

FIG. 1

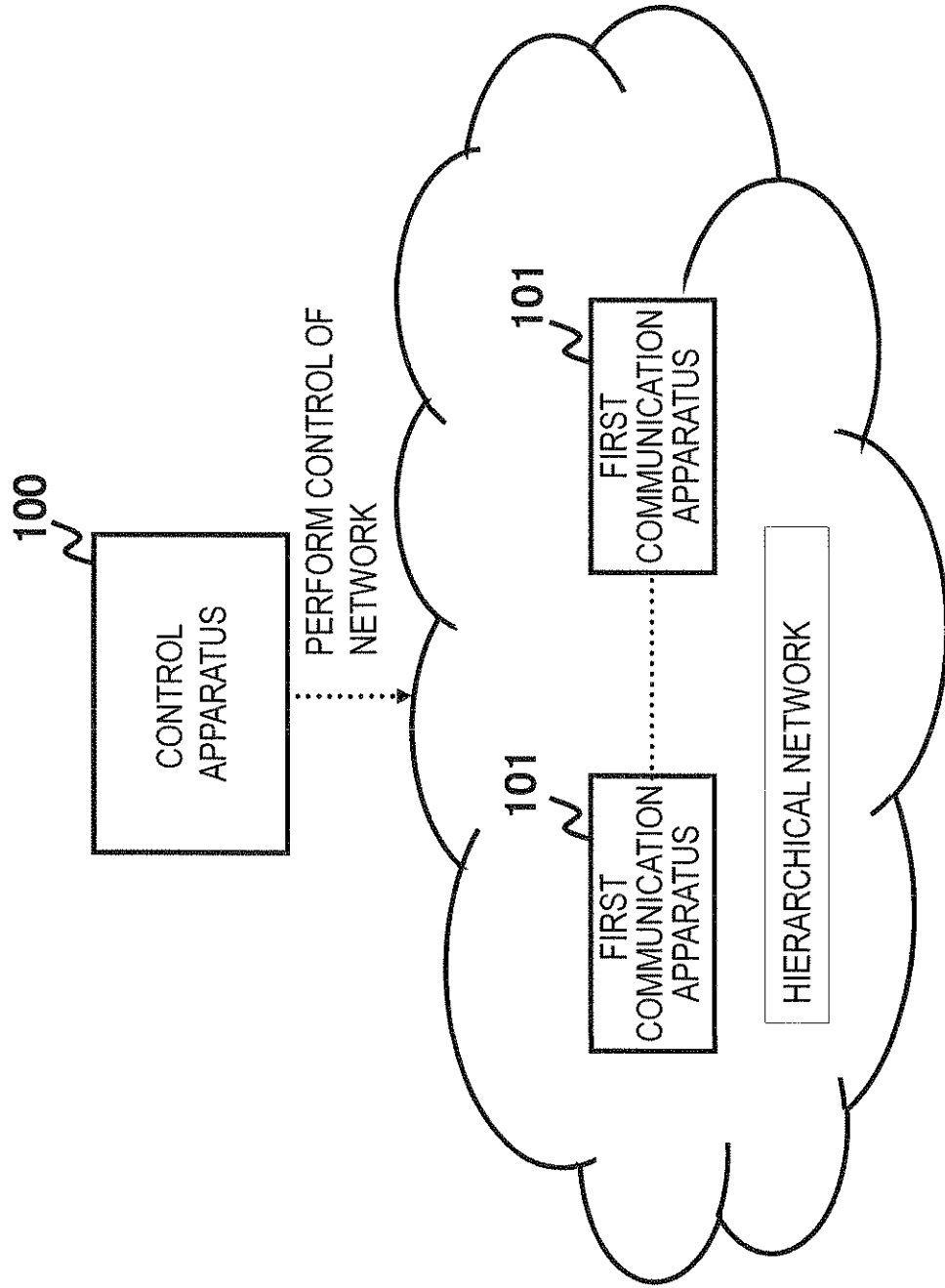


FIG. 2

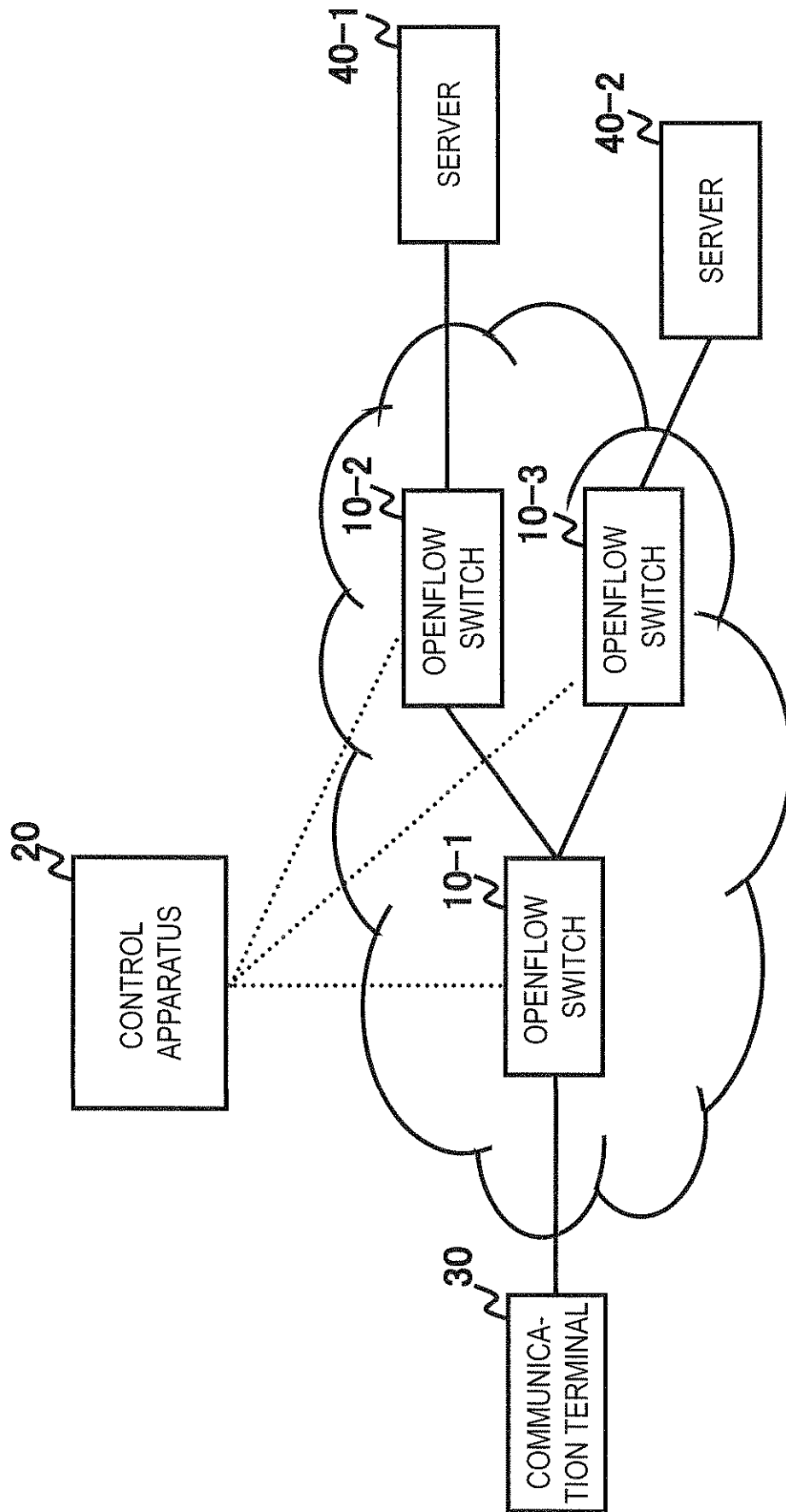


FIG. 3

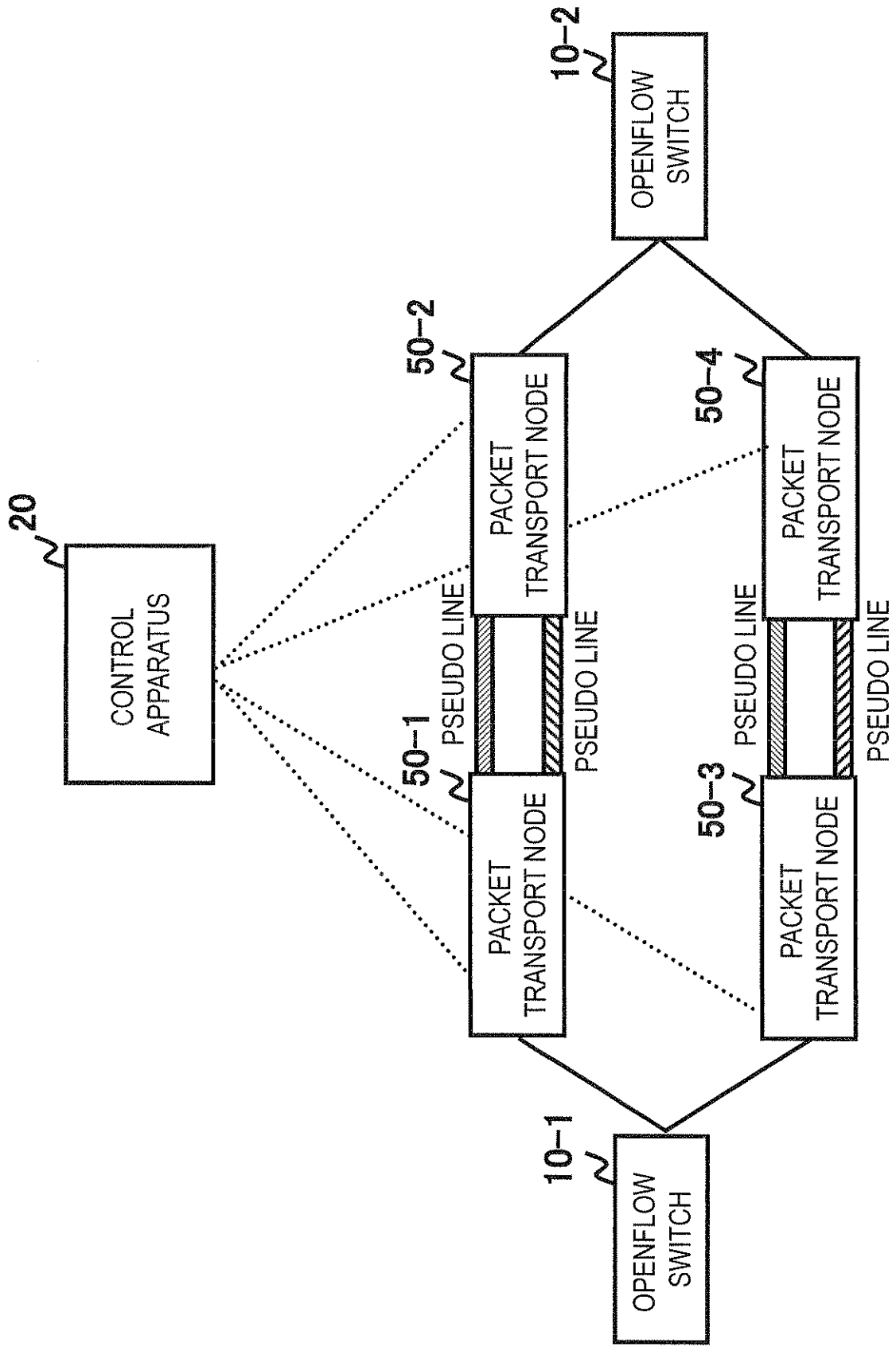


FIG. 4

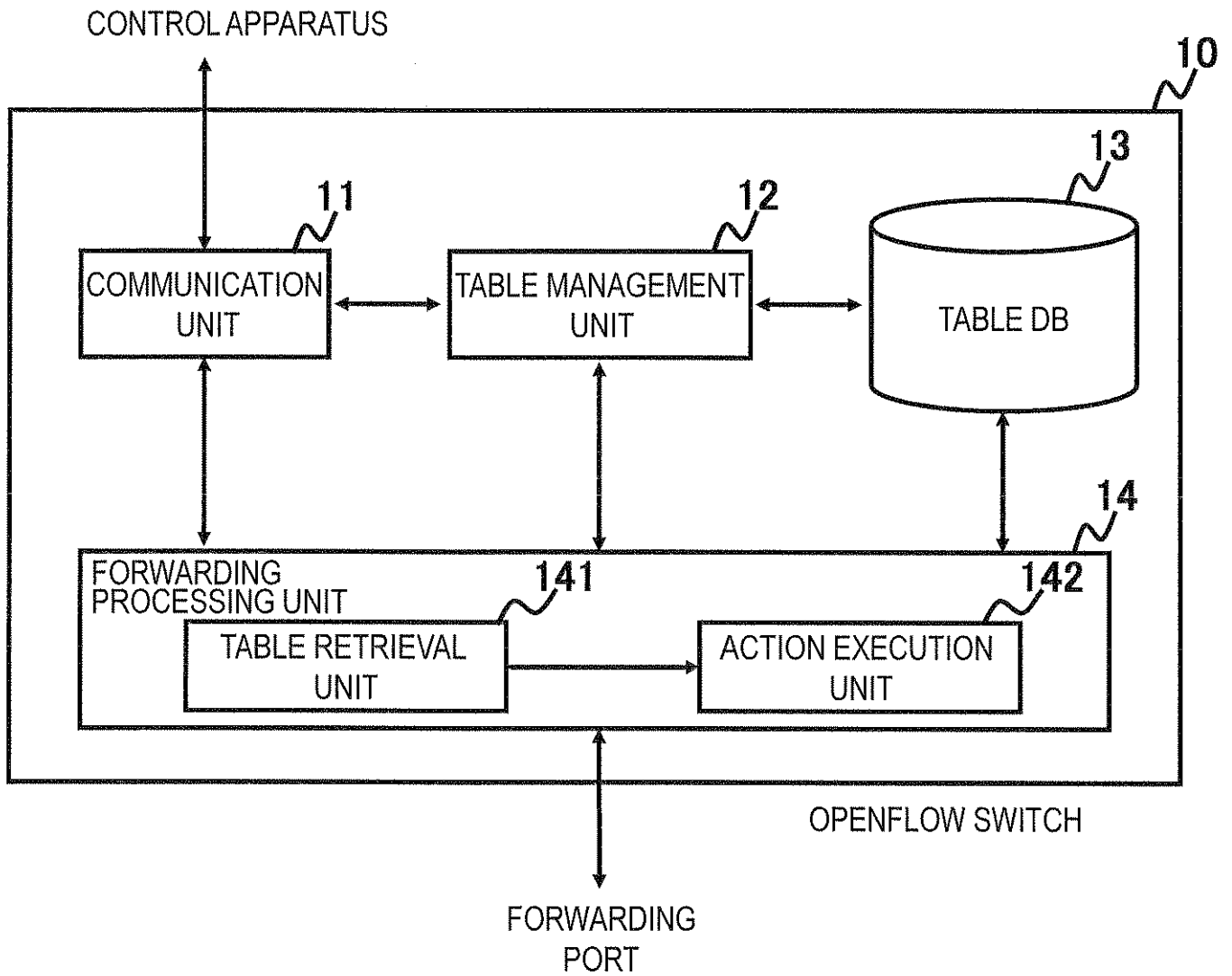


FIG. 5

MATCH FIELD	EXPIRY CONDITION	INSTRUCTIONS	COUNTERS
TRANSMISSION SOURCE IP ADDRESS = A1 DESTINATION IP ADDRESS = A2 OTHER FIELDS: WILDCARD	TIME T1	FORWARD FROM PORT DIRECTED TOWARD PTN 50-1	aaa
TRANSMISSION SOURCE IP ADDRESS = B1 DESTINATION IP ADDRESS = B2 OTHER FIELDS: WILDCARD	TIME T2	FORWARD FROM PORT DIRECTED TOWARD PTN 50-3	bbb
***	***	***	***

FIG. 6

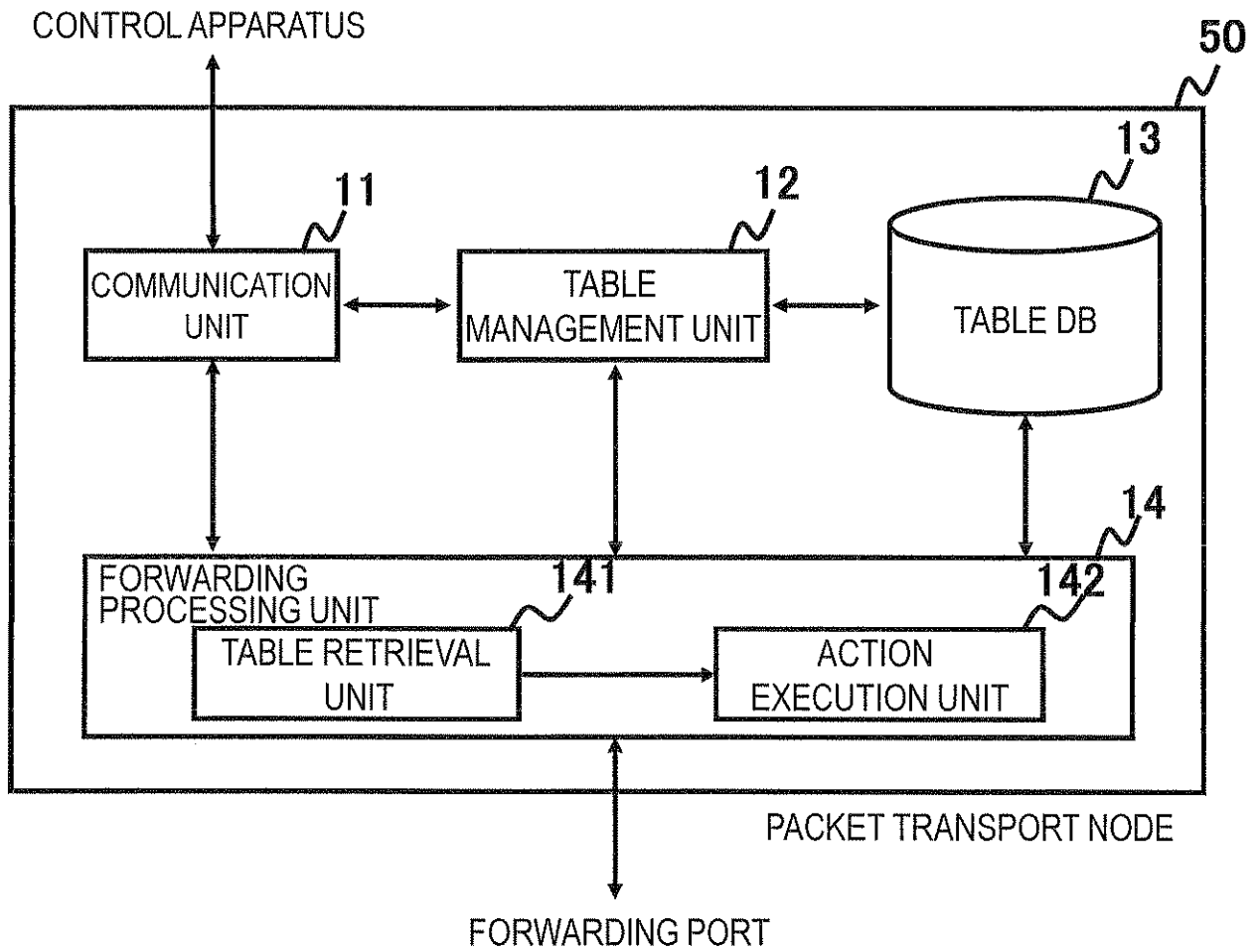


FIG. 7

MATCH FIELD	EXPIRY CONDITION	INSTRUCTIONS	COUNTERS
TRANSMISSION SOURCE IP ADDRESS = A1 DESTINATION IP ADDRESS = A2 OTHER FIELDS: WILDCARD	TIME T1	USE PSEUDO LINE 1	aaa
TRANSMISSION SOURCE IP ADDRESS = C1 DESTINATION IP ADDRESS = C2 OTHER FIELDS: WILDCARD	TIME T2	USE PSEUDO LINE 2	bbb
***	***	***	***

FIG. 8

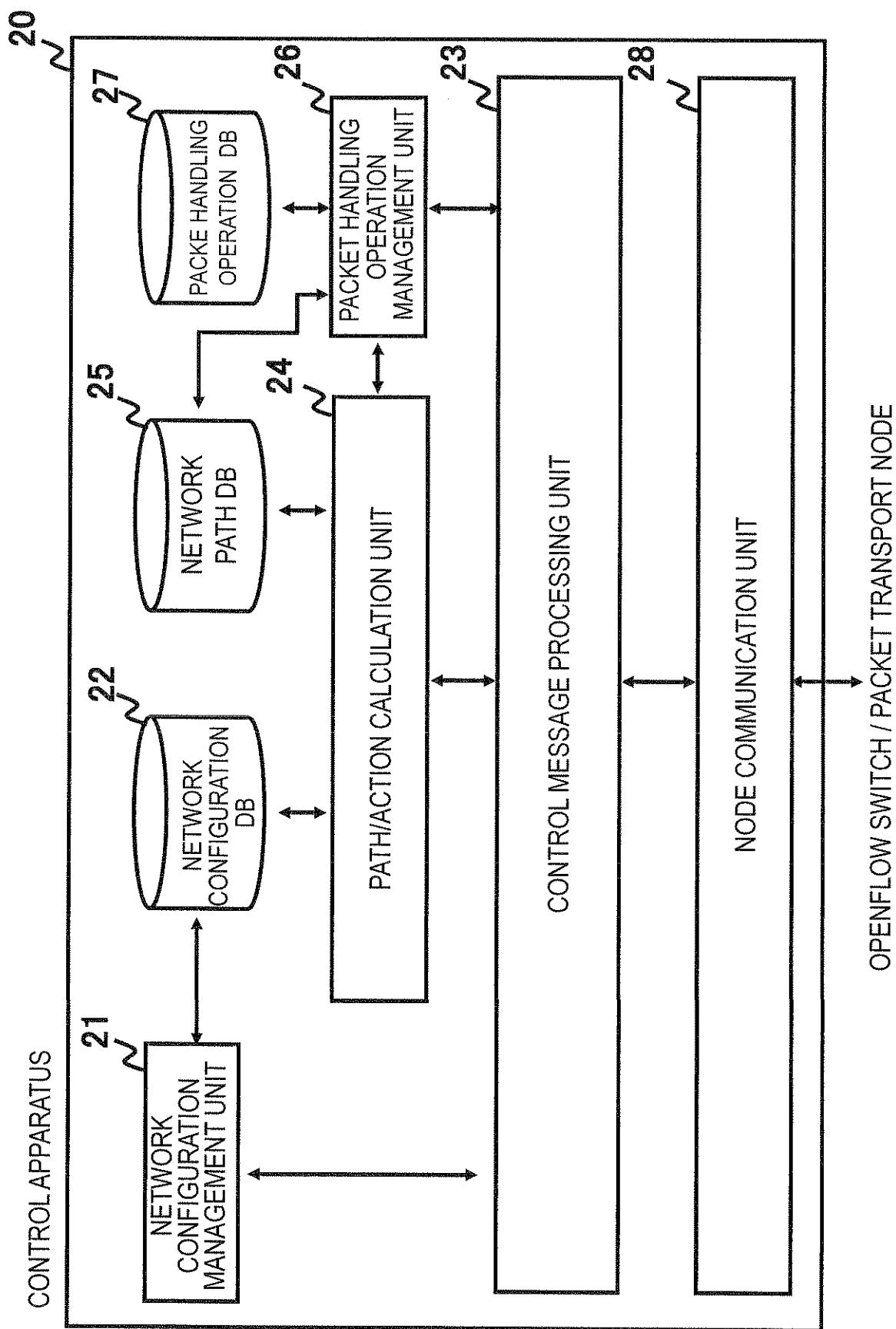


FIG. 9

OFS	LOGICAL PATH CONNECTION DESTINATION	PORT CONNECTION DESTINATION
OFS10-1	OFS10-2	PTN50-1/PTN50-3
	OFS10-3	PTN_X1/PTN_X2
...	...	...

FIG. 10

PTN	PORT CONNECTION DESTINATION	SELECTABLE PSEUDO LINE
PTN50-1	PTN50-2	PSEUDO LINE 1-1 TO PSEUDO LINE 1-3
PTN50-3	PTN50-4	PSEUDO LINE 2-1 TO PSEUDO LINE 2-2
...	...	...

FIG. 11

FLOW ID	LOGICAL PATH	PSEUDO LINE
ID1	OFS10-1,OFS10-2	PSEUDO LINE 1-1 (PTN1, PTN2)
ID2	OFS10-1,OFS10-2	PSEUDO LINE 1-1 (PTN1, PTN2)
ID3	OFS10-1,OFS10-2	PSEUDO LINE 1-1 (PTN1, PTN2)
ID4	OFS10-1,OFS10-2	PSEUDO LINE 1-2 (PTN1, PTN2)
ID5	OFS10-1,OFS10-2	PSEUDO LINE 1-2 (PTN1, PTN2)
ID6	OFS10-1,OFS10-2	PSEUDO LINE 1-3 (PTN1, PTN2)
ID7	OFS10-1,OFS10-2	PSEUDO LINE 1-3 (PTN1, PTN2)
ID8	OFS10-1,OFS10-2	PSEUDO LINE 2-1 (PTN3, PTN4)
ID9	OFS10-1,OFS10-2	PSEUDO LINE 2-1 (PTN3, PTN4)
ID10	OFS10-1,OFS10-2	PSEUDO LINE 2-2 (PTN3, PTN4)
ID11	OFS10-1,OFS10-3	PSEUDO LINE X1
ID12	OFS10-1,OFS10-3	PSEUDO LINE X2

FIG. 12

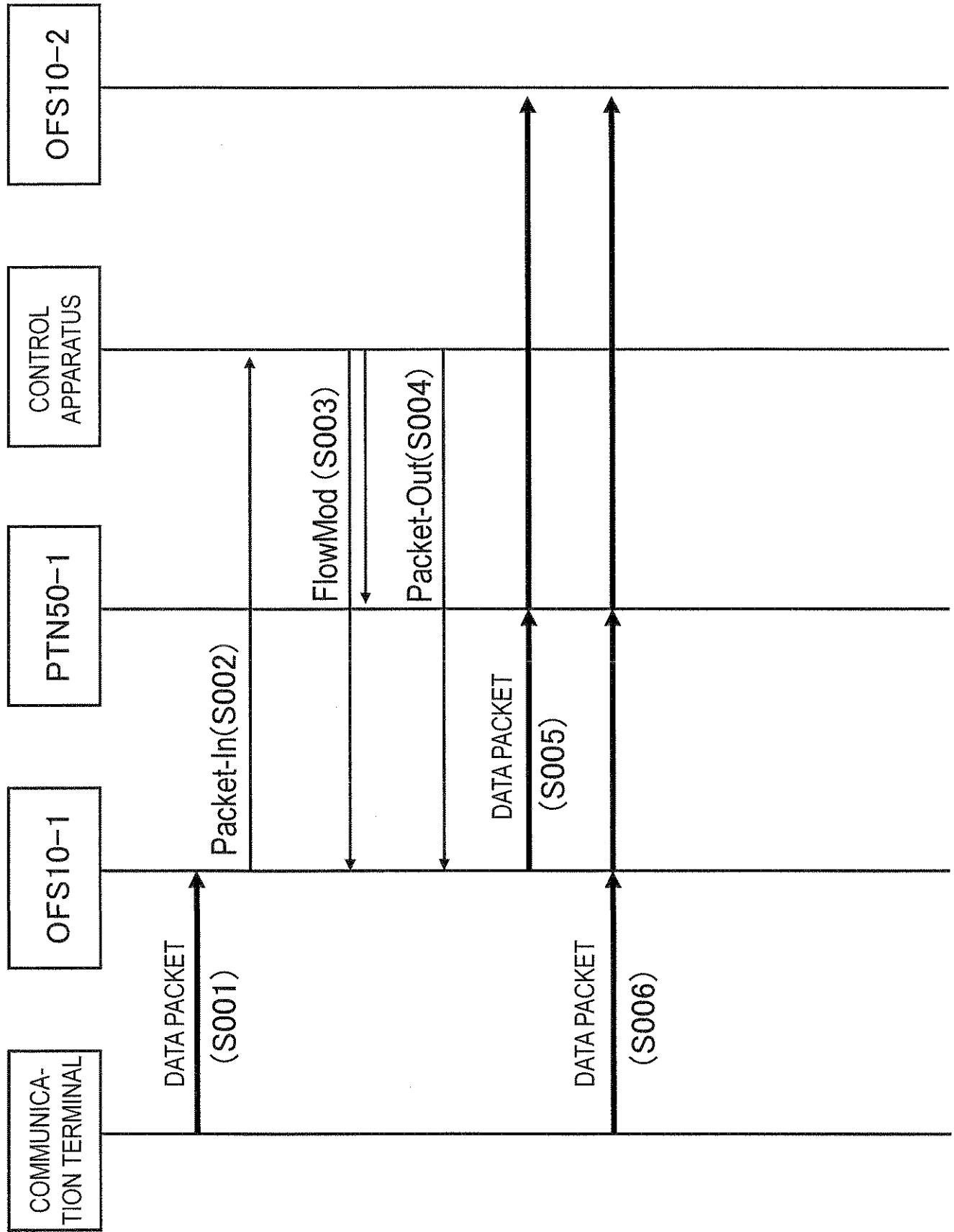


FIG. 13

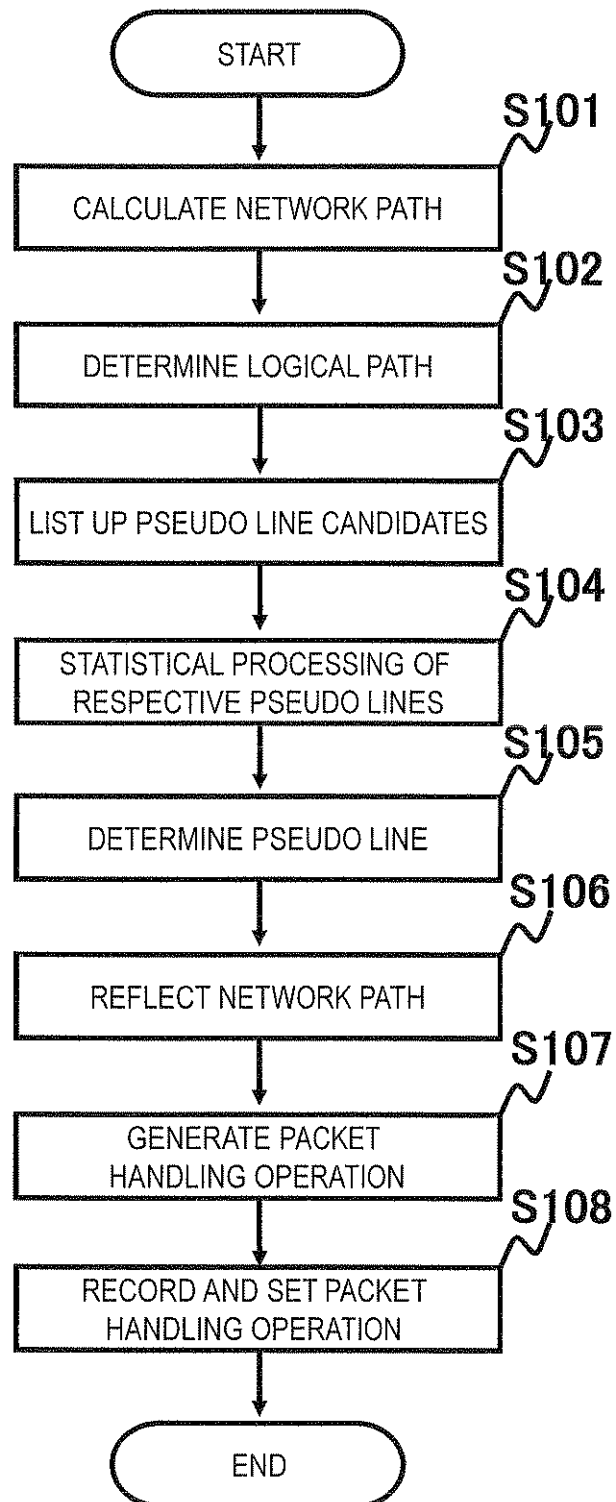


FIG. 14

	TOTAL NUMBER OF TCP/IP FLOWS
PSEUDO LINE 1-1	3
PSEUDO LINE 1-2	2
PSEUDO LINE 1-3	2
PSEUDO LINE 2-1	2
PSEUDO LINE 2-2	1

FIG. 15

FLOW ID	LOGICAL PATH	PSEUDO LINE
ID1	OFS10-1,OFS10-2	PSEUDO LINE 1-1 (PTN1, PTN2)
ID2	OFS10-1,OFS10-2	PSEUDO LINE 1-1 (PTN1, PTN2)
ID3	OFS10-1,OFS10-2	PSEUDO LINE 1-1 (PTN1, PTN2)
ID4	OFS10-1,OFS10-2	PSEUDO LINE 1-2 (PTN1, PTN2)
ID5	OFS10-1,OFS10-2	PSEUDO LINE 1-2 (PTN1, PTN2)
ID6	OFS10-1,OFS10-2	PSEUDO LINE 1-3 (PTN1, PTN2)
ID7	OFS10-1,OFS10-2	PSEUDO LINE 1-3 (PTN1, PTN2)
ID8	OFS10-1,OFS10-2	PSEUDO LINE 2-1 (PTN3, PTN4)
ID9	OFS10-1,OFS10-2	PSEUDO LINE 2-1 (PTN3, PTN4)
ID10	OFS10-1,OFS10-2	PSEUDO LINE 2-2 (PTN3, PTN4)
ID11	OFS10-1,OFS10-3	PSEUDO LINE X1
ID12	OFS10-1,OFS10-3	PSEUDO LINE X2
ID13	OFS10-1,OFS10-2	PSEUDO LINE 2-2 (PTN3, PTN4)

FIG. 16

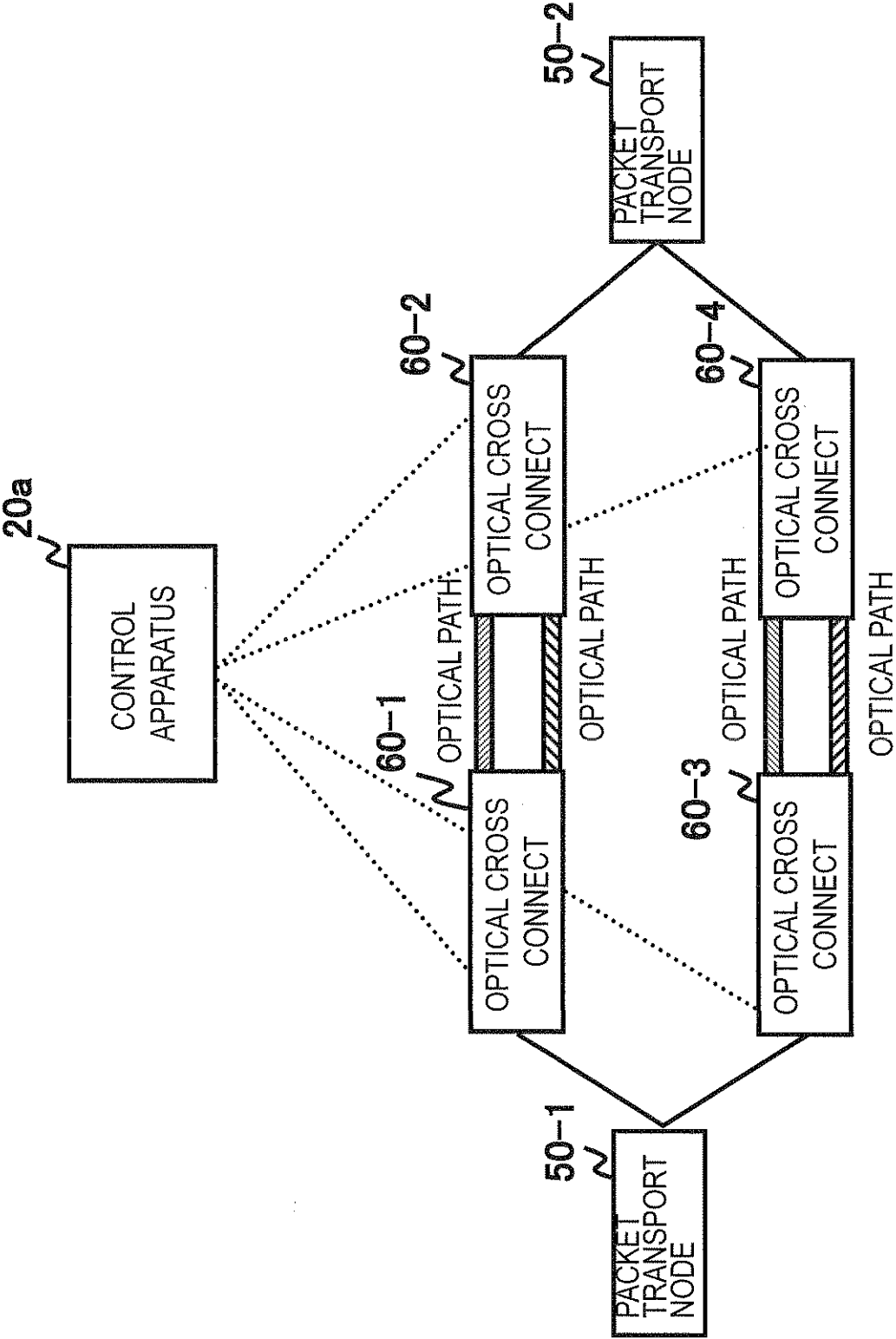


FIG. 17

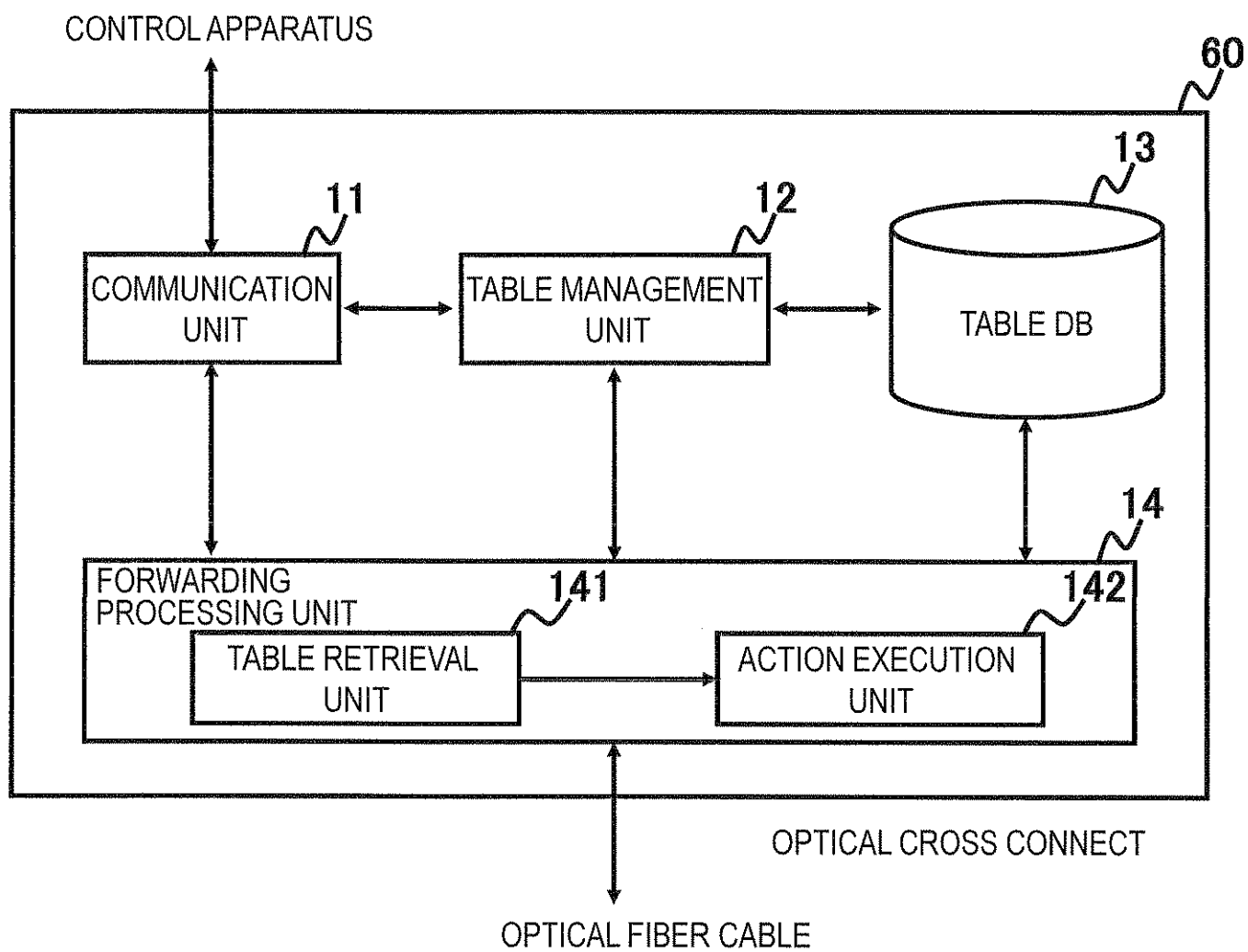


FIG. 18

MATCH FIELD	EXPIRY CONDITION	INSTRUCTIONS	COUNTERS
TRANSMISSION SOURCE IP ADDRESS = A1 DESTINATION IP ADDRESS = A2 OTHER FIELDS: WILDCARD	TIME T1	USE OPTICAL PATH 1	aaa
TRANSMISSION SOURCE IP ADDRESS = D1 DESTINATION IP ADDRESS = D2 OTHER FIELDS: WILDCARD	TIME T2	USE OPTICAL PATH 2	bbb
***	***	***	***

FIG. 19

	PORT CONNECTION DESTINATION	SELECTABLE OPTICAL PATH
OXC60-1	OXC60-2	OPTICAL PATH 1-1 TO OPTICAL PATH 1-3
OXC60-3	OXC60-4	OPTICAL PATH 2-1 TO OPTICAL PATH 2-2

FIG. 20

FLOW ID	LOGICAL PATH	PSEUDO LINE	OPTICAL PATH
ID21	OFS10-1,OFS10-2	PSEUDO LINE 1-1 (PTN1, PTN2)	OPTICAL PATH 1-1
ID22	OFS10-1,OFS10-2	PSEUDO LINE 1-1 (PTN1, PTN2)	OPTICAL PATH 1-2
ID23	OFS10-1,OFS10-2	PSEUDO LINE 1-1 (PTN1, PTN2)	OPTICAL PATH 1-3
ID24	OFS10-1,OFS10-2	PSEUDO LINE 1-2 (PTN1, PTN2)	OPTICAL PATH 2-1
ID25	OFS10-1,OFS10-2	PSEUDO LINE 1-2 (PTN1, PTN2)	OPTICAL PATH 2-2
ID26	OFS10-1,OFS10-2	PSEUDO LINE 1-3 (PTN1, PTN2)	OPTICAL PATH 2-2
ID27	OFS10-1,OFS10-2	PSEUDO LINE 1-3 (PTN1, PTN2)	OPTICAL PATH 2-2
ID28	OFS10-1,OFS10-2	PSEUDO LINE 2-1 (PTN3, PTN4)	OPTICAL PATH 2-1
ID29	OFS10-1,OFS10-2	PSEUDO LINE 2-1 (PTN3, PTN4)	OPTICAL PATH 1-3
ID30	OFS10-1,OFS10-2	PSEUDO LINE 2-2 (PTN3, PTN4)	OPTICAL PATH 1-2
ID31	OFS10-1,OFS10-3	PSEUDO LINE X1	OPTICAL PATH X1
ID32	OFS10-1,OFS10-3	PSEUDO LINE X2	OPTICAL PATH X2

FIG. 21

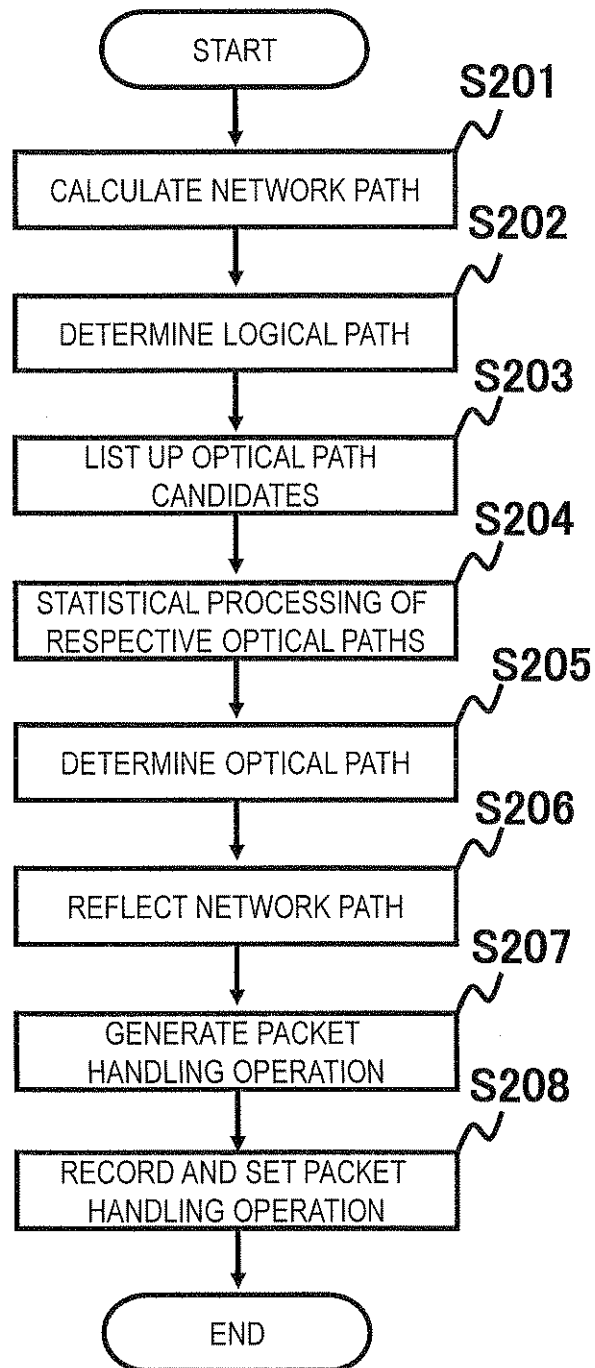


FIG. 22

	TOTAL NUMBER OF TCP/IP FLOWS
OPTICAL PATH 1-1	1
OPTICAL PATH 1-2	2
OPTICAL PATH 1-3	2
OPTICAL PATH 2-1	2
OPTICAL PATH 2-2	3

FIG. 23

FLOW ID	LOGICAL PATH	PSEUDO LINE	OPTICAL PATH
ID21	OFS10-1,OFS10-2	PSEUDO LINE 1-1 (PTN1, PTN2)	OPTICAL PATH 1-1
ID22	OFS10-1,OFS10-2	PSEUDO LINE 1-1 (PTN1, PTN2)	OPTICAL PATH 1-2
ID23	OFS10-1,OFS10-2	PSEUDO LINE 1-1 (PTN1, PTN2)	OPTICAL PATH 1-3
ID24	OFS10-1,OFS10-2	PSEUDO LINE 1-2 (PTN1, PTN2)	OPTICAL PATH 2-1
ID25	OFS10-1,OFS10-2	PSEUDO LINE 1-2 (PTN1, PTN2)	OPTICAL PATH 2-2
ID26	OFS10-1,OFS10-2	PSEUDO LINE 1-3 (PTN1, PTN2)	OPTICAL PATH 2-2
ID27	OFS10-1,OFS10-2	PSEUDO LINE 1-3 (PTN1, PTN2)	OPTICAL PATH 2-2
ID28	OFS10-1,OFS10-2	PSEUDO LINE 2-1 (PTN3, PTN4)	OPTICAL PATH 2-1
ID29	OFS10-1,OFS10-2	PSEUDO LINE 2-1 (PTN3, PTN4)	OPTICAL PATH 1-3
ID30	OFS10-1,OFS10-2	PSEUDO LINE 2-2 (PTN3, PTN4)	OPTICAL PATH 1-2
ID31	OFS10-1,OFS10-3	PSEUDO LINE X1	OPTICAL PATH X1
ID32	OFS10-1,OFS10-3	PSEUDO LINE X2	OPTICAL PATH X2
ID33	OFS10-1,OFS10-3	PSEUDO LINE 1-1 (PTN1, PTN2)	OPTICAL PATH 1-1

FIG. 24

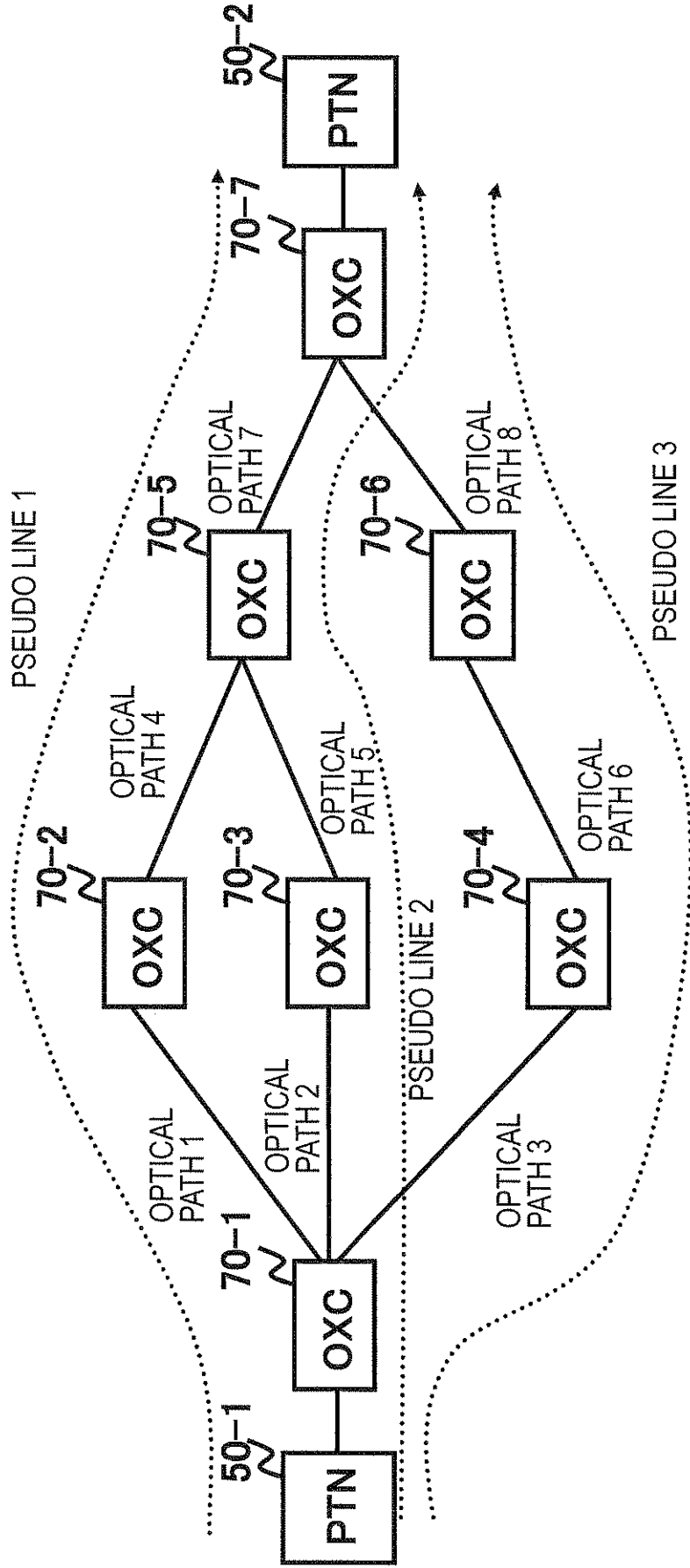


FIG. 25

PSEUDO LINE	OPTICAL PATH
PSEUDO LINE 1	OPTICAL PATH 1, OPTICAL PATH 4, OPTICAL PATH 7
PSEUDO LINE 2	OPTICAL PATH 2, OPTICAL PATH 5, OPTICAL PATH 7
PSEUDO LINE 3	OPTICAL PATH 3, OPTICAL PATH 6, OPTICAL PATH 8

FIG. 26

FLOW ID	PSEUDO LINE	OPTICAL PATH 1	OPTICAL PATH 2	OPTICAL PATH 3	OPTICAL PATH 4	OPTICAL PATH 5	OPTICAL PATH 6	OPTICAL PATH 7	OPTICAL PATH 8
ID41	PSEUDO LINE 1	○			○			○	
ID42	PSEUDO LINE 2		○			○		○	
ID43	PSEUDO LINE 3			○			○		○

FIG. 27

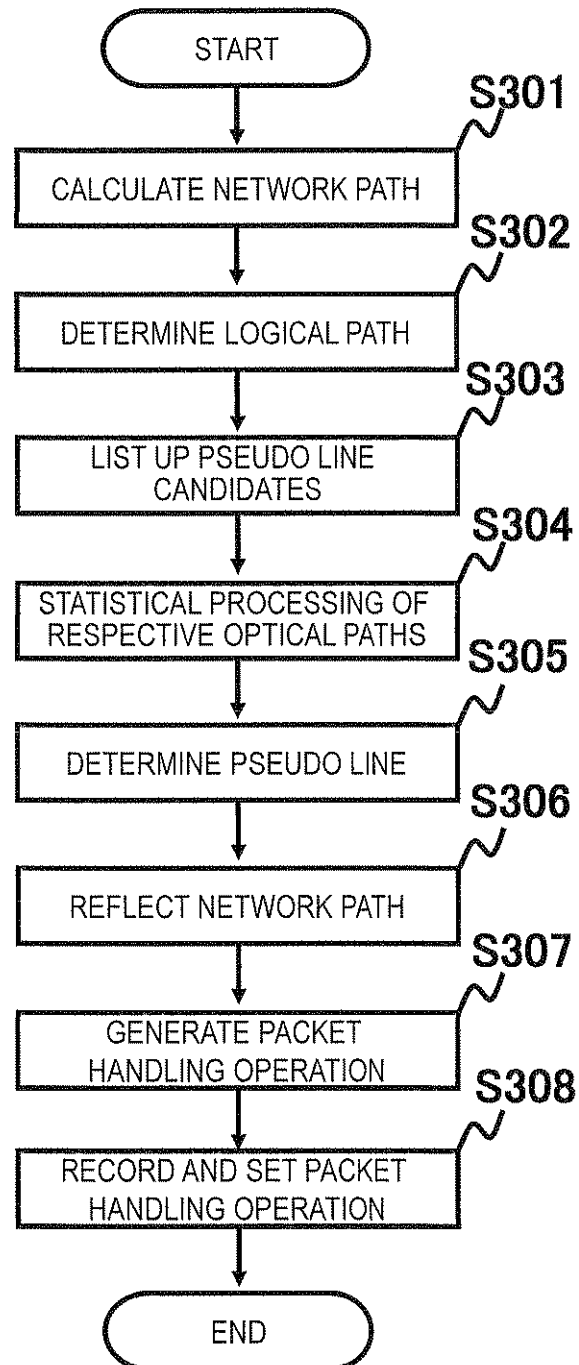


FIG. 28

PSEUDO LINE	MAXIMUM VALUE	AVERAGE VALUE
PSEUDO LINE 1	2	1.3
PSEUDO LINE 2	2	1.3
PSEUDO LINE 3	1	1

FIG. 29

FLOW ID	PSEUDO LINE	OPTICAL PATH 1	OPTICAL PATH 2	OPTICAL PATH 3	OPTICAL PATH 4	OPTICAL PATH 5	OPTICAL PATH 6	OPTICAL PATH 7	OPTICAL PATH 8
ID41	PSEUDO LINE 1	○			○			○	
ID42	PSEUDO LINE 2		○			○		○	
ID43	PSEUDO LINE 3			○			○		○
ID44	PSEUDO LINE 3			○			○		○

FIG. 30

PSEUDO LINE	MAXIMUM VALUE	AVERAGE VALUE
PSEUDO LINE 1	2	1.3
PSEUDO LINE 2	2	1.3
PSEUDO LINE 3	2	2

FIG. 31

OPTICAL FIBER CABLE	X	W	R	P	C	ω
CABLE 1	1	1	1	0.01	2	10
CABLE 2	1	1	1	0.01	2	10
CABLE 3	1	1	1	0.01	2	1
CABLE 4	1	1	1	0.01	2	10
CABLE 5	1	1	1	0.01	2	10
CABLE 6	1	1	1	0.01	2	1
CABLE 7	2	1	1	0.01	2	10
CABLE 8	1	1	1	0.01	2	1

FIG. 32

PSEUDO LINE	CABLE 1	CABLE 2	CABLE 3	CABLE 4	CABLE 5	CABLE 6	CABLE 7	CABLE 8	TOTAL
PSEUDO LINE 1	0.1			0.1			0.2		0.4
PSEUDO LINE 2		0.1			0.1		0.2		0.4
PSEUDO LINE 3			1			1		1	3