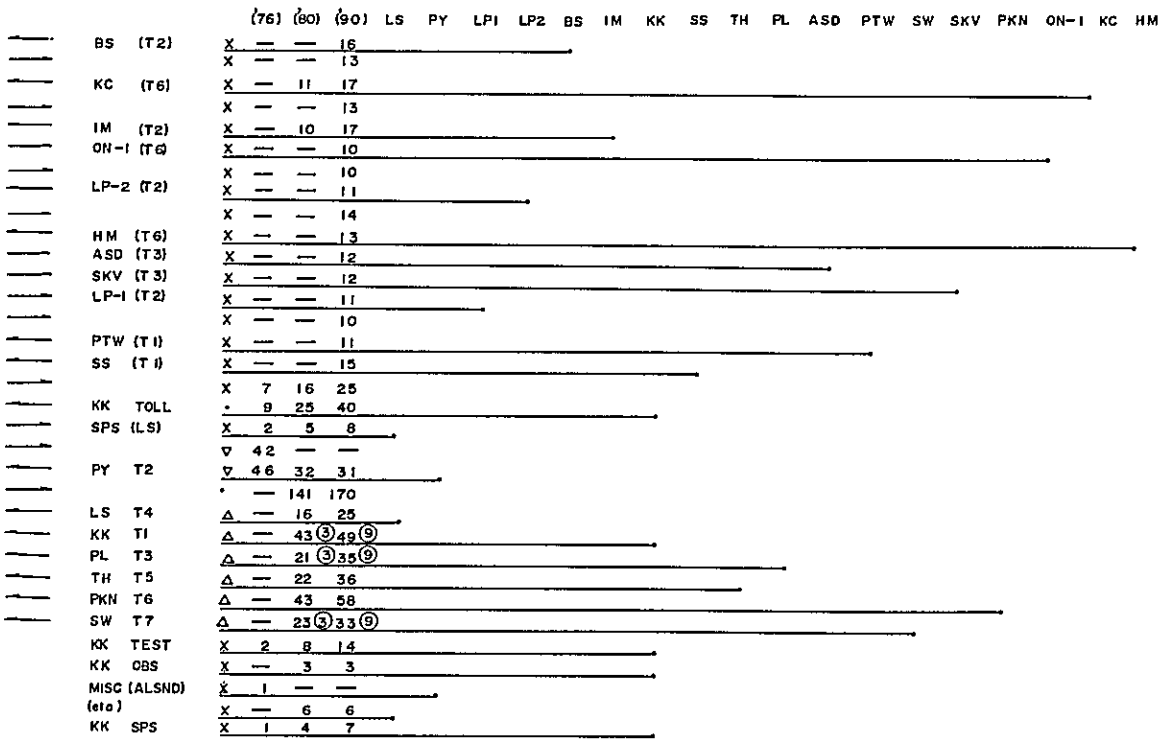
• —— 4 db

▽ —— 3 db

X —— METALLIC WIRE

O —— DIRECT LINE

EX.NO 25 BCH EXCHANGE (T4) SUB. 800—3,500—6,500



NOTE

X ——11 db

Δ —— 6 db

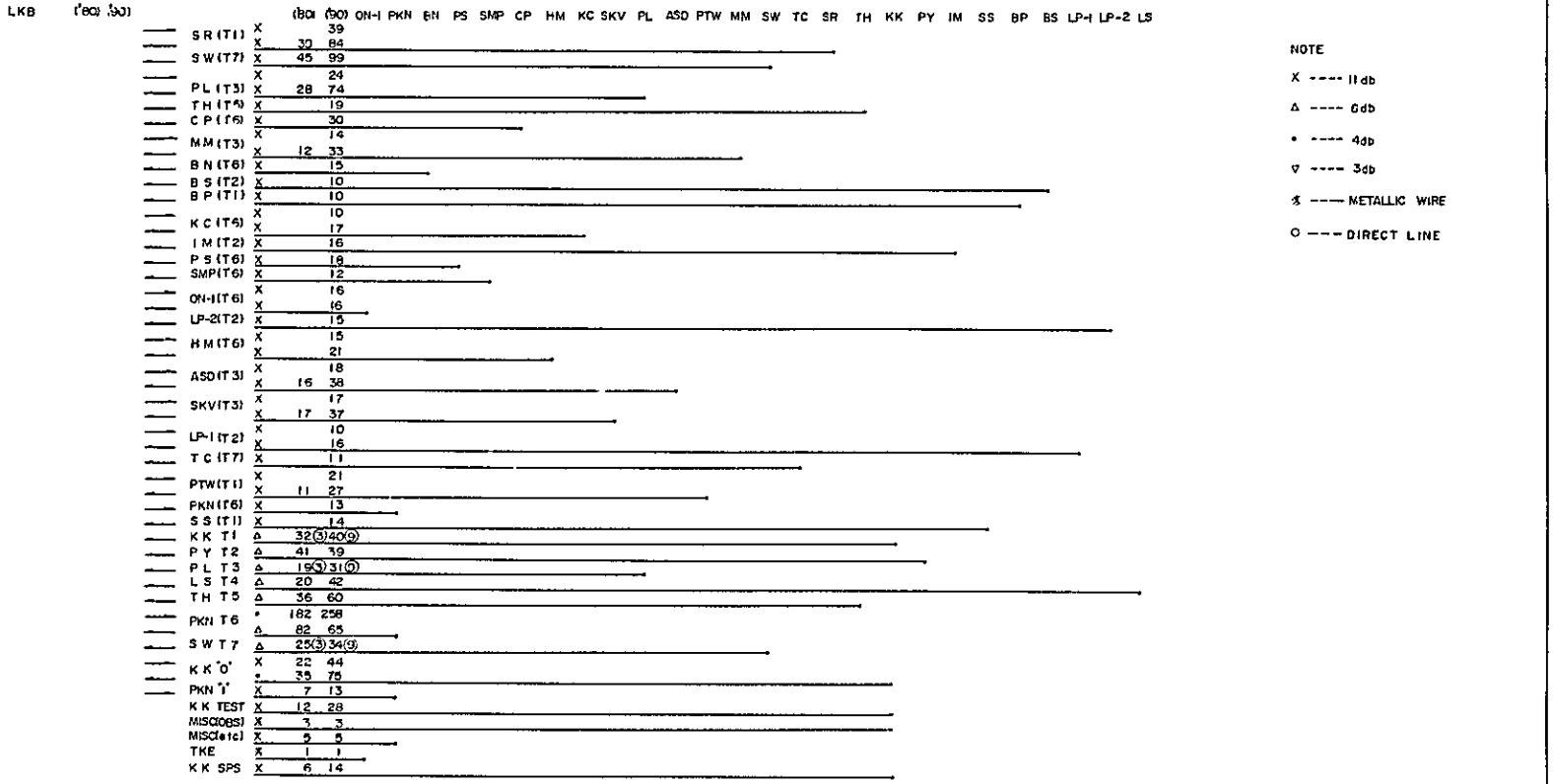
• —— 4 db

▽ —— 3 db

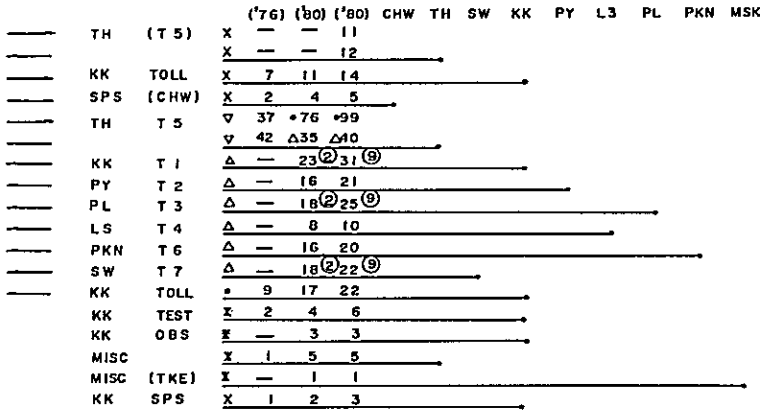
X̲ ——METALLIC WIRE

O —— DIRECT LINE

EX NO 27 ON-2 EXCHANGE (T6) SUB. 0 — 5,500 — 14,000



EX. NO.28 NK EXCHANGE (T5) SUB. 8,00 — 2,000 — 3,000



NOTE

X ——— 11 db

△ ——— 6 db

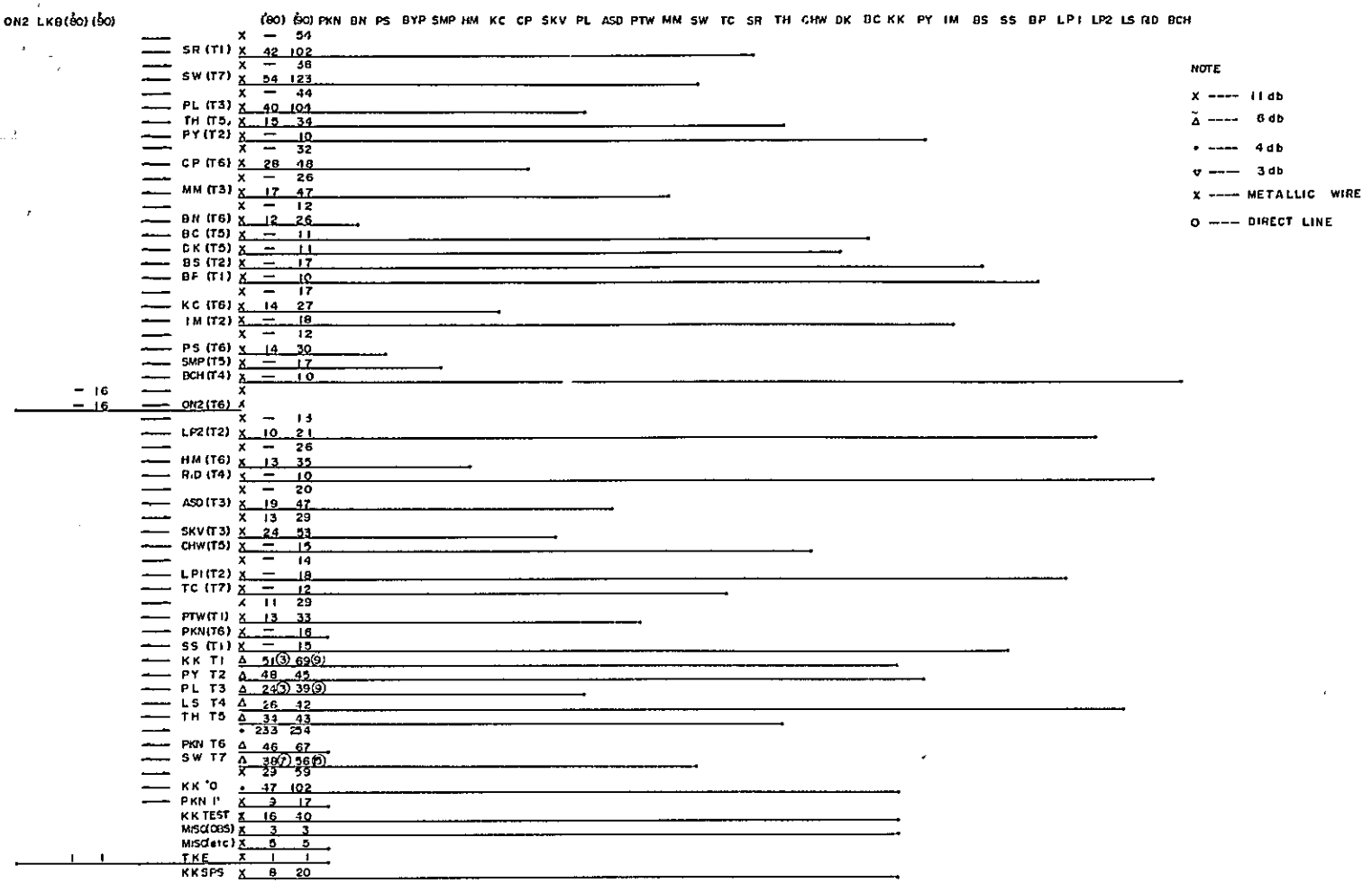
• ——— 4 db

▽ ——— 3 db

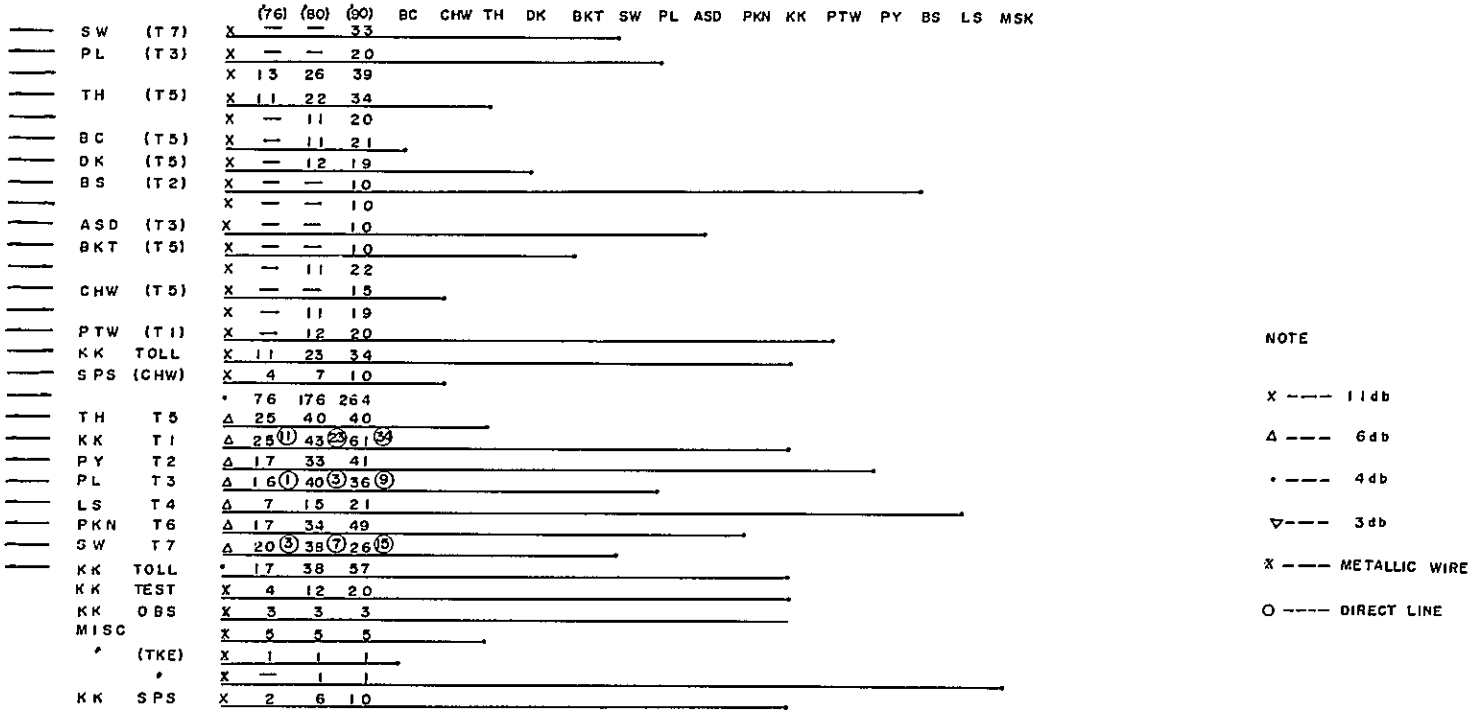
⧖ ——— METALLIC WIRE

O ——— DIRECT LINE

EX NO. 29 ON.1 EXCHANGE (T6) SUB. 0—8,000—20,000



EX.NO 30 PSR EXCHANGE (T5) SUB. 2,000—6,000—10,000



NOTE

X ——— 11db

Δ ——— 6db

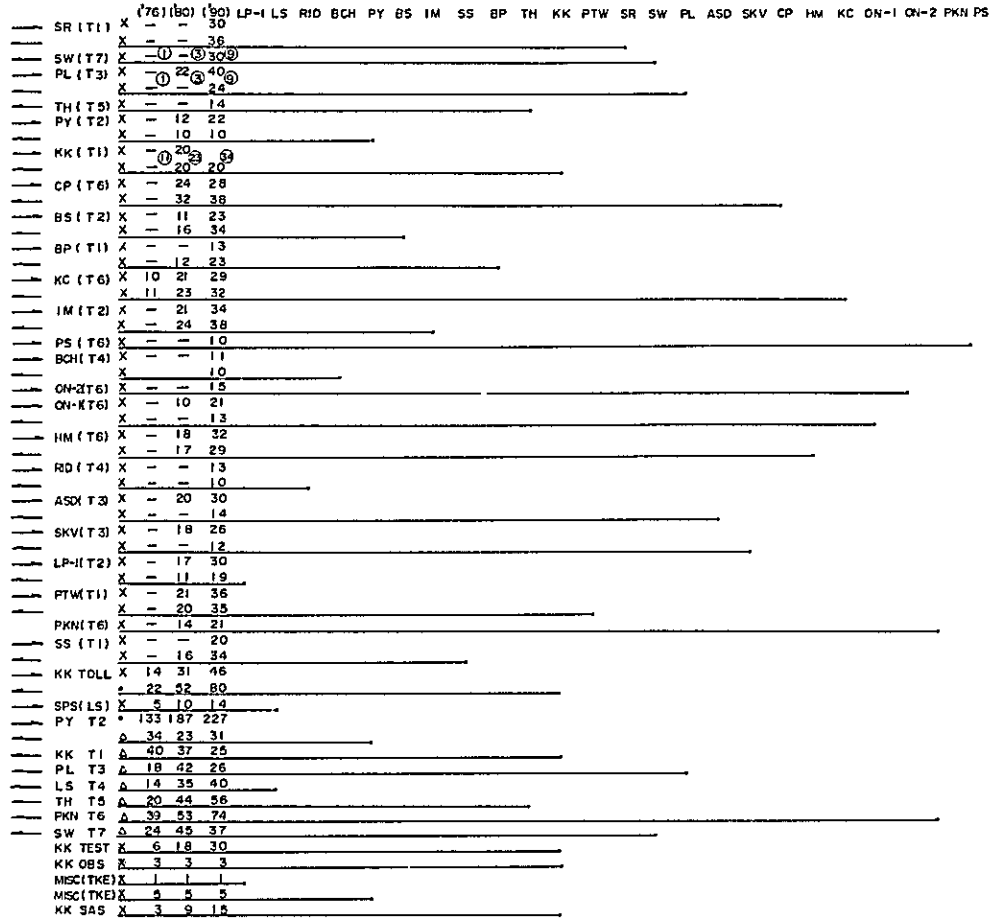
• ——— 4db

▽——— 3db

X ——— METALLIC WIRE

O ——— DIRECT LINE

EX NO.31 LP-2. EXCHANGE (T 2) SUB. 3,000—9,000—15,000



NOTE

X ---- 11 db

Δ ---- 6 db

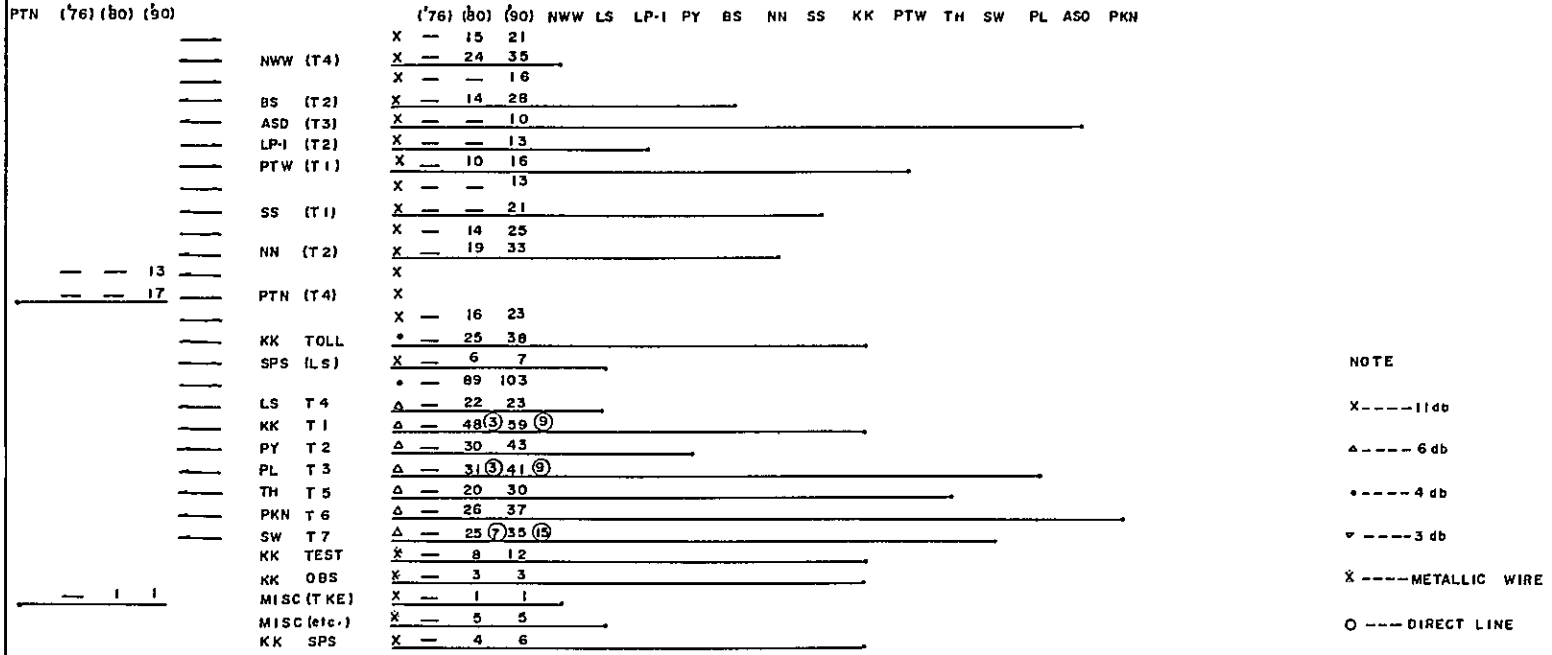
• ---- 4 db

▽ ---- 3 db

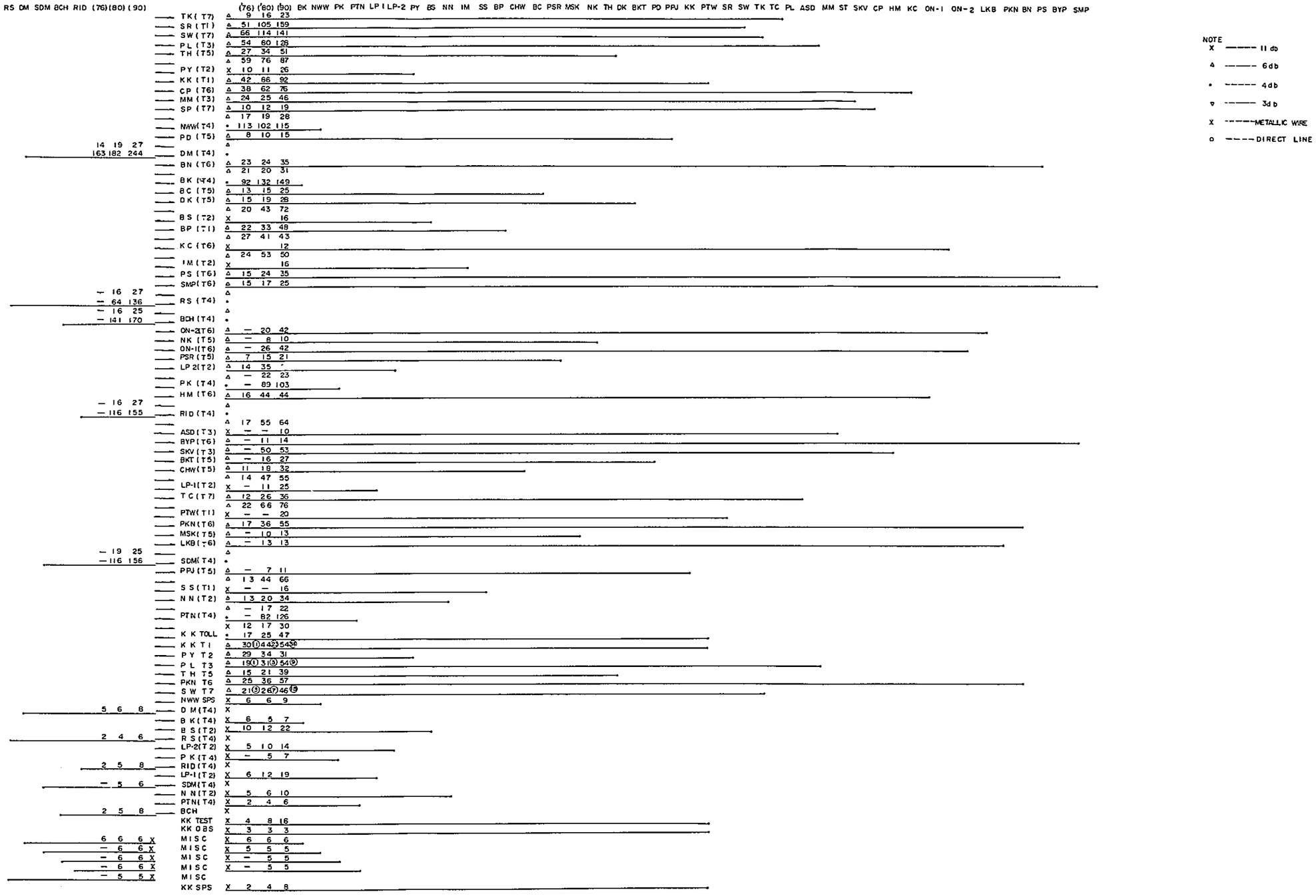
X ---- METALLIC WIRE

O --- DIRECT LINE

EX. NO. 32 PK EXCHANGE (T4) SUB. 0 — 3,500 — 6,000



EX. NO.33 LS T4 EXCHANGE SUB. 2,000 —3,500—8,000



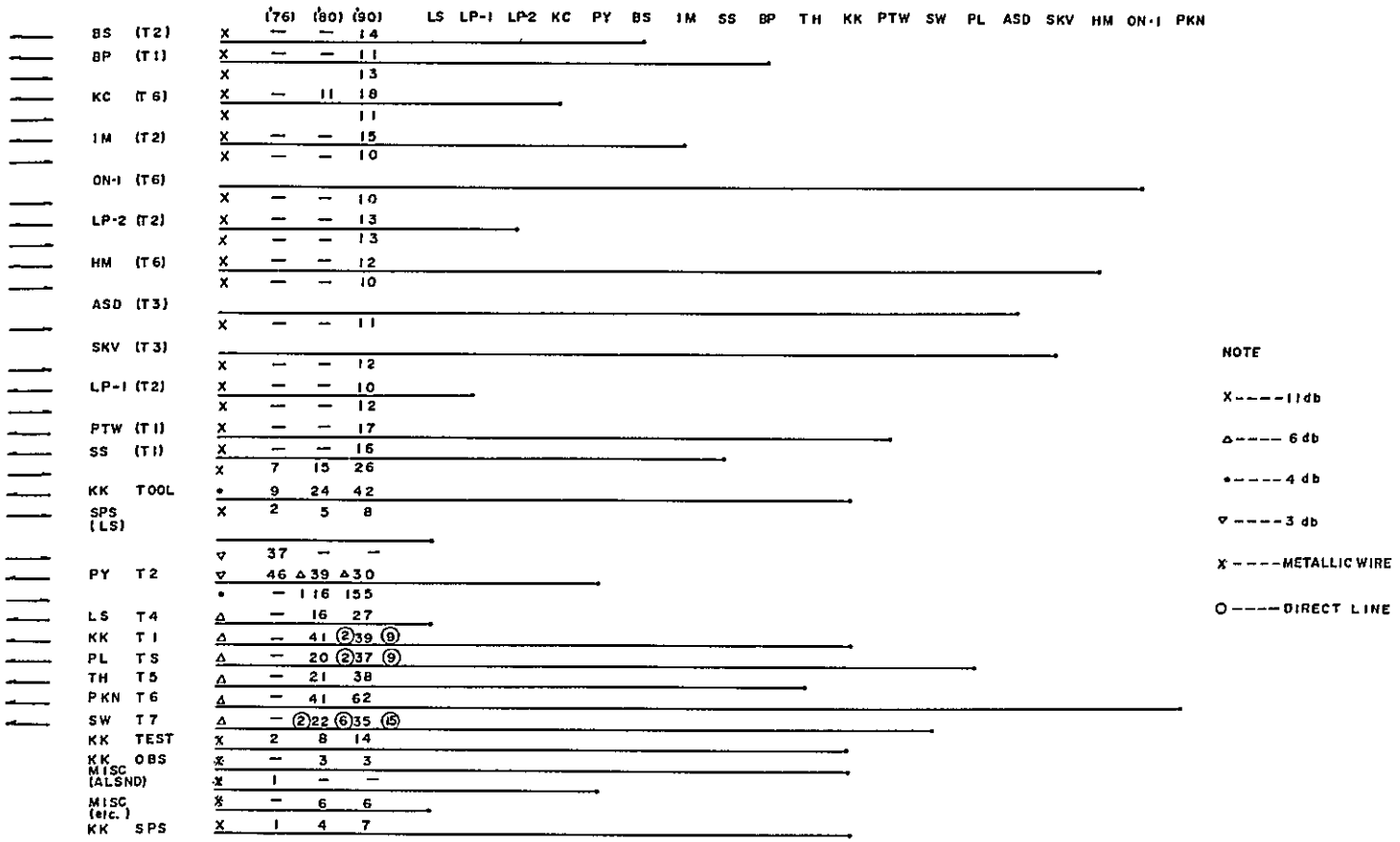
EX. NO. 35 HM EXCHANGE SUB. 8,000 — 16,000 — 32,000

KC (76)	(60)	(90)			(76)	(80)	(90)	CP	ON-1	ON-2	PKN	BN	PS	SMP	CP	SKV	PL	ASD	MM	SP	PTW	SW	TC	TK	SR	TH	DK	BKT	BC	CHW	BP	SS	PY	IM	BS	LPH	LP-2	BK	LS	RID	BCH	DM
			TK	(T7)	X	—	—	16																																		
					X	—	—	13																																			
			SR	(T1)	X	60	87	150																																		
					X	63	96	174																																		
			SW	(T7)	X	48	63	105																																		
					X	93	123	219																																		
			PL	(T3)	X	38	50	106																																		
					X	50	72	160																																		
			TH	(T5)	X	10	13	23																																		
					X	21	29	54																																		
			PY	(T2)	X	13	16	34																																		
					X	13	16	33																																		
			KK	(T1)	X	30	36	42																																		
					X	20	26	30																																		
			CP	(T6)	X	42	52	72																																		
					X	48	60	84																																		
			MM	(T3)	X	21	25	59																																		
					X	24	30	70																																		
			SP	(T7)	X	—	—	18																																		
			DM	(T4)	X	—	—	11																																		
					X	—	—	10																																		
			BN	(T6)	X	11	14	25																																		
					X	18	22	41																																		
			BK	(T4)	X	—	—	—																																		
					X	10	—	14																																		
			BC	(T5)	X	—	—	14																																		
			DK	(T5)	X	—	—	13																																		
			BS	(T2)	X	—	10	23																																		
					X	—	12	31																																		
			BP	(T1)	X	—	10	22																																		
					X	—	—	20																																		
12	19	32	KC	(T6)	X																																				
15	24	40			X																																			
			IM	(T2)	X	—	15	28																																		
					X	—	18	34																																		
			PS	(T6)	X	—	13	25																																		
					X	11	26	47																																		
			SMP	(T6)	X	—	—	13																																		
					X	10	14	26																																		
			BCH	(T4)	X	—	—	13																																		
					X	—	—	14																																		
			ON-2	(T6)	X	—	—	21																																		
					X	—	—	15																																		
			ON-1	(T6)	X	—	13	35																																		
					X	—	—	26																																		
			LP-2	(T2)	X	—	17	29																																		
					X	—	18	32																																		
			RID	(T4)	X	—	—	12																																		
					X	—	—	13																																		
			ASD	(T3)	X	10	41	76																																		
					X	—	42	81																																		
			SKV	(T3)	X	—	37	67																																		
					X	—	44	80																																		
			BKT	(T5)	X	—	—	10																																		
			CHW	(T5)	X	—	—	11																																		
					X	—	—	20																																		
			LPH	(T2)	X	—	19	40																																		
					X	—	16	34																																		
			TC	(T7)	X	—	17	28																																		
					X	—	13	22																																		
			PTW	(T1)	X	—	39	78																																		
					X	—	27	57																																		
			PKN	(T6)	X	—	17	34																																		
			SS	(T1)	X	—	—	20																																		
					X	—	10	28																																		
			KK	T1	△	41	①43	③57	⑨																																
			PY	T2	△	47	31	35																																		
			PL	T3	△	28	①33	③49	⑨																																
			LS	T4	△	16	44	44																																		
			TH	T5	△	31	57	67																																		
			PKN	T6	△	113	149	174																																		
					•	28	69	92																																		
			SW	T7	△	28	①36	③35	⑨																																
			KK	"0"	•	29	49	87																																		
					X	47	84	155																																		
			PKN	"1"	X	9	14	24																																		
			KK	TEST	X	16	32	64																																		
			MISC	(OBS)	X	3	3	3																																		
			MISC	(etc)	X	5	5	5																																		
1	1	1	TKE		X	1	1	1																																	
			KK	SPS	X	8	16	32																																		

NOTE

- X ------ 11 db
- △ ------ 6db
- • ------ 4db
- ▽ ------ 3db
- X ------ METALLIC WIRE
- o ------ DIRECT LINE

EX.NO.36 RID EXCHANGE (T4) SUB. 800—3,300 — 7,000



EX. NO.37 ASD EXCHANGE (T3) SUB. 5,000—20,000—33,000

	('76)	('80)	('90)	PL	MM	SKV	CP	HM	KC	ON-1	ON-2	PKN	BN	PS	SMP	SW	TK	TC	ST	KK	PTW	SR	TH	CHW	BC	PSR	DK	BKT	PD	SS	BP	PY	BS	NN	IM	LP-1	LP-2	BK	NWW	PK	LS	RID	BCH	SDM	DM	RS
	X		11																																											
TK (T7)	X	17	26																																												
	X	39	111	171																																											
SR (T1)	X	69	195	297																																											
	X	84	231	345																																											
SW (T7)	X	93	243	363																																											
	X	24	70	134																																											
PL (T3)	X	30	82	150																																											
	X	13	35	54																																											
TH (T5)	X	15	41	63																																											
	X		33	38																																											
PY (T2)	X	16	58	65																																											
	X	26	64	64																																											
KK (T1)	X	52	128	128																																											
	X	24	56	68																																											
CP (T6)	X	38	86	104																																											
	X		19	37																																											
MM (T3)	X	21	49	96																																											
SP (T7)	X		13	22																																											
	X			13																																											
NWW(T4)	X		12	16																																											
PD (T5)	X			12																																											
	X		10	15																																											
DM (T4)	X			10																																											
	X		15	22																																											
BN (T6)	X	10	23	36																																											
BK (T4)	X	11	17	25																																											
	X			17																																											
BC (T3)	X		10	18																																											
	X			13																																											
DK (T5)	X		13	20																																											
	X		18	39																																											
BS (T2)	X	12	32	67																																											
	X			19																																											
BP (T1)	X		16	31																																											
	X			11																																											
KC (T6)	X		23	34																																											
	X		19	23																																											
IM (T2)	X		37	59																																											
	X		11	18																																											
PS (T6)	X		20	33																																											
	X			14																																											
SMP(T6)	X		15	23																																											
BCH(T4)	X			12																																											
	X		16	38																																											
ON-2(T6)	X			18																																											
	X		19	47																																											
ON-1(T6)	X			20																																											
	X			10																																											
PSR(T5)	X			10																																											
	X			14																																											
LP-2(T2)	X		20	30																																										
PK (T4)	X			10																																											
LS (T4)	X			10																																											
	X		42	81																																											
HM (T6)	X	10	41	76																																											
RID (T4)	X			10																																											
	X		43	66																																											
SKV (T3)	X		47	72																																											
BKT (T5)	X			11																																											
	X		16	32																																											
CHW(T5)	X		14	28																																											
	X		24	44																																											
LP-1(T2)	X		33	61																																										
	X		15	21																																											
TC (T7)	X		32	47																																											
	X		75	129																																											
PTW(T1)	X	14	138	240																																											
PKN(T6)	X		32	51																																											
SDM(T4)	X			12																																											
	X		15	35																																											
SS (T1)	X		28	61																																											
	X			16																																											
NN (T2)	X			14																																											
	X	20	59	89																																											
KK TOLL	•	33	102	159																																											
SPS(SW)	X	6	17	25																																											
	•	129	(11) 229	(34) 222																																											
PL T3	Δ	17	(11) 30	(34) 41	(34)																																										
KK T1	Δ	36	(1) 49	(3) 60	(9)																																										
PY T2	Δ	40	35	40																																											
LS T4	Δ	17	55	64																																											
TH T5	Δ	26	49	46																																											
PKN T6	Δ	42	107	135																																											
SW T7	Δ	32	(1) 43	(3) 53	(5)																																										
KK TEST	X	10	40	66																																											
KK OBS	X	3	3	3																																											
MISC	X	6	6	6																																											
KK SPS	X	5	20	33																																											

NOTE

X ——————11db
Δ — — — — 6db
• — — — — 4db
▽ — — — — 3db
※ ——————METALLIC WIRE
○ ——————DIRECT LINE

EX. NO.38 BYP EXCHANGE SUB. 0—2,800—4,000

			('76)	('80)	('90)	PS	BN	PKN	PL	SW	KK	TH	PY	LS
	BN (T6)	X	—	—	12									
		X	—	—	10									
	PS (T6)	X	—	12	15									
	KK T1	Δ	—	23 ②	29 ⑨									
	PY T2	Δ	—	24	30									
	PL T3	Δ	—	26 ②	36 ⑨									
	LS T4	Δ	—	11	14									
	TH T5	Δ	—	16	20									
		•	—	101	132									
	PKN T6	Δ	—	44	47									
	SW T7	Δ	—	21 ②	26 ⑨									
		X	—	14	17									
	KK TOLL	•	—	21	27									
	PKN "I"	X	—	5	6									
	KK TEST	⧗	—	6	8									
	KK MISC	X	—	3	3									
	PKN MISC	X	—	5	5									
	TKE	⧗	—	1	1									
	KK SPS	⧗	—	3	4									

NOTE

X ----11 db

Δ ---- 6 db

• ---- 4 db

▽ ---- 3 db

⧗ ---- METALLIC WIRE

O --- DIRECT LINE

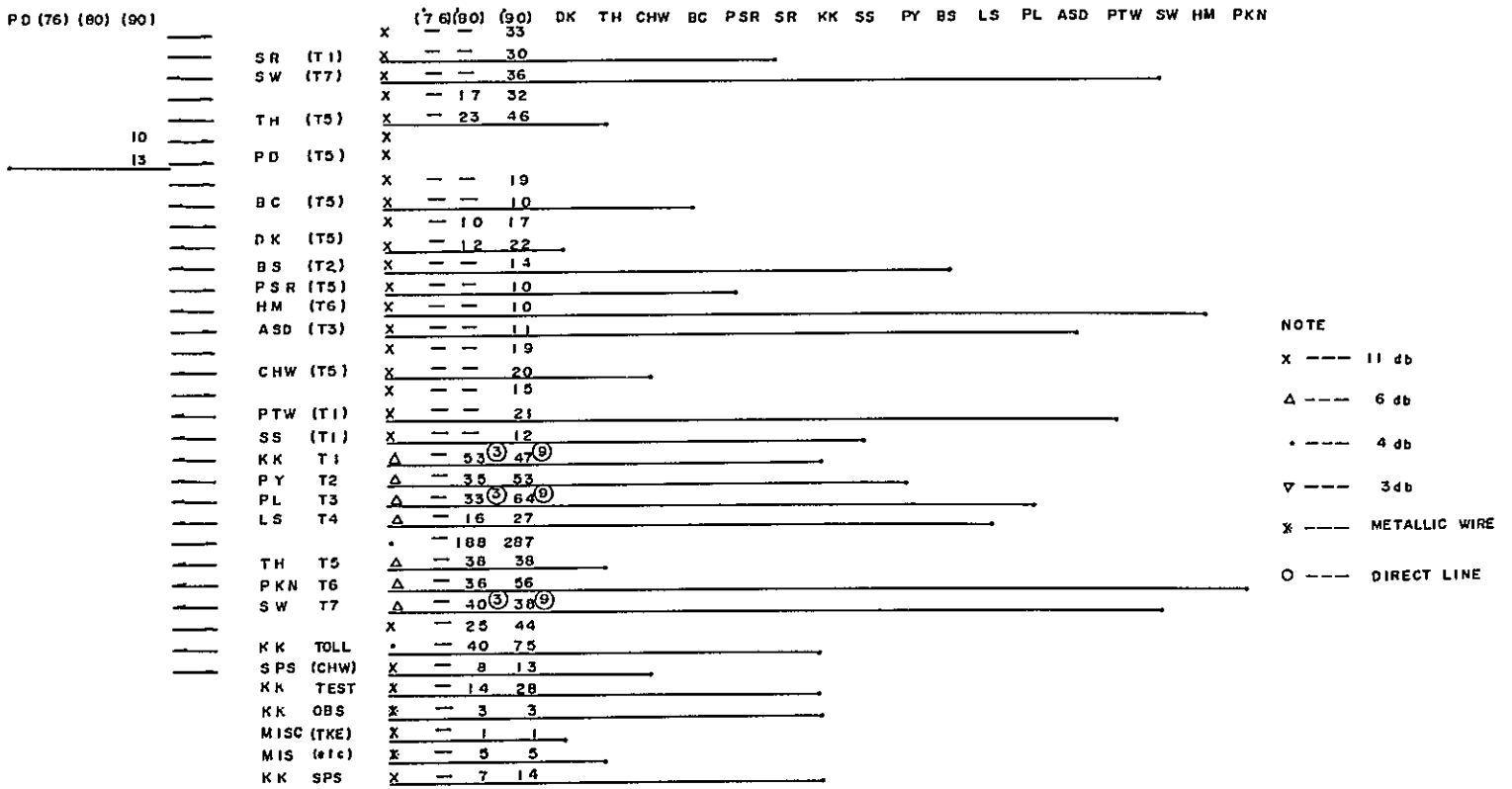
EX NO 39 SKV EXCHANGE (T3) SUB. 0 → 17,500 → 28,000

SMP	PS	BN	PKN	ON-1	ON-2	HM	KC	CP (T6)	CP (T5)	CP (T4)		(T6)	(T5)	(T4)	PL	MM	ASD	PTW	SW	TK	TC	SP	SR	TH	DK	PD	CHW	BC	KK	SS	BP	PY	BS	NN	IM	LP-1	LP-2	BK	NWW	LS	RID	BCH	SDM	DM
											TK (T7)	X	—	15	22																															
												X	—	102	153																														
											SR (T1)	X	—	165	246																														
												X	—	219	321																														
											SW (T7)	X	—	213	309																														
												X	—	68	124																														
											PL (T3)	X	—	72	128																														
												X	—	33	50																														
											TH (T5)	X	—	36	54																														
												X	—	28	32																														
											PY (T2)	X	—	49	54																														
												X	—	62	58																														
											KK (T1)	X	—	112	106																														
								—	60	70		X																																	
								—	80	94	CP (T6)	X																																			
												X	—	18	35																														
											MM (T3)	X	—	43	82																														
											SP (T7)	X	—	11	18																														
											NWW (T4)	X	—	10	13																														
											PD (T5)	X	—	—	10																														
												X	—	—	13																														
											DM (T4)	X	—	—	12																														
								—	16	22		X																																	
								—	21	32	BN (T6)	X																																			
											BK (T4)	X	—	16	23																														
												X	—	—	15																														
											BC (T5)	X	—	—	16																														
											DK (T5)	X	—	—	14																														
												X	—	15	33																														
											BS (T2)	X	—	26	55																														
												X	—	—	17																														
											BP (T1)	X	—	14	26																														
								—	10	14		X																																	
								—	24	33	KC (T6)	X																																			
												X	—	12	19																														
											IM (T2)	X	—	31	49																														
								—	15	22		X																																	
								—	25	37	PS (T6)	X																																			
								—	10	14		X																																	
								—	14	20	SMP (T6)	X																																			
											BCH (T4)	X	—	—	12																														
								—	17	37		X																																	
								—	—	17	ON-2 (T6)	X																																			
								—	24	53		X																																	
								—	13	29	ON-1 (T6)	X																																			
												X	—	—	12																														
											LP-2 (T2)	X	—	18	26																														
								—	44	80		X																																	
								—	37	67	HM (T6)	X																																			
											RID (T4)	X	—	—	11																														
												X	—	47	72																														
											ASD (T3)	X	—	43	66																														
												X	—	12	25																														
											CHW (T5)	X	—	—	20																														
												X	—	20	38																														
											LP-1 (T2)	X	—	28	50																														
												X	—	14	19																														
											TC (T7)	X	—	28	40																														
												X	—	71	118																														
											PTW (T1)	X	—	120	203																														
								—	34	52	PKN (T6)	X																																			
											SDM (T4)	X	—	—	10																														
												X	—	13	30																														
											SS (T1)	X	—	23	50																														
											NN (T2)	X	—	—	10																														
												X	—	53	77																														
											KK TOLL	•	—	91	138																														
											SPS (SW)	X	—	15	22																														
												•	—	215	254																														
											PL T3	Δ	—	29③	39④																														
											KK T1	Δ	—	52③	64④																														
											PY T2	Δ	—	37	47																														
											LS T4	Δ	—	50	53																														
											TH T5	Δ	—	70	61																														
								—	75	95	PKN (T6)	Δ																																			
											SW (T7)	Δ	—	4③	5④																														
											KK TEST	X	—	36	56																														
											KK OBS	X	—	3	3																														
								—	1	1	CP (T6)	X																																			
											MISC (etc)	X	—	5	5																														
											KK SPS	X	—	18	28																														

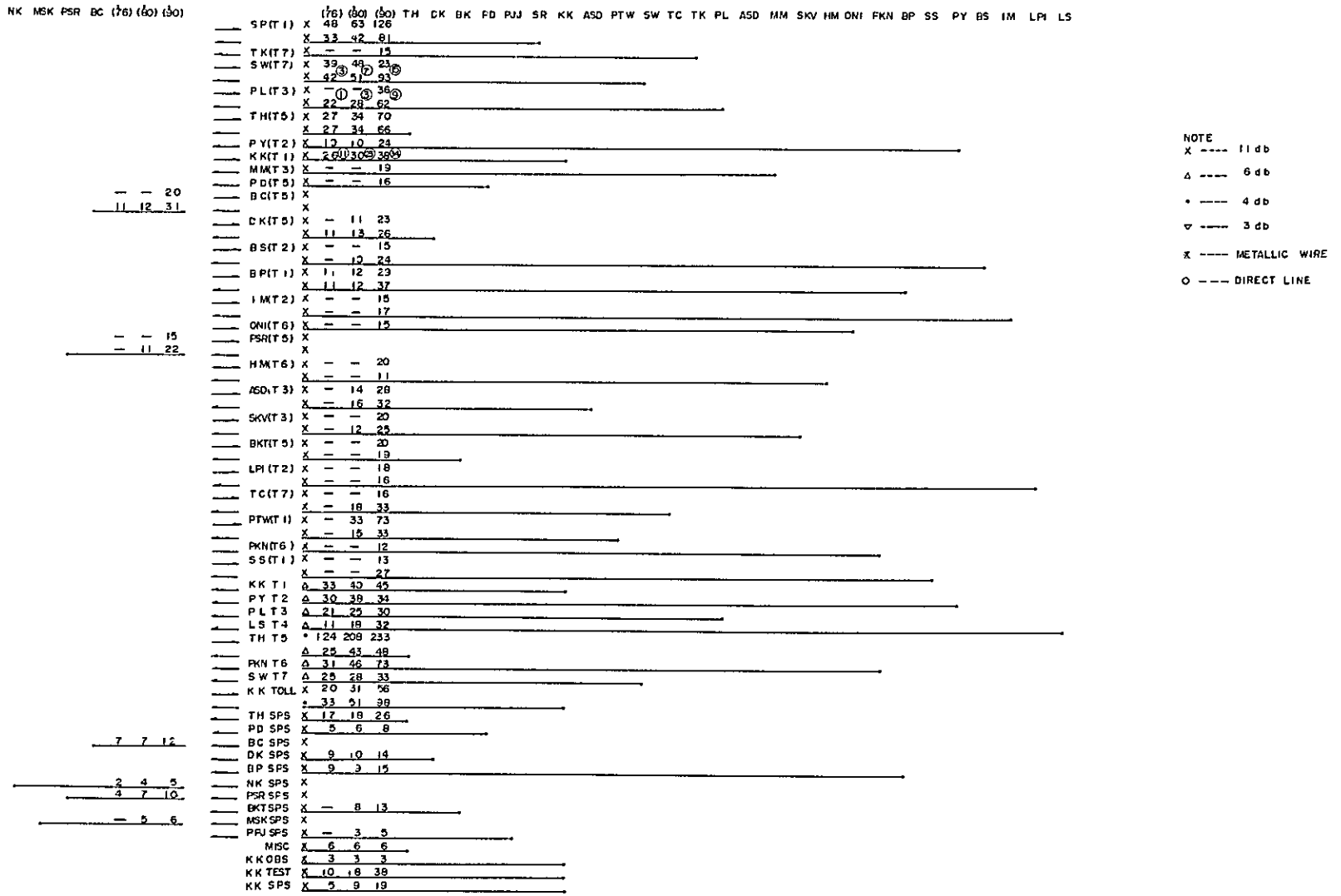
NOTE

X ——— 11db
▲ ——— 6db
• ——— 4db
▼ ——— 3db
X ———METALLIC WIRE
O ———DIRECT LINE

EX. NO. 40 BKT. EXCHANGE (T5) SUB. 0—6,500—14,000



EX NO 41 CHW EXCHANGE (T5) SUB. 5,000 — 8,800 — 19,000



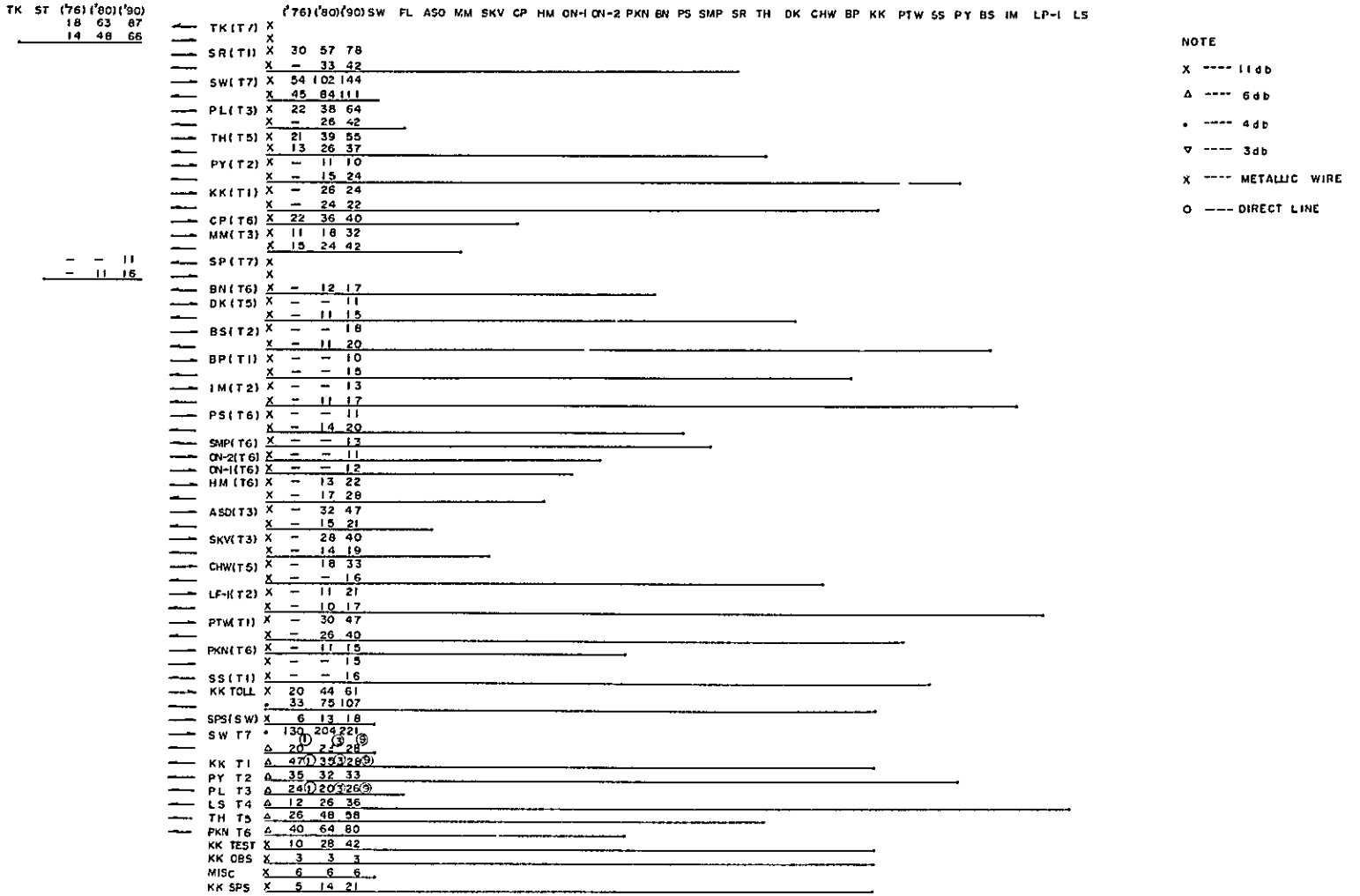
EX NO. 42 LP-1 EXCHANGE (T2) SUB. 5,000 — 12,000 — 24,000

LP-2 (76) (80) (90)

			(76)	(80)	(90)
		X	30	54	96
	SR (T1)	X	33	57	108
		X	①45	③78	⑨
	SW (T7)	X	39	60	105
		X	22	36	80
	PL (T3)	X	①20	⑤36	⑨78
		X	11	19	34
	TH (T5)	X	15	26	46
		X	16	36	48
	PY (T2)	X	17	39	53
		X	22	32	36
	KK (T1)	X	①26	③38	⑨46
		X	—	22	30
	CP (T6)	X	26	38	54
		X	—	—	16
	MM (T3)	X	—	12	27
	NWW (T4)	X	13	18	30
	DM (T4)	X	—	—	15
		X	—	—	16
	BN (T6)	X	—	—	18
		X	10	10	18
	BK (T4)	X	12	12	20
	BC (T5)	X	—	—	10
	DK (T5)	X	—	—	11
		X	17	29	72
	BS (T2)	X	14	24	58
		X	—	11	27
	BP (T1)	X	10	15	34
		X	—	13	21
	KC (T6)	X	13	23	37
		X	—	27	50
	IM (T2)	X	10	29	55
		X	—	11	19
	PS (T6)	X	—	11	21
	RS (T4)	X	—	—	10
	BCH (T4)	X	—	—	11
		X	—	—	16
	ON2 (T6)	X	—	—	10
		X	—	—	18
	ON1 (T6)	X	—	—	14
— 11 19		X			
— 17 30	LP2 (T2)	X			
	PK (T4)	X	—	—	13
	LS (T4)	X	—	11	25
		X	—	16	34
	HM (T6)	X	—	19	40
		X	—	—	10
	RID (T4)	X	—	—	12
		X	—	33	61
	ASD (T3)	X	—	24	44
		X	—	28	50
	SKV (T3)	X	—	20	38
		X	—	—	16
	CHW (T5)	X	—	—	18
		X	—	10	17
	TC (T7)	X	—	11	21
		X	—	35	72
	PTW (T1)	X	—	41	86
	PKN (T6)	X	—	10	19
	SDM (T4)	X	—	—	12
		X	—	22	61
	SS (T1)	X	—	19	51
		X	—	—	11
	NN (T2)	X	—	14	28
	PTN (T4)	X	—	—	10
		X	20	39	68
	KK TOLL	•	33	66	120
	SPS (LS)	X	6	12	19
		•	170	184	221
	PY T2	▵	34	21	28
	KK T1	▵	35	39	51
	PL T3	▵	26	25	38
	LS T4	▵	14	47	55
	TH T5	▵	25	50	62
	PKN T6	▵	39	66	82
	SW T7	▵	21	32	38
	KK TEST	X	10	24	48
	KK OBS	X	3	3	3
1 1 1	MISC	X	6	6	6
	TK (T7)	X	—	—	11
	KK SPS	X	5	12	24

NOTE
- X ——— 11db
- ▽ ——— 6db
- • ——— 4db
- ▽ ——— 3db
- X ——— METALLIC WIRE
- o ——— DIRECT LINE

EX.NO.43 TC EXCHANGE (T 7) SUB. 5,000—14,000—21,000



EX. NO.44 PTW EXCHANGE (TI) SUB. 5,000 — 24,000 — 43,000

	SMP	PS	BN	PKN	ON-1	ON-2	HM	KC	CP	SKV	PL	ASD	MM	('76)	('80)	('90)
TK ('T7)																
TK ('T7)																
SR ('T1)																
SW ('T7)																
PL ('T3)														52	156 ①	318 ③ ⑨
TH ('T5)														38	122	246
PY ('T2)																
KK ('T1)																
CP ('T6)																
MM ('T3)														–	38	48
SP ('T7)														32	84	108
NWW ('T4)														11	29	61
PD ('T5)														14	37	78
DM ('T4)																
BN ('T6)																
BK ('T4)																
BC ('T5)																
DK ('T5)																
BS ('T2)																
BP ('T1)																
KC ('T6)														–	15	24
IM ('T2)														–	21	34
PS ('T6)																
SMP ('T6)																
RS ('T4)																
BCH ('T4)																
ON-2('T6)														–	11	27
ON-1('T6)														–	–	21
PSR ('T5)														–	13	33
LP-2('T2)														–	11	29
PK ('T4)																
LS ('T4)																
HM ('T6)														–	27	57
RID ('T4)														–	39	78
ASD ('T3)																
SKV ('T3)														14	138	240
BKT ('T5)														–	75	129
CHW('T5)														–	120	203
LP-1('T2)														–	71	118
TC ('T7)																
PKN ('T6)																
SDM ('T4)																
SS ('T1)																
NN ('T2)																
PTN ('T4)																
KK TOLL																
SPS (SW)																
KK TI																
PY T2																
PL T3																
LS T4																
TH T5																
PKN T6'																
SW T7																
KK TEST																
KK OBS																
MISC(TKE)																
(etc)																
KK SPS																

	('76)	('80)	('90)	SW	TK	TC	SP	KK	SR	TH	CHW	BC	PSR	DK	BKT	PD	SS	BP	PY	BS	NN	IM	LP-1	LP-2	BK	NWW	FK	PTN	L3	RID	BCH	SDM	DM	RS
TK ('T7)	X	–	14	22																													
TK ('T7)	X	–	16	27																													
SR ('T1)	X	84	282	468																													
SW ('T7)	X	78	264	435																													
PL ('T3)	X	84	252 ①	408 ③ ⑨																													
TH ('T5)	X	64	255	414																													
PY ('T2)	X																																
KK ('T1)	X																																
CP ('T6)	X	12	37	62																													
MM ('T3)	X	31	101	169																													
SP ('T7)	X	13	56	71																													
NWW ('T4)	X	15	63	78																													
PD ('T5)	X	50	148 ①	160 ③ ⑨																													
DM ('T4)	X	44	128	138																													
BN ('T6)	X																																
BK ('T4)	X																																
BC ('T5)	X	–	–	17																													
DK ('T5)	X	–	10	18																													
BS ('T2)	X	–	–	13																													
BP ('T1)	X	–	23	36																													
KC ('T6)	X	–	–	18																													
IM ('T2)	X	–	16	27																													
PS ('T6)	X	–	–	15																													
SMP ('T6)	X																																
RS ('T4)	X																																
BCH ('T4)	X	–	–	16																													
ON-2('T6)	X	–	–	11																													
ON-1('T6)	X	–	–	10																													
PSR ('T5)	X																																
LP-2('T2)	X	–	12	20																													
PK ('T4)	X	–	11	19																													
LS ('T4)	X	–	20	35																													
HM ('T6)	X	–	21	36																													
RID ('T4)	X	–	10	16																													
ASD ('T3)	X	–	–	20																													
SKV ('T3)	X																																
BKT ('T5)	X																																
CHW('T5)	X	–	–	17																													
LP-1('T2)	X	–	–	12																													
TC ('T7)	X																																
PKN ('T6)	X																																
SDM ('T4)	X	–	–	21																													
SS ('T1)	X	–	15	33																													
NN ('T2)	X	–	33	73																													
PTN ('T4)	X	–	41	66																													
KK TOLL	X	–	35	72																													
SPS (SW)	X	–	26	40																													
KK TI	X	–	30	47																													
PY T2	X																																
PL T3	X	–	15	21																													
LS T4	X	–	22	54																													
TH T5	X	–	40	97																													
PKN T6'	X	–	10	21																													
SW T7	X	–	18	35																													
KK TEST	X	–	–	13																													
KK OBS	X	20	68	112																													
MISC(TKE)	•	33	120	203																													
(etc)	X	6	19	31																													
KK SPS	•	132	204	229																													
	Δ	30	44	57																													
	Δ	42	39	51																													
	Δ																																
	Δ	22	66	76																													
	Δ	34	62	70																													
	Δ																																
	Δ	27	39	50																													
	X	10	48	86																													
	X	3	3	3																													
	X	1	1	1																													
	%	5	5	5																													
	X	5	24	43																													

NOTE

X ----- 11db

Δ ----- 6db

• ----- 4db

▽ ----- 3db

X -----METALLIC WIRE

o ----- DIRECT LINE

EX. NO.45 PKN T6 EXCHANGE SUB. 5,000→12,000→20,000

BYP SMP PS BN (76) (80) (90)

	(76)	(80)	(90)	ON-1 ON-2 LKB HM KC CP SKV PL ASD MM SP PTW SW TC TK SR TH DK BKT PD PPJ BC PSR MSK NK CHW BP KK SS PY IM BS NN LP-1 LP-2 BK NWW PK PTN LS SDM OM RS RID BCH
TK (T 7)	△ 39	57	64	
	△ 162	276	258	
SR (T 1)	X 45	78	120	
	△ 114	195	228	
SW(T 7)	X 60	96	141	
	△ 96	146	176	
PL (T 3)	X 32	54	102	
	△ 48	55	72	
TH (T 5)	X 10	19	29	
	△ 115	123	121	
PY (T 2)	X —	14	24	
	△ 92	132	134	
KK (T 1)	X —	22	22	
	△X 66.5	116.5	126.5	
CP (T 6)	X×X 24 250 40 36 296 20 44 326 24			
	△ 57	86	100	
MM (T 3)	X 16	23	46	
	△ 27	32	50	
SP (T 7)	X —	—	12	
NWW(T 4)	△ 27	34	37	
PD (T 5)	△ 19	22	31	
DM (T 4)	△ 38	45	48	
	△X			
BN (T 6)	X×X			
	△ 50	33	49	
BK (T 4)	△ 36	34	60	
BC (T 5)	△ 45	46	67	
DK (T 5)	△ 47	51	74	
	X —	—	17	
BS (T 2)	△ 40	46	74	
	X —	—	11	
BP (T 1)	△X 40.5	62.5	63.5	
KC (T 6)	X X-163 9 16 187 11 23 188 15			
	△ 33	56	67	
IM (T 2)	X —	14	22	
	△X			
PS (T 6)	X×X			
	△×X			
SMP(T 6)	X×X			
RS (T 4)	△ —	27	52	
BCH(T 4)	△ —	43	58	
	△X —	82.5	65.5	
ON-2(T 6)	X×X —	—182 7	13 258 13	
NK (T 5)	△ —	16	20	
	△X —	46.6	67.6	
ON-1(T 6)	X×X —	—233 9	16 254 17	
PSR(T 5)	△ 17	34	49	
	△ 39	53	74	
LP-2(T 2)	X —	14	21	
PK (T 4)	△ —	26	37	
LS (T 4)	△ 25	36	57	
	△X 28.5	69.5	92.5	
HM (T 6)	X×X—113 9 17 149 14 34 174 24			
RID(T 4)	△ —	41	62	
	△ 42	107	135	
ASD(T 3)	X —	32	51	
	△X			
BYP(T 6)	X×X			
	△ —	75	95	
SKV(T 3)	X —	34	52	
BKT(T 5)	△ —	36	56	
	△ 31	46	73	
CHW(T 5)	X —	—	12	
	△ 39	66	82	
LP-1(T 2)	X —	10	19	
	△ 40	64	80	
TC (T 7)	X —	11	15	
	△ 45	81	112	
PTW(T 1)	X —	23	38	
MSK(T 5)	△ —	22	26	
	△X	44.5	43.5	
LKB(T 6)	X	92.4	93.4	
	△ —	42	52	
SDM(T 4)	X —	—	—	
PPJ(T 5)	△ —	13	20	
	△ 45	63	69	
SS (T 1)	X —	—	20	
	△ 25	34	44	
NN (T 2)	△ —	18	32	
PTN(T 4)				
KKT1	△ 38 (1)	37 (3)	34 (5)	
PYT2	△ 41	35	31	
PLT3	△ 22 (11)	30 (23)	38 (34)	
LST4	△ 17	36	55	
THT5	△ 26	48	67	
SWT7	△ 22 (1)	29 (3)	32 (5)	
KK'0'	× 21	40	60	
	• 33	66	102	
KKTEST	X 10	24	40	
MSC(OBS)	X 3	3	3	
KK SPS	X 5	12	20	

BYP SMP PS BN (76) (80) (90)

37.6 53.6 71.6
1118110 15.232 10 25.235 14
31.5 57.5 66.5
— 179.6 19.237 10 30.242 14
51.5 61.5 77.5
— 143.6 13.190 7 20.205 10
— 44.5 47.5
— 101.5 132.6

NOTE
X ———11db
△ ———6db
• ———4db
▽ ———3db
X̄ ———METALLIC WIRE
o ———DIRECT LINE

EX. NO. 46 MSK EXCHANGE (T5) SUB. 0 — 3,200 — 4,400

	(76)	(80)	(90)	PSR	BC	CHW	TH	SW	KK	PY	LS	PL	PKN	NK
TH (T5)	X	—	12	15										
	X	—	13	17										
BC (T5)	X	—	—	11										
KK TOLL	X	—	15	19										
SPS (CHW)	X	—	5	6										
TH T5	•	—	102	136										
	△	—	38	44										
KK T1	△	—	33	②41	⑨									
PY T2	△	—	21	27										
PL T3	△	—	25	②33	⑨									
LS T4	△	—	10	13										
PKN T6	△	—	22	26										
SW T7	△	—	24	②29	⑨									
KK TOLL	•	—	23	29										
KK TEST	※	—	8	10										
KK OBS	※	—	3	3										
MISC	※	—	5	5										
MISC (TKE)	X	—	1	1										
KK SPS	X	—	4	5										

NOTE

X ----11db

△ ----6db

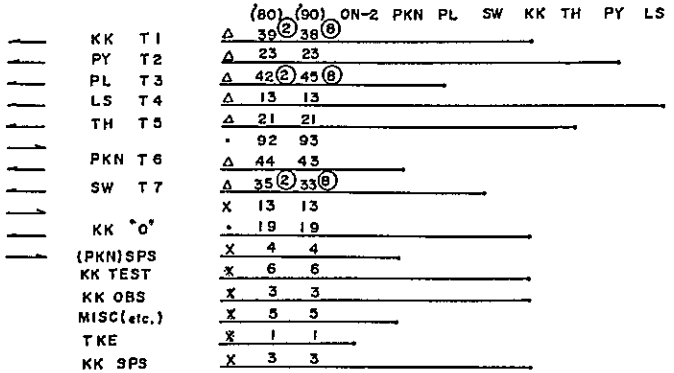
• ----4db

▽ ----3db

※ ----METALLIC WIRE

O ---- DIRECT LINE

EX. NO. 47 LKB. EXCHANGE (T6) SUB. O—→2,500—→2,500



NOTE

X ---- 11 db

Δ ---- 6 db

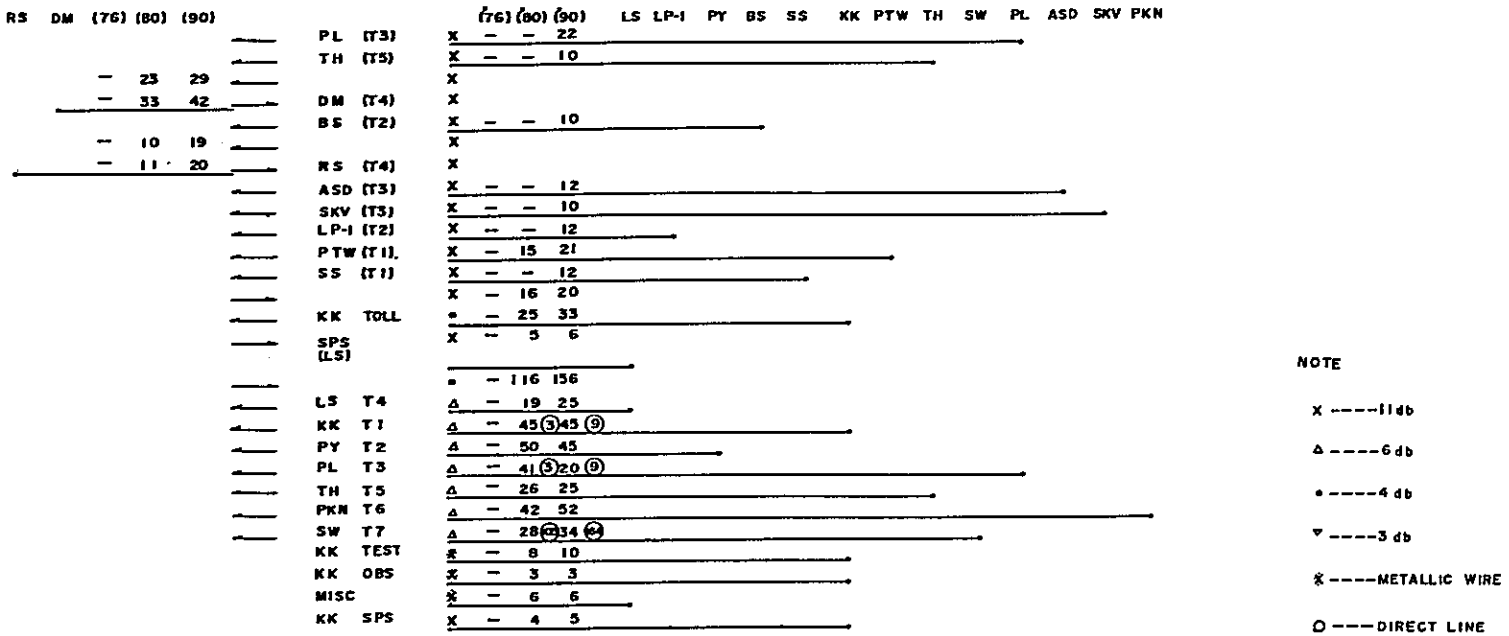
• ---- 4 db

▽ ---- 3 db

⧖ ---- METALLIC WIRE

O ---- DIRECT LINE

EX.NO.48 SDM EXCHANGE (T4) SUB. 0 — 3,600 — 5,000



EX. NO 49 PPJ EXCHANGE (T5) SUB. 0 — 1,700 — 3,800

	(76)	(80)	(90)	PD	DK	TH	CHW	KK	PY	LS	SW	PL	PKN
TH (T5)	X —	—	10										
	X —	—	15										
PD (T5)	X —	12	22										
KK T1	△ —	22	(2)40(9)										
PY T2	△ —	14	24										
PL T3	△ —	18	(2)33(9)										
LS T4	△ —	7	11										
	• —	65	108										
TH T5	△ —	23	42										
PKN T6	△ —	13	20										
SW T7	△ —	10	(2)25(9)										
	X —	10	17										
KK TOLL	• —	15	26										
SPS (CHW)	X —	3	5										
KK TEST	※ —	4	8										
KK OBS	※ —	3	3										
MISC	※ —	6	6										
TKE	X —	1	1										
KK SPS	X —	2	4										

NOTE

X---- 11 db

△---- 6 db

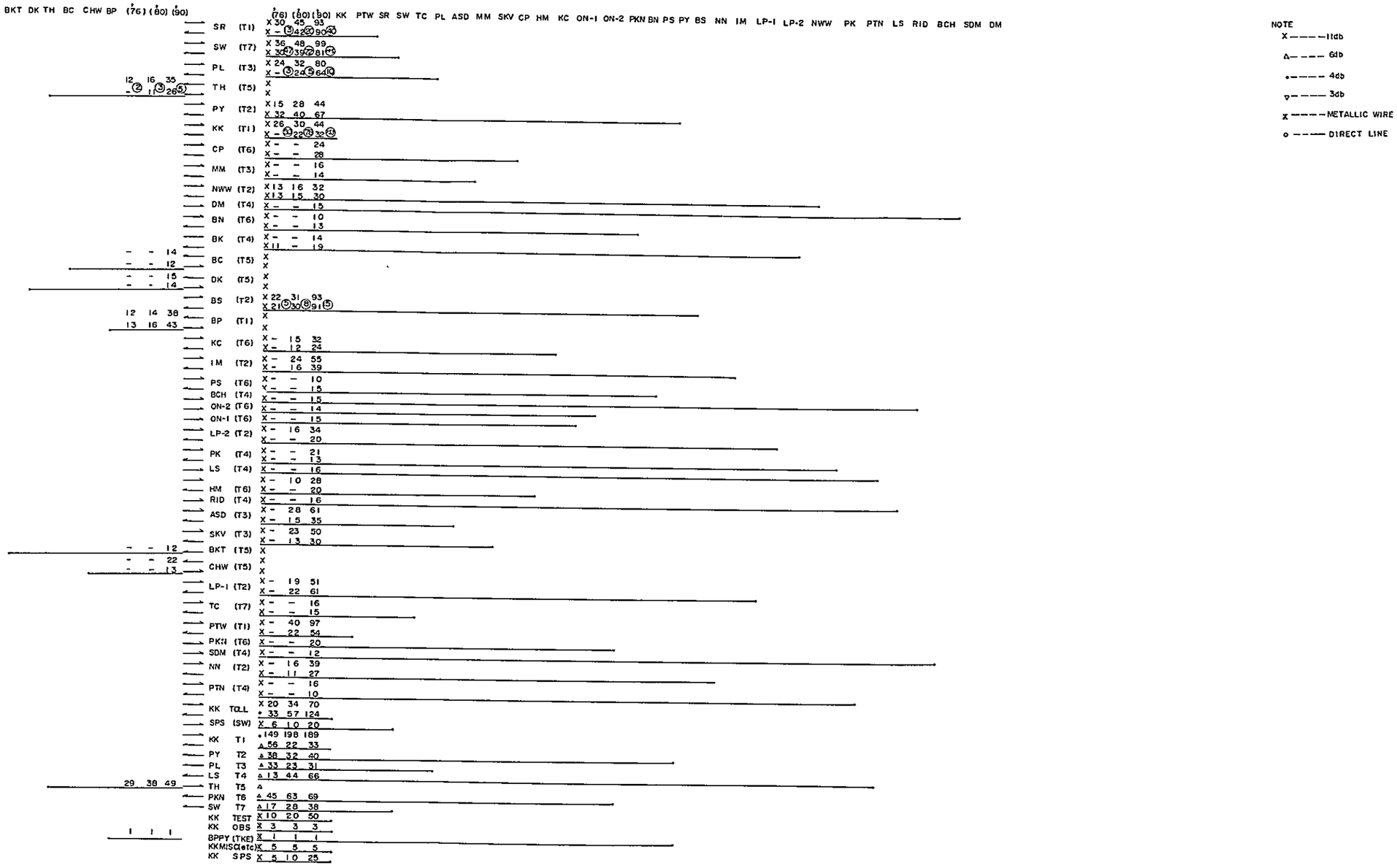
•---- 4 db

▽---- 3 db

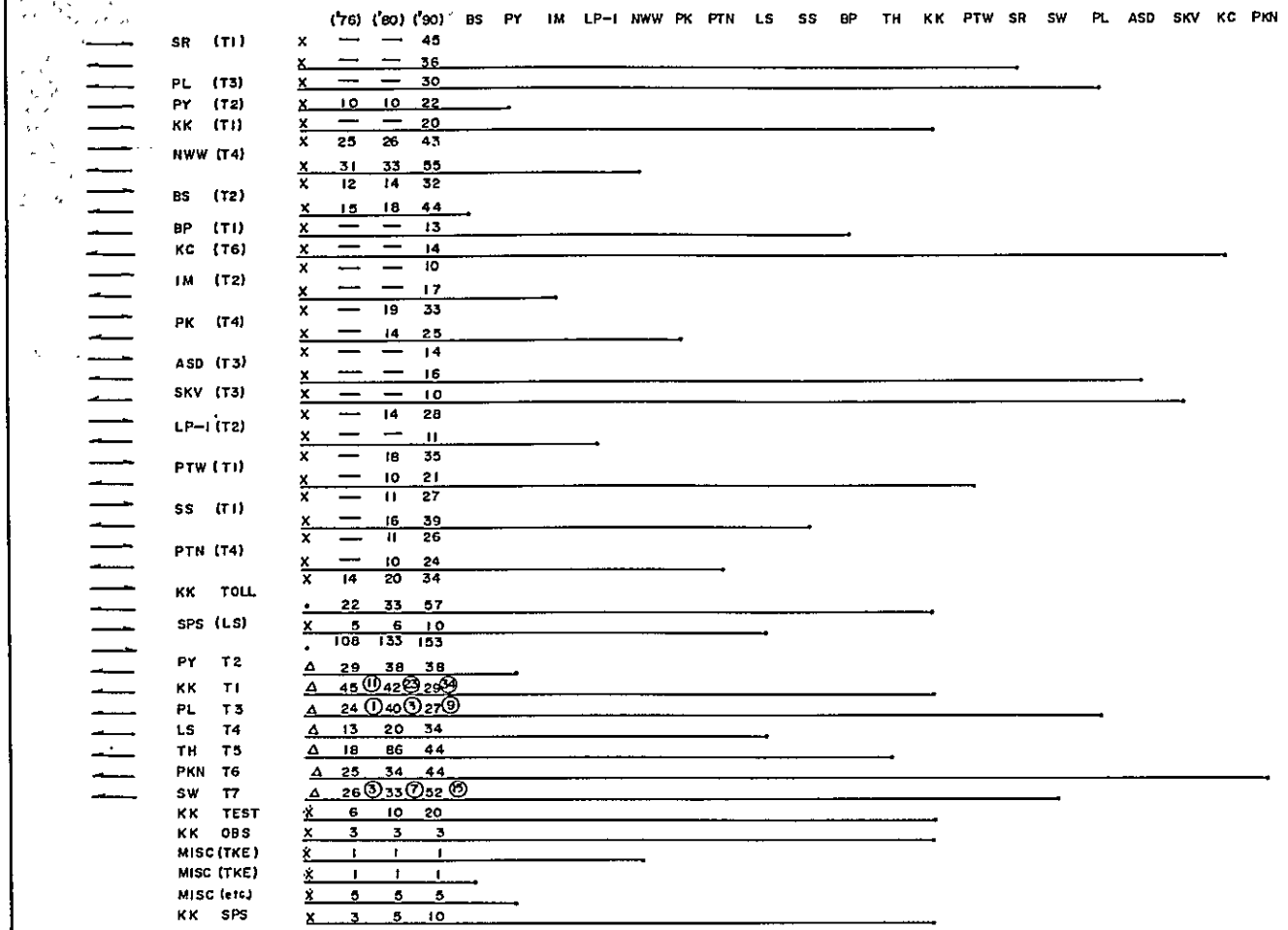
※----METALLIC WIRE

O--- DIRECT LINE

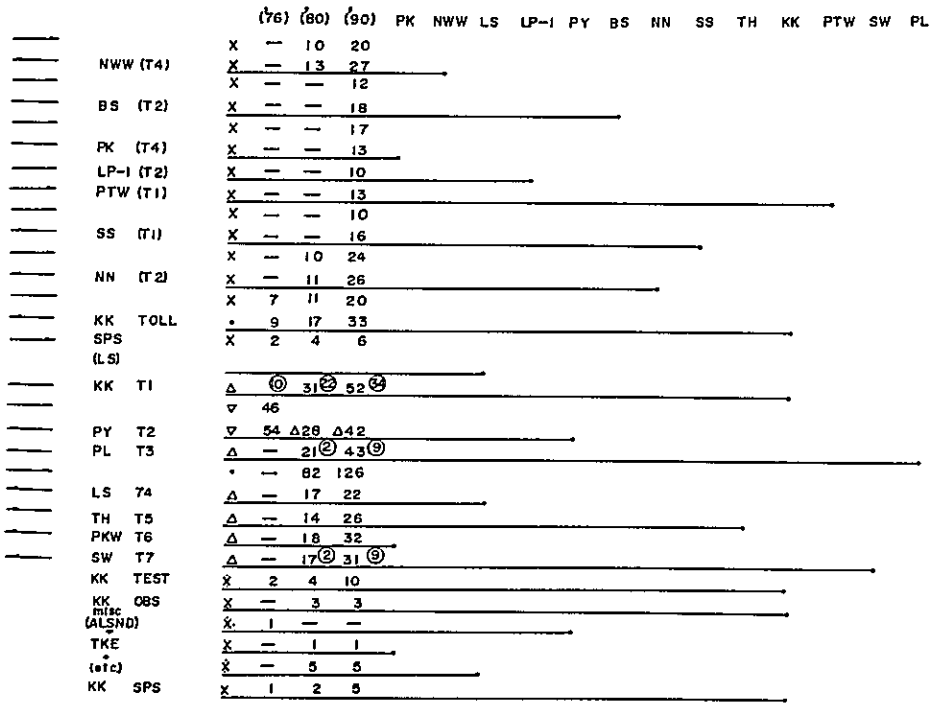
EX. NO.50 SS EXCHANGE (T1) SUB. 5,000—10,000—25,000



EX. NO. 51 NN. EXCHANGE (T2) SUB. 3,000—5,000—10,000



EX. NO 52 PTN EXCHANGE (T4) SUB. 800——2,000——5,000



NOTE

X ——11 db

Δ ——6 db

• ——4 db

▽ —— 3 db

Ẋ ——METALLIC WIRE

O ——DIRECT LINE