

FIG. 1

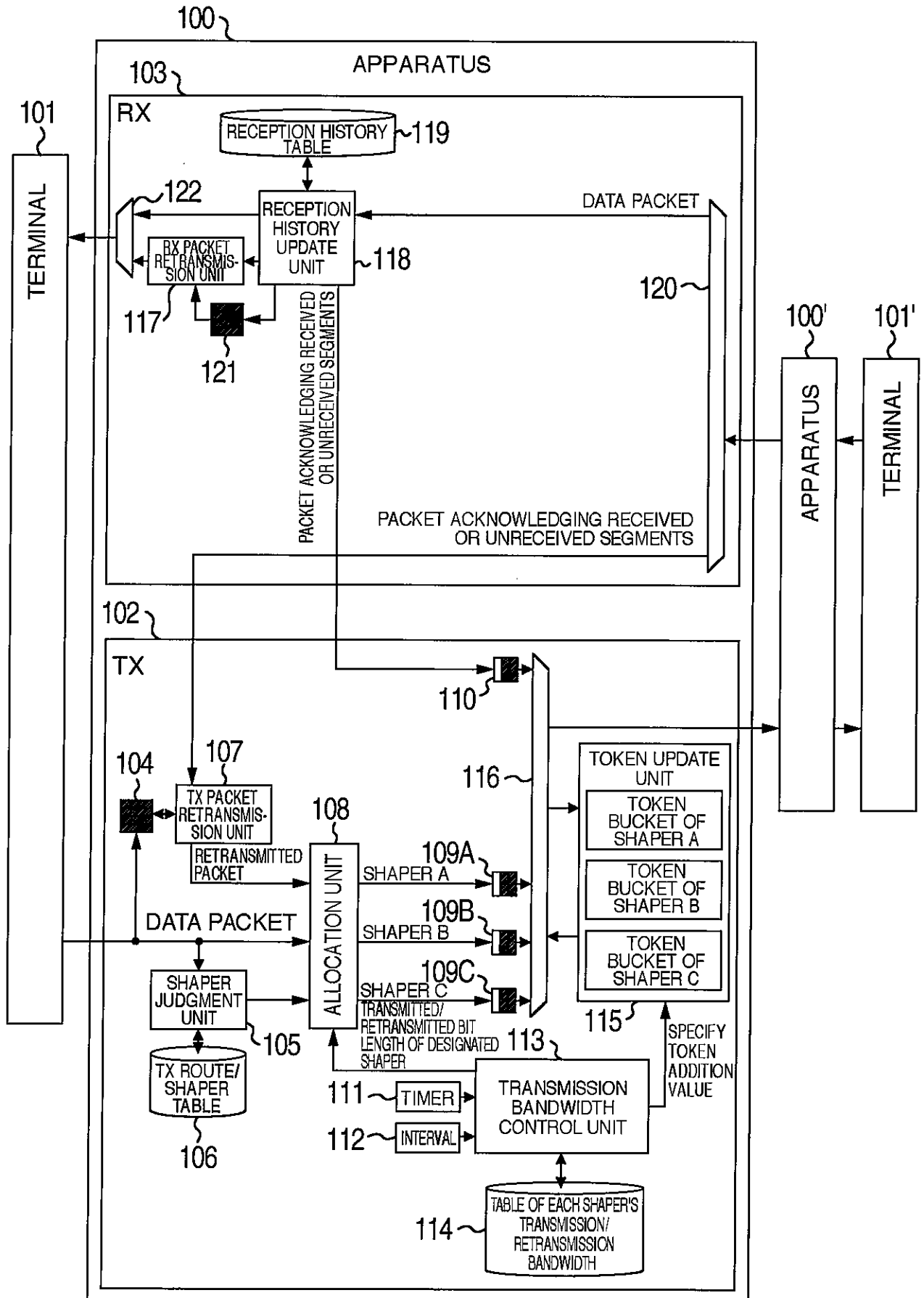


FIG. 2

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TX ROUTE/SHAPER TABLE

TX ROUTE				SHAPER
SOURCE IP/ SUBNET	DESTINATION IP/ SUBNET	SOURCE PORT	DESTINATION PORT	
1.2.3.4	5.6.7.8	4200	25	A
1.2.3.4	5.6.7.8	any	any	B
1.2.3.0/24	5.6.7.0/24	any	any	C

FIG. 3

114

EACH SHAPER'S TRANSMISSION/RETRANSMISSION BANDWIDTH

SHAPER	STATISTICAL DATA BEFORE BASE TIME		CONTROL BANDWIDTH (BEFORE BASE TIME)	BASE TIME	CONTROL BANDWIDTH (AFTER BASE TIME)	STATISTICAL DATA AFTER BASE TIME	
	TRANSMISSION BANDWIDTH	RETRANS- MISSION BANDWIDTH				TRANSMITTED BIT INTEGRATION VALUE	RETRANSMITTED BIT INTEGRATION VALUE
A	100	0	100	15463	120	5216	0
B	200	20	160	15463	180	7608	0
C	300	100	220	15480	200	11080	512

FIG. 4

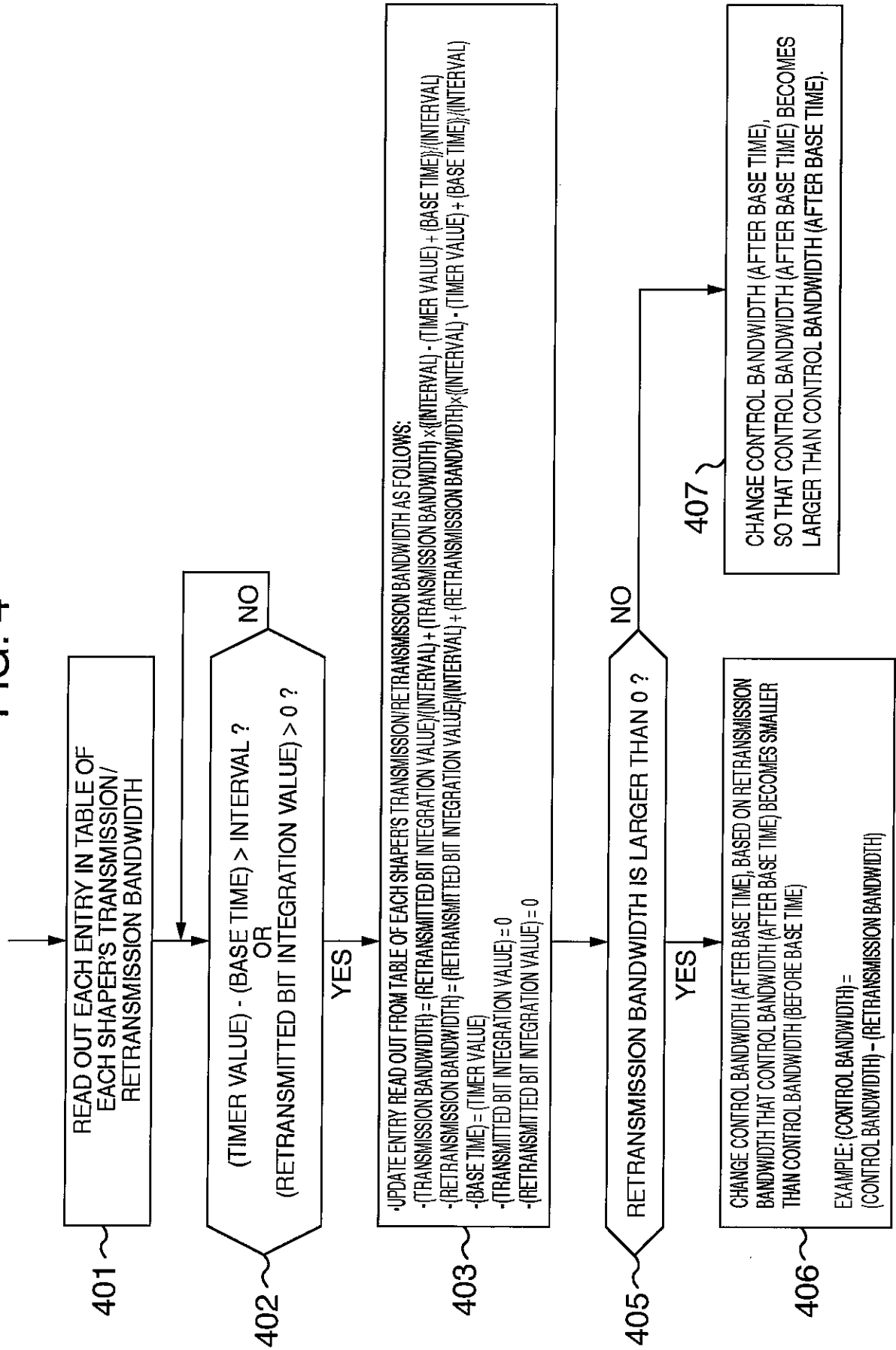


FIG. 5

114

RECEPTION HISTORY TABLE

SOURCE IP	DESTINATION IP	SOURCE PORT	DESTINATION PORT	REARMOST SEQ OF ALREADY RECEIVED SEGMENTS	SEQ OF UNRECEIVED SEGMENTS	DISCARD DETECTION TIME
1.2.3.4	5.6.7.8	4200	25	14	8-9,11-12	15463

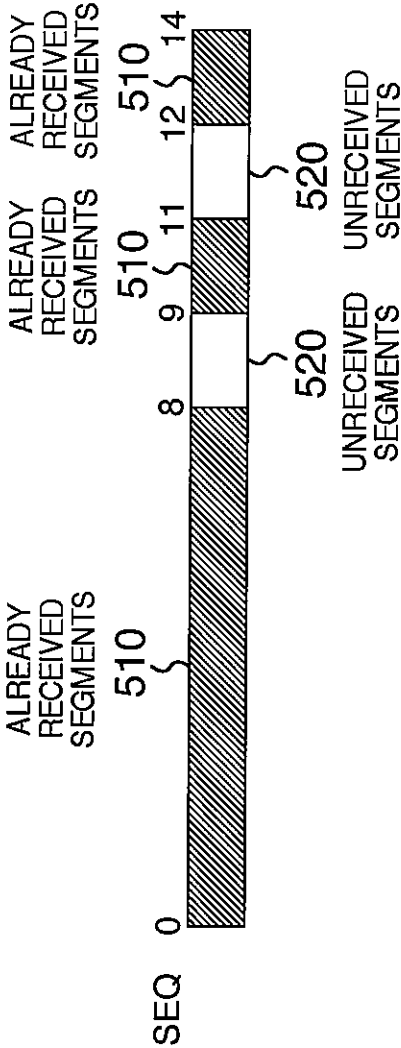


FIG. 6A

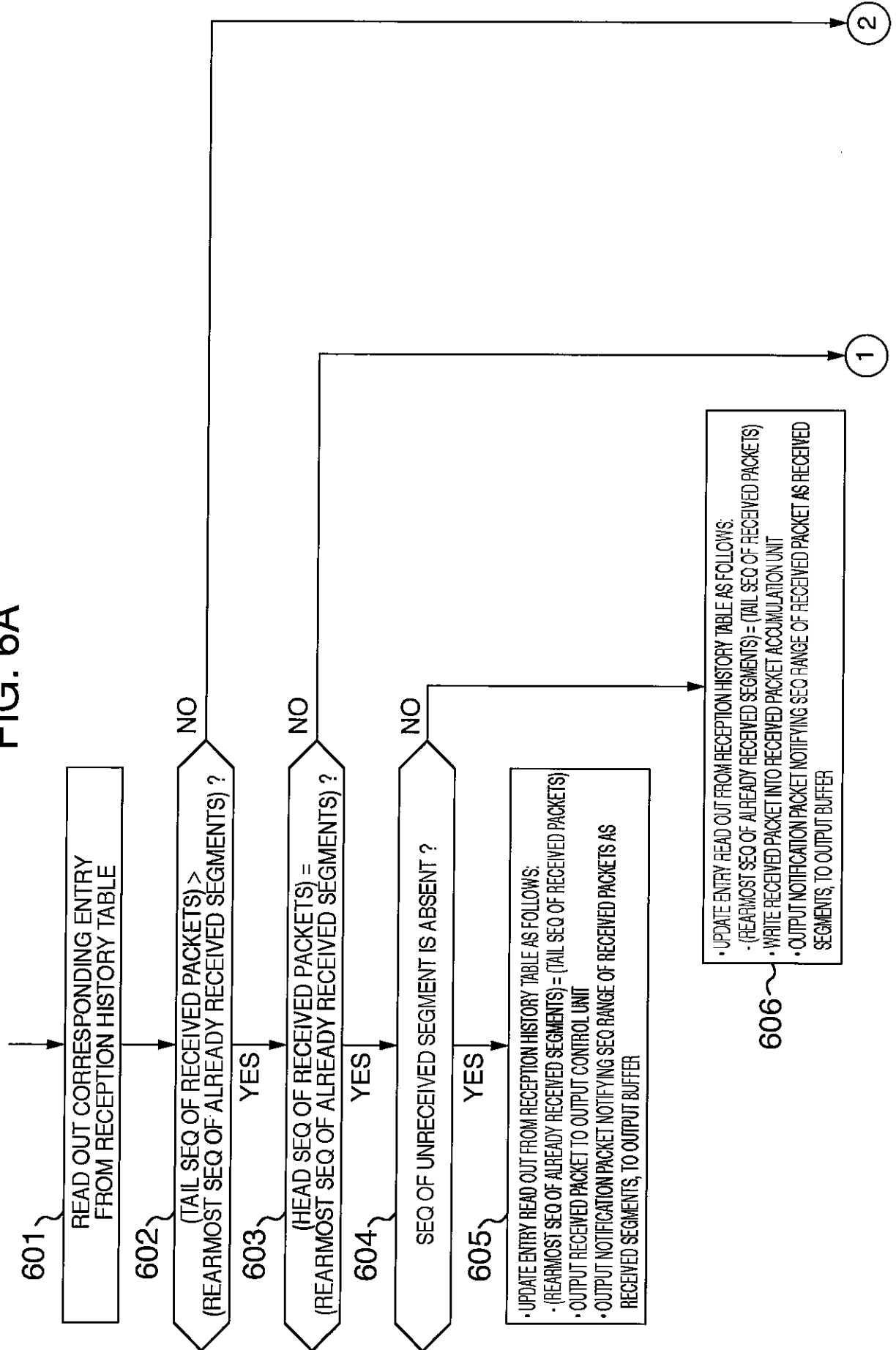


FIG. 6B

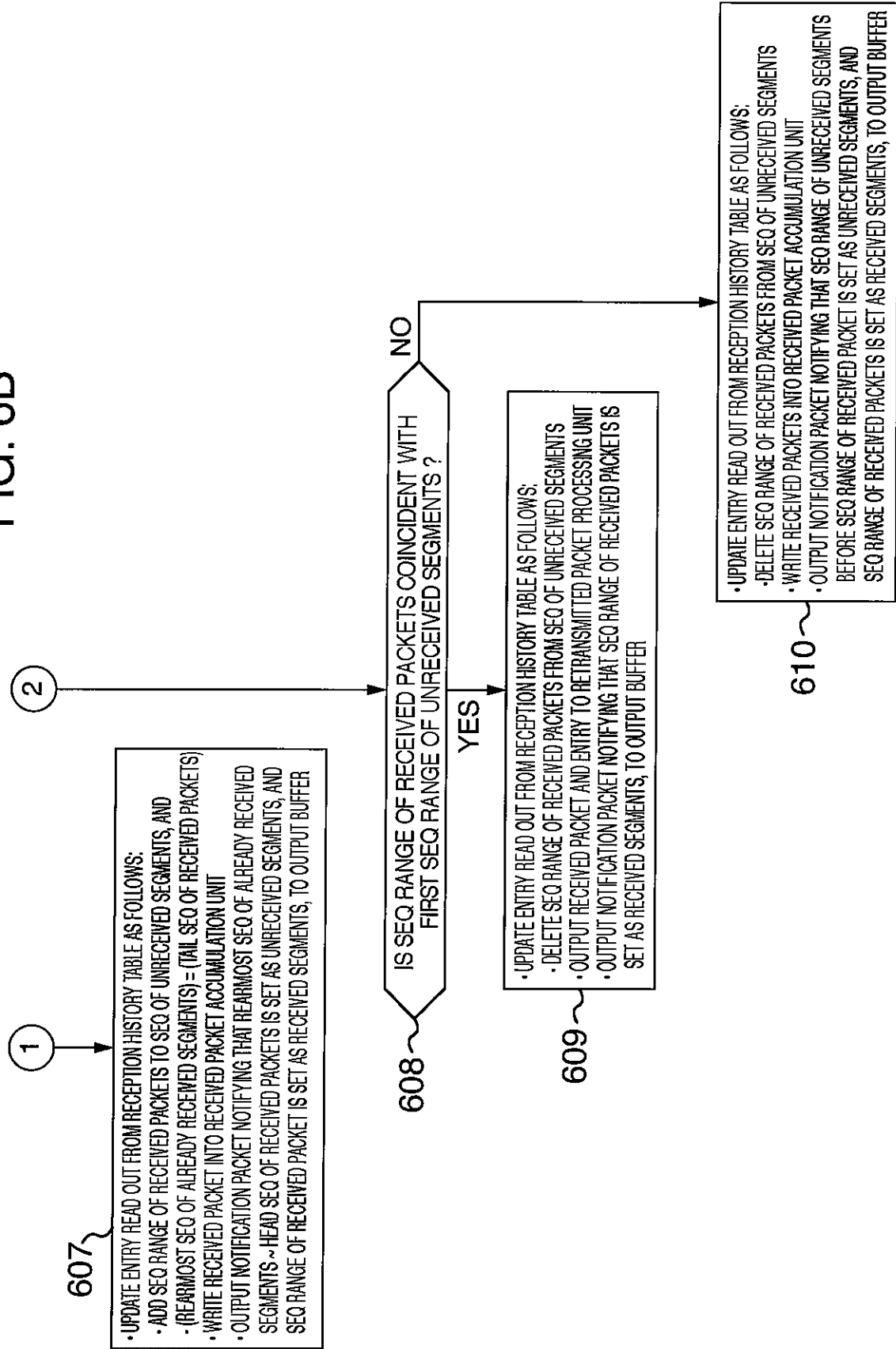


FIG. 7

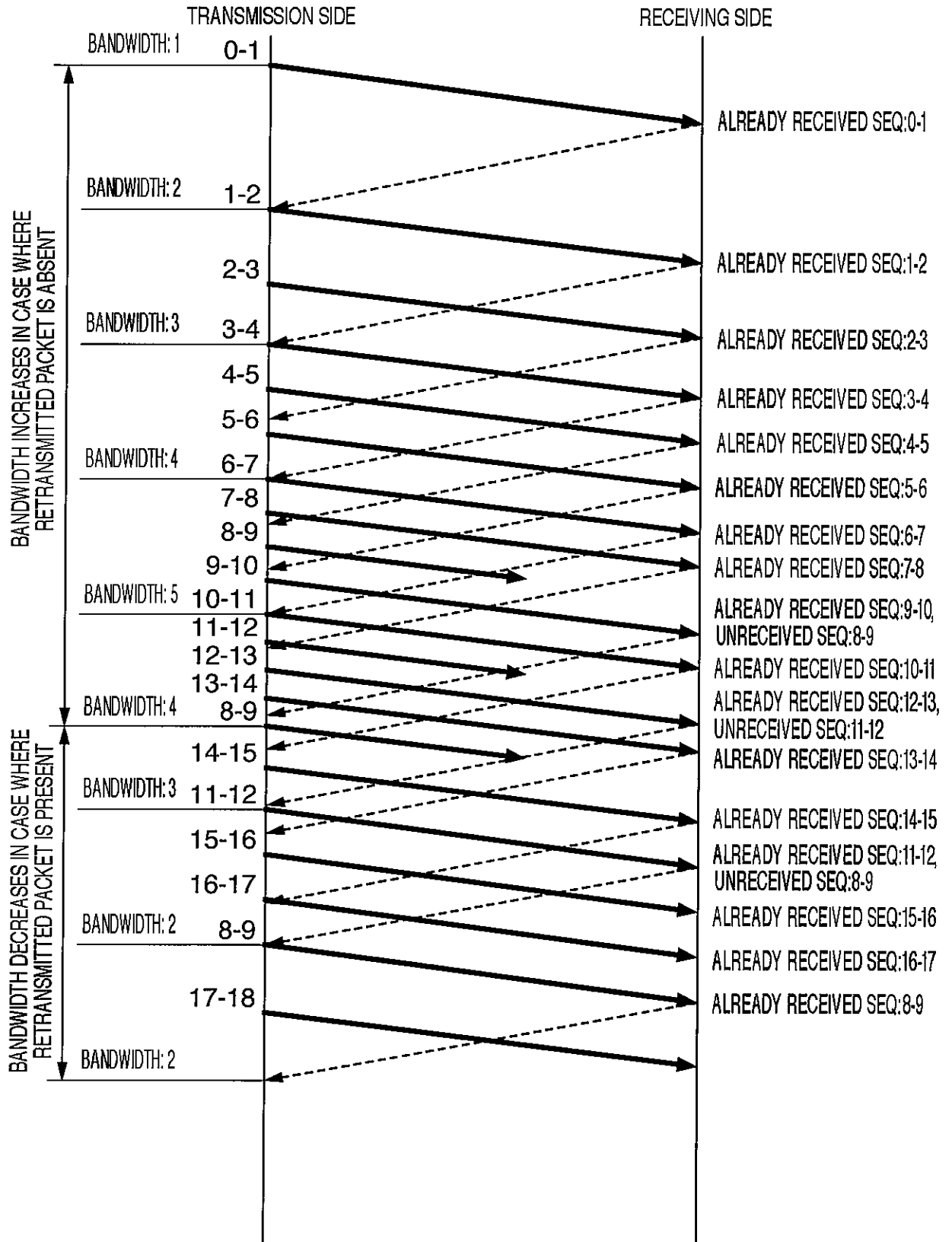


FIG. 8

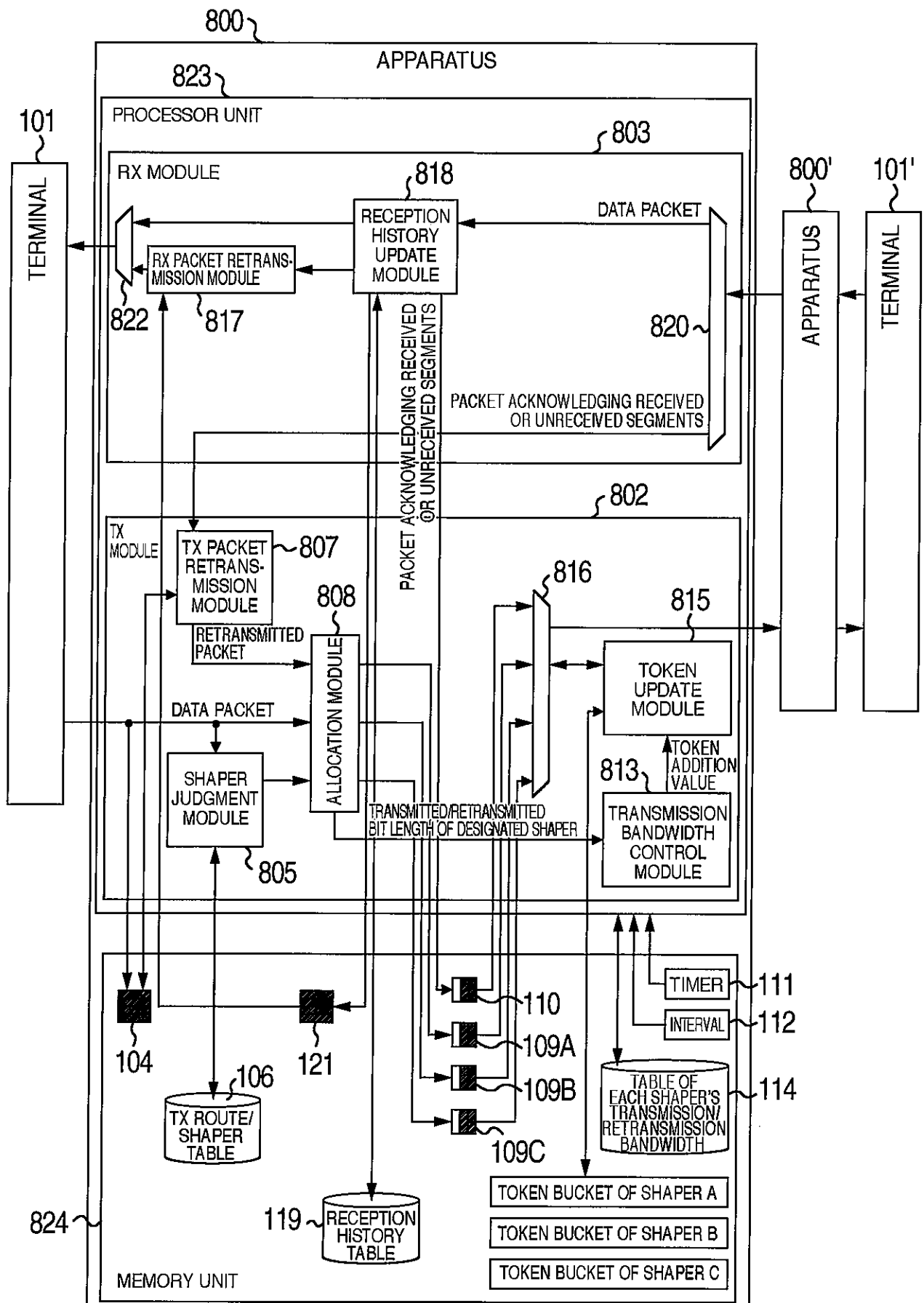


FIG. 10

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RX ROUTE/SHAPER TABLE

RX ROUTE				SHAPER
SOURCE IP/ SUBNET	DESTINATION IP/ SUBNET	SOURCE PORT	DESTINATION PORT	
5.6.7.8	1.2.3.4	25	4200	A
5.6.7.8	1.2.3.4	any	any	B
5.6.7.0/24	1.2.3.0/24	any	any	C

FIG. 11

902

TABLE OF EACH SHAPER'S TRANSMISSION/DISCARD BANDWIDTH

SHAPER	STATISTICAL DATA BEFORE BASE TIME		CONTROL BANDWIDTH (BEFORE BASE TIME)	BASE TIME	CONTROL BANDWIDTH (AFTER BASE TIME)	STATISTICAL DATA AFTER BASE TIME	
	TRANSMISSION BANDWIDTH	DISCARD BANDWIDTH				TRANSMITTED BIT INTEGRATION VALUE	DISCARDED BIT INTEGRATION VALUE
A	100	0	100	15463	120	5216	0
B	200	20	160	15463	180	7608	0
C	300	100	220	15480	200	11080	512

FIG. 13

1202

CONNECTION PRESENCE/ABSENCE TABLE

SOURCE IP	DESTINATION IP	SOURCE PORT	DESTINATION PORT	IN RETRANSMISSION	BASE TIME
1.2.3.4	5.6.7.8	4200	25	0	15463

FIG. 14

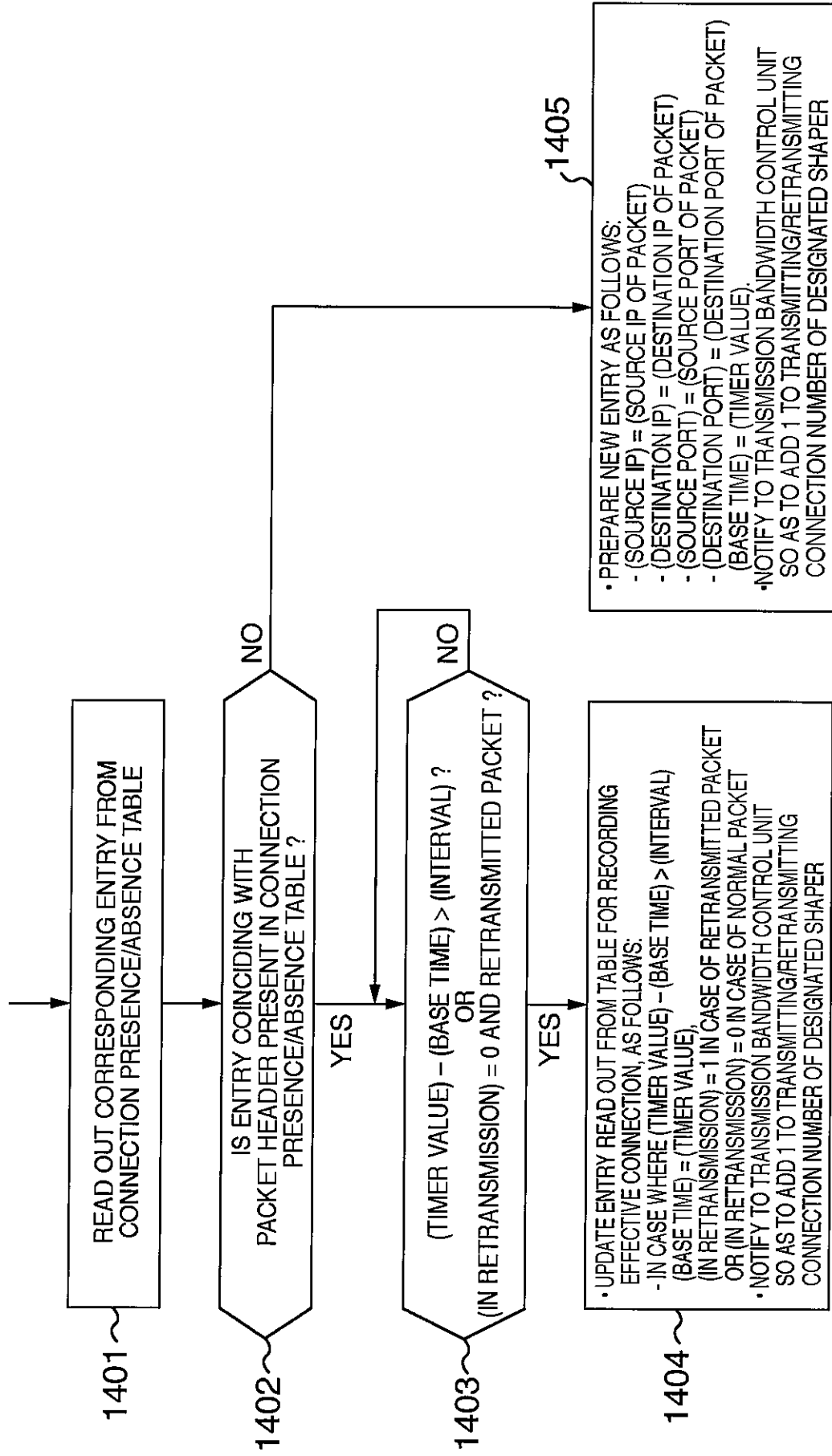


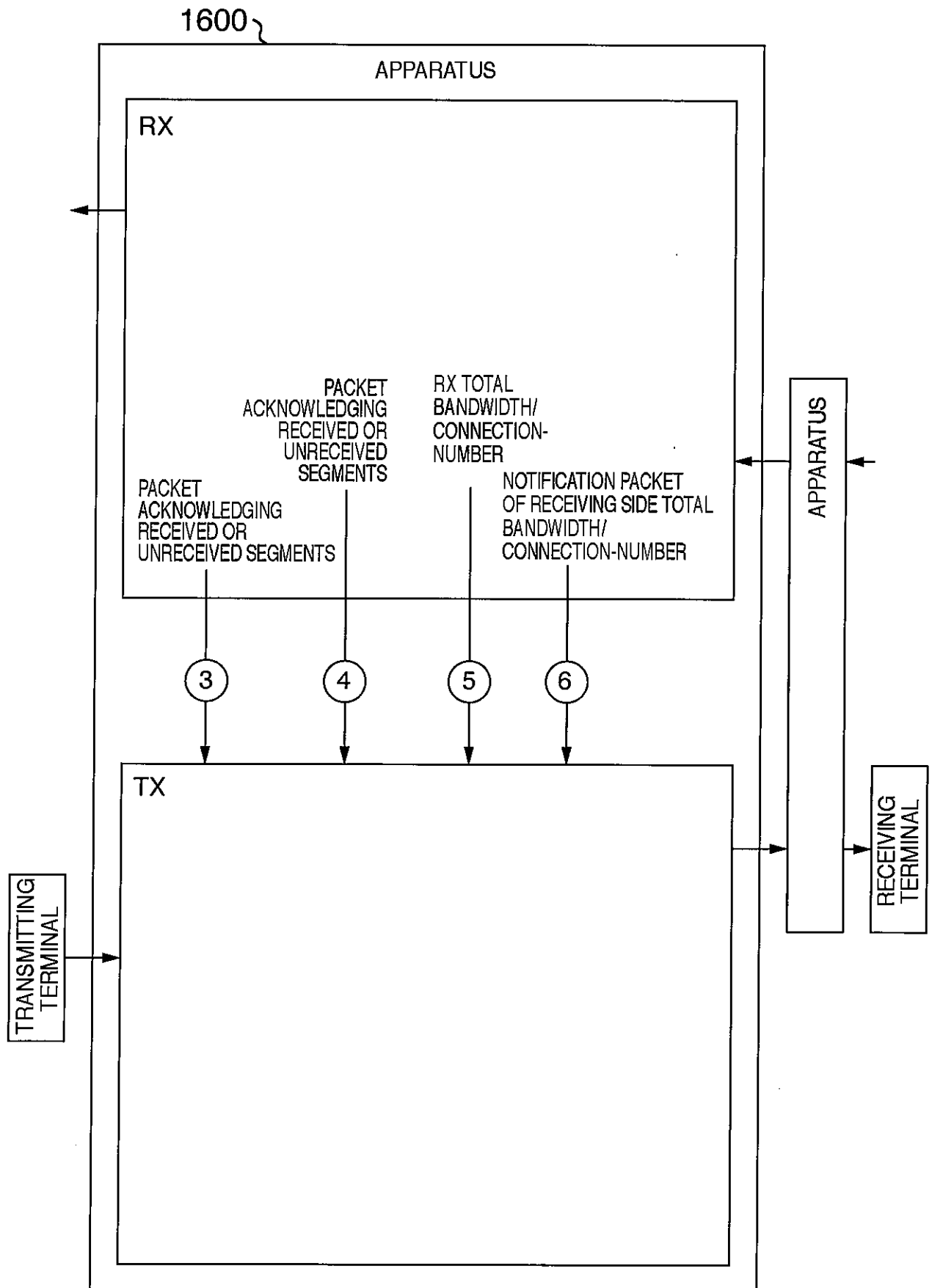
FIG. 15

1203

TABLE OF EACH SHAPER'S RETRANSMITTING CONNECTION NUMBER

SHAPER	STATISTICAL DATA BEFORE BASE TIME		BASE TIME	STATISTICAL DATA AFTER BASE TIME	
	TRANSMITTING CONNECTION NUMBER	RETRANSMITTING CONNECTION NUMBER		TRANSMITTING CONNECTION NUMBER INTEGRATION VALUE	RETRANSMITTING CONNECTION NUMBER INTEGRATION VALUE
A	10	0	15463	5	0
B	20	0	15463	7	0
C	30	2	15480	15	1

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FIG. 16A



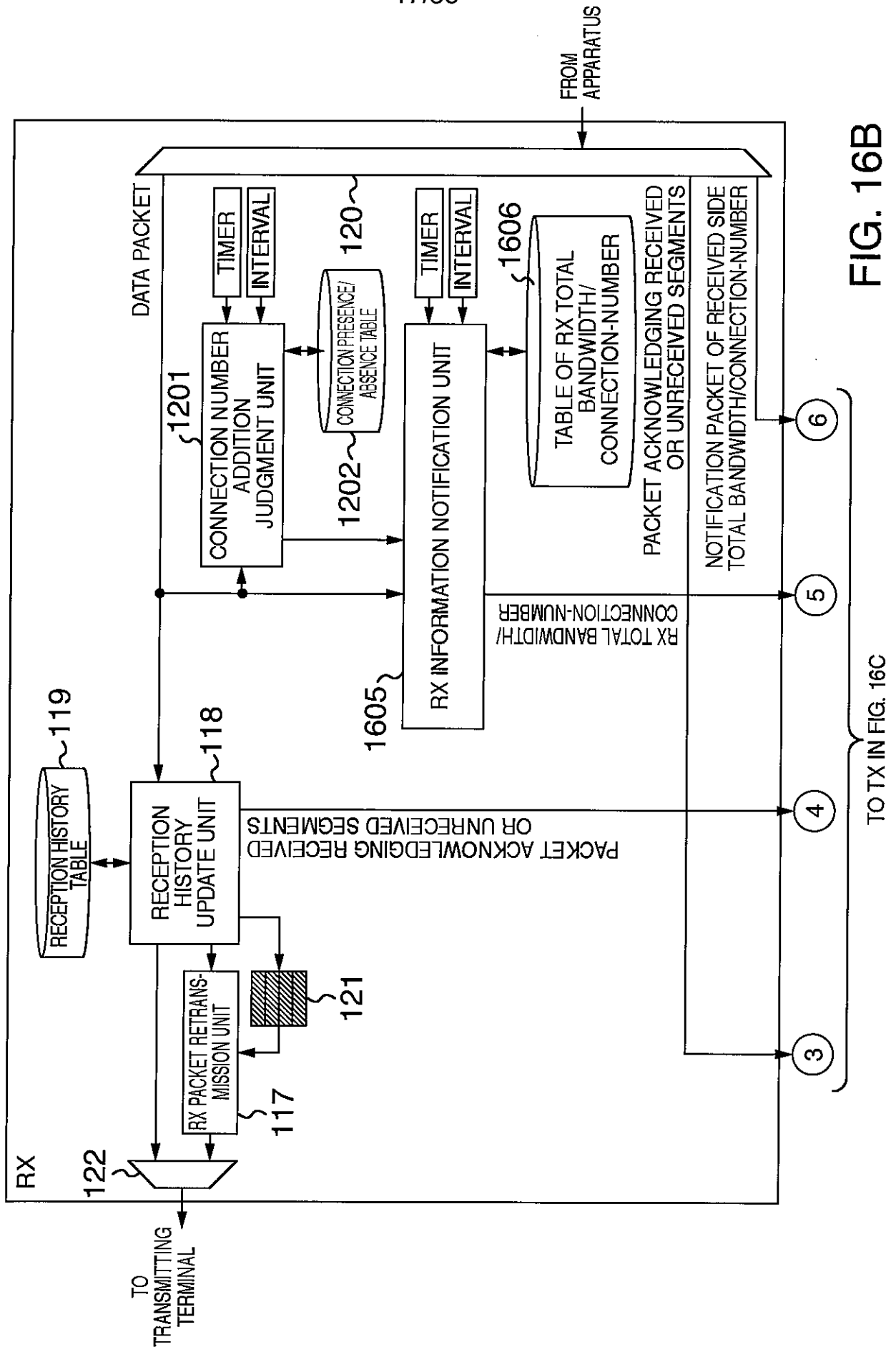


FIG. 16B

FIG. 16C

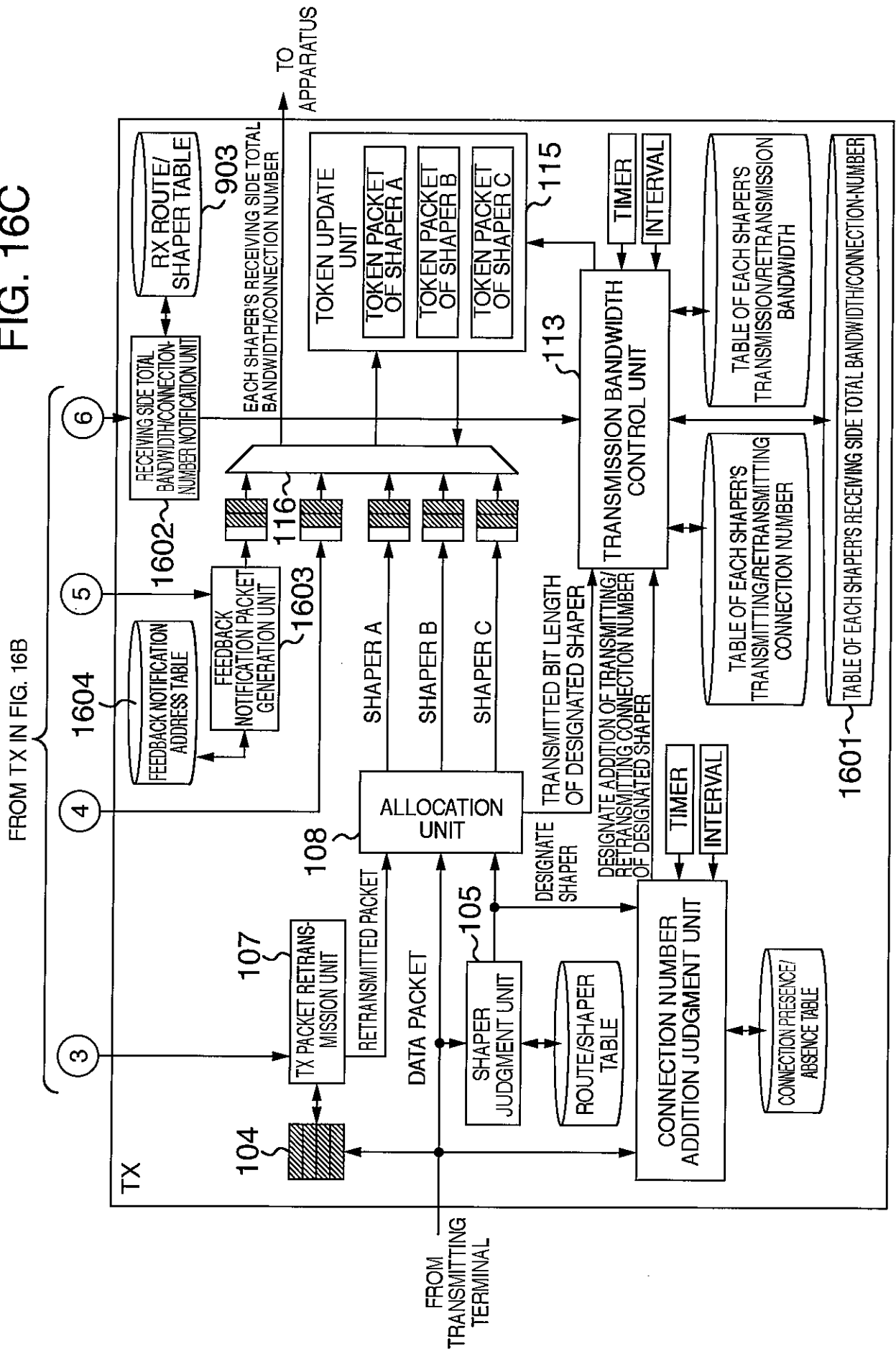


FIG. 17

1601

TABLE OF EACH SHAPER'S RECEIVING SIDE
TOTAL BANDWIDTH/CONNECTION-NUMBER

SHAPER	RECEIVING SIDE TOTAL BANDWIDTH	RECEIVING SIDE TOTAL CONNECTION NUMBER
A	100	10
B	120	20
C	140	30

FIG. 18

1604

FEEDBACK NOTIFICATION
ADDRESS TABLE

(DESTINATION IP)/ SUBNET
5.6.7.8
5.6.7.0/24

FIG. 19

1606

TABLE OF RX TOTAL BANDWIDTH/CONNECTION-NUMBER

STATISTICAL DATA BEFORE BASE TIME		BASE TIME	STATISTICAL DATA AFTER BASE TIME	
RX TOTAL BANDWIDTH	RX TOTAL CONNECTION NUMBER		RX TOTAL BIT INTEGRATION VALUE	RX TOTAL CONNECTION NUMBER INTEGRATION VALUE
100	20	15463	120	10

FIG. 20

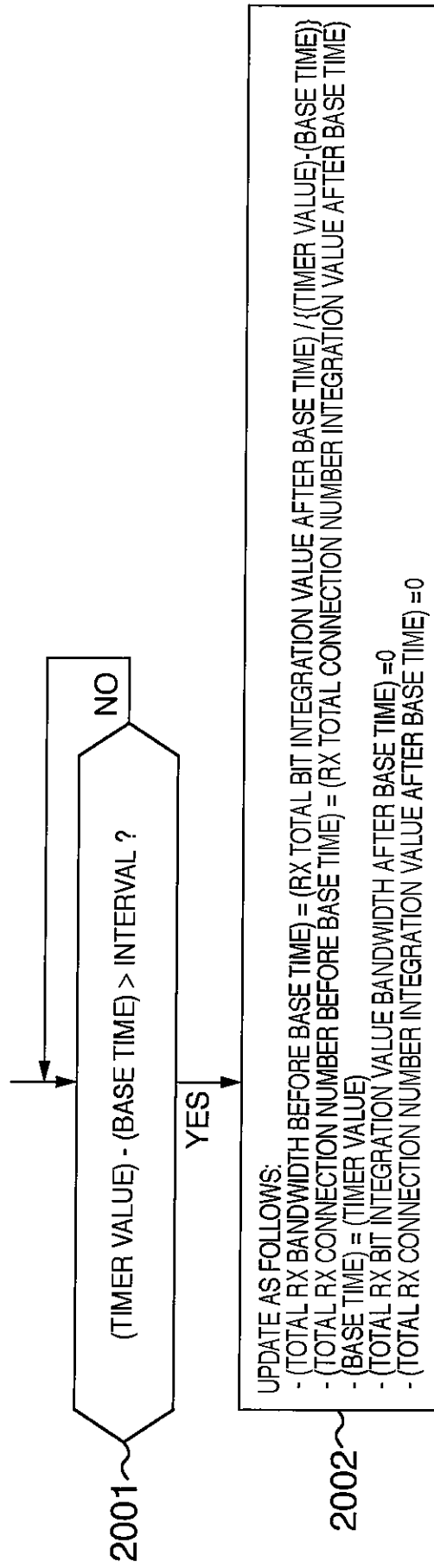


FIG. 21

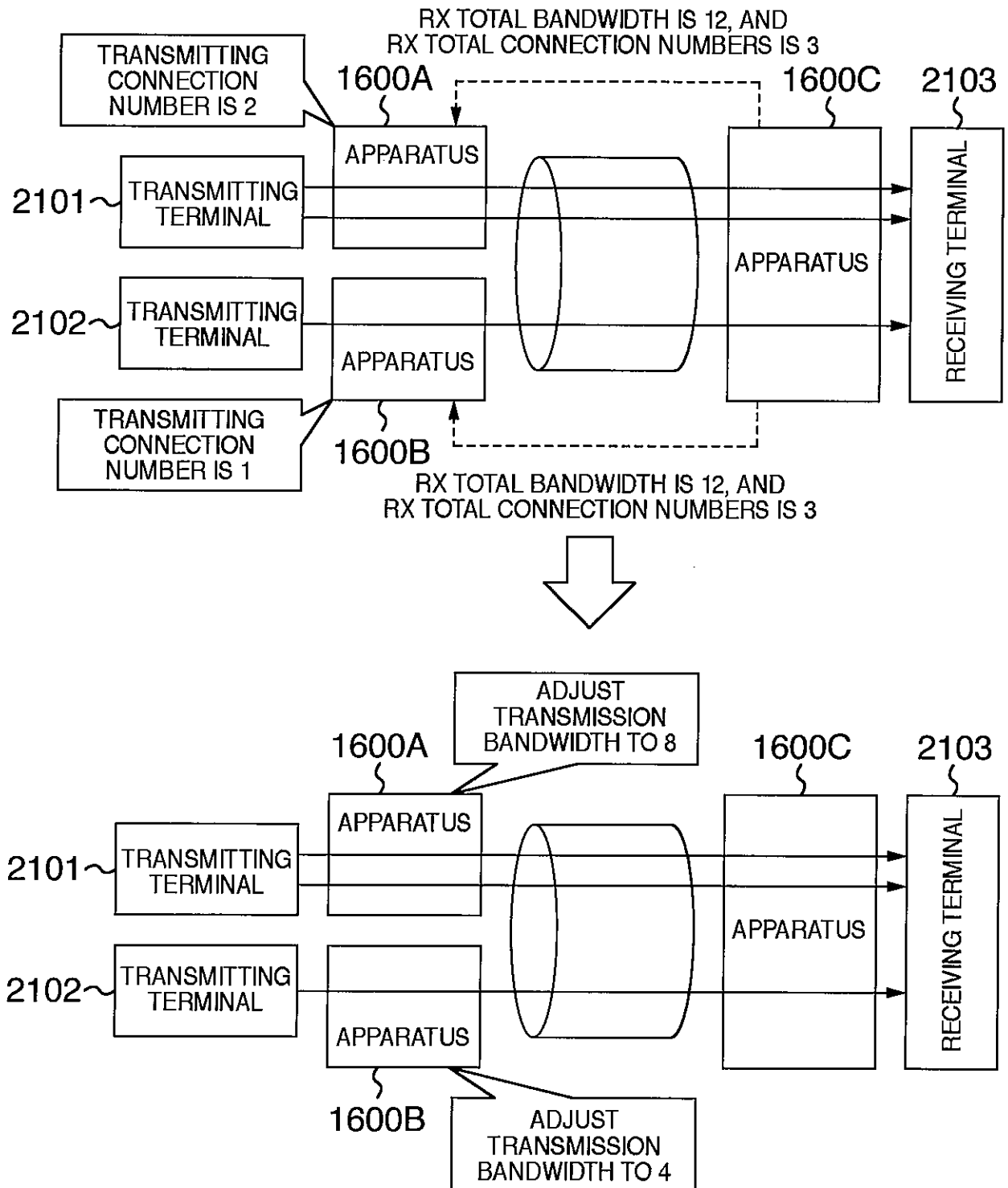


FIG. 22

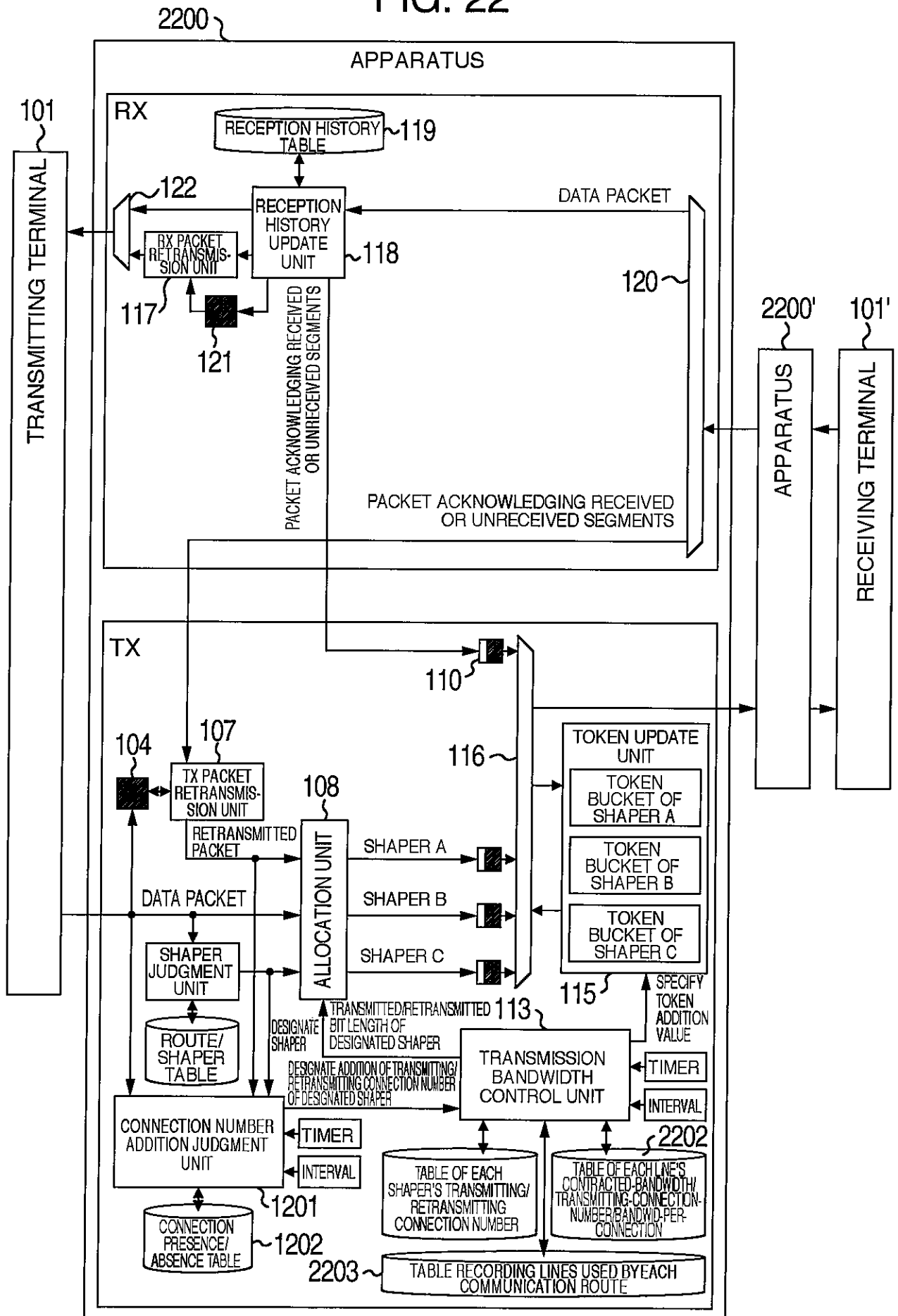
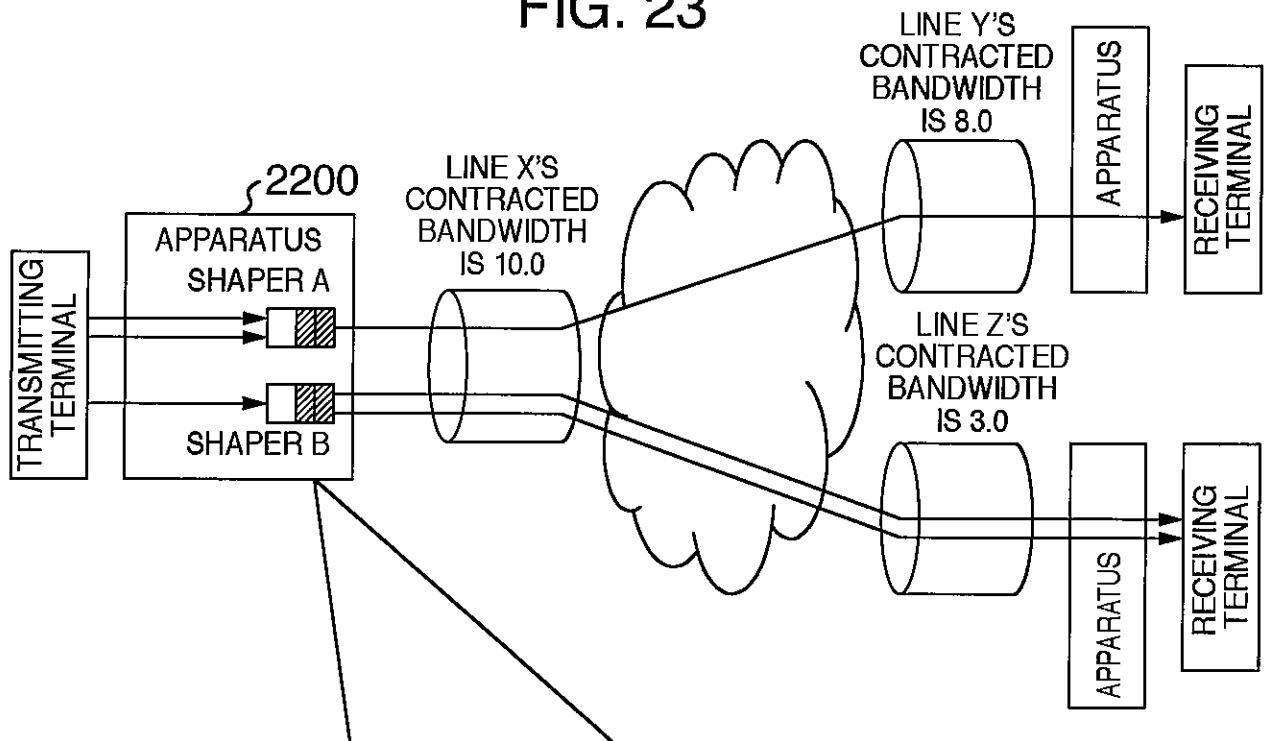


FIG. 23



2203

COMMUNICATION ROUTE	USED LINE	CONTROL BANDWIDTH
A	X,Y	
B	X,Z	

1203

SHAPER	TRANSMITTING CONNECTION NUMBER
A	1
B	2

2202

LINE	CONTRACTED BANDWIDTH			TRANSMITTING CONNECTION NUMBER			UNASSIGNED BANDWIDTH PER CONNECTION
	TOTAL	ALREADY ASSIGNED	UNASSIGNED	TOTAL	ALREADY ASSIGNED	UNASSIGNED	
X	10.0	0.0	10.0	3	0	3	3.3
Y	8.0	0.0	8.0	1	0	1	8.0
Z	3.0	0.0	3.0	2	0	2	1.5

2203

COMMUNICATION ROUTE	USED LINE	CONTROL BANDWIDTH
A	X,Y	
B	X,Z	3.0

2202

LINE	CONTRACTED BANDWIDTH			TRANSMITTING CONNECTION NUMBER			UNASSIGNED BANDWIDTH PER CONNECTION
	TOTAL	ALREADY ASSIGNED	UNASSIGNED	TOTAL	ALREADY ASSIGNED	UNASSIGNED	
X	10.0	3.0	7.0	3	2	1	7.0
Y	8.0	0.0	8.0	1	0	1	8.0
Z	3.0	3.0	0.0	2	2	0	-

2203

COMMUNICATION ROUTE	USED LINE	CONTROL BANDWIDTH
A	X,Y	7.0
B	X,Z	3.0

FIG. 24

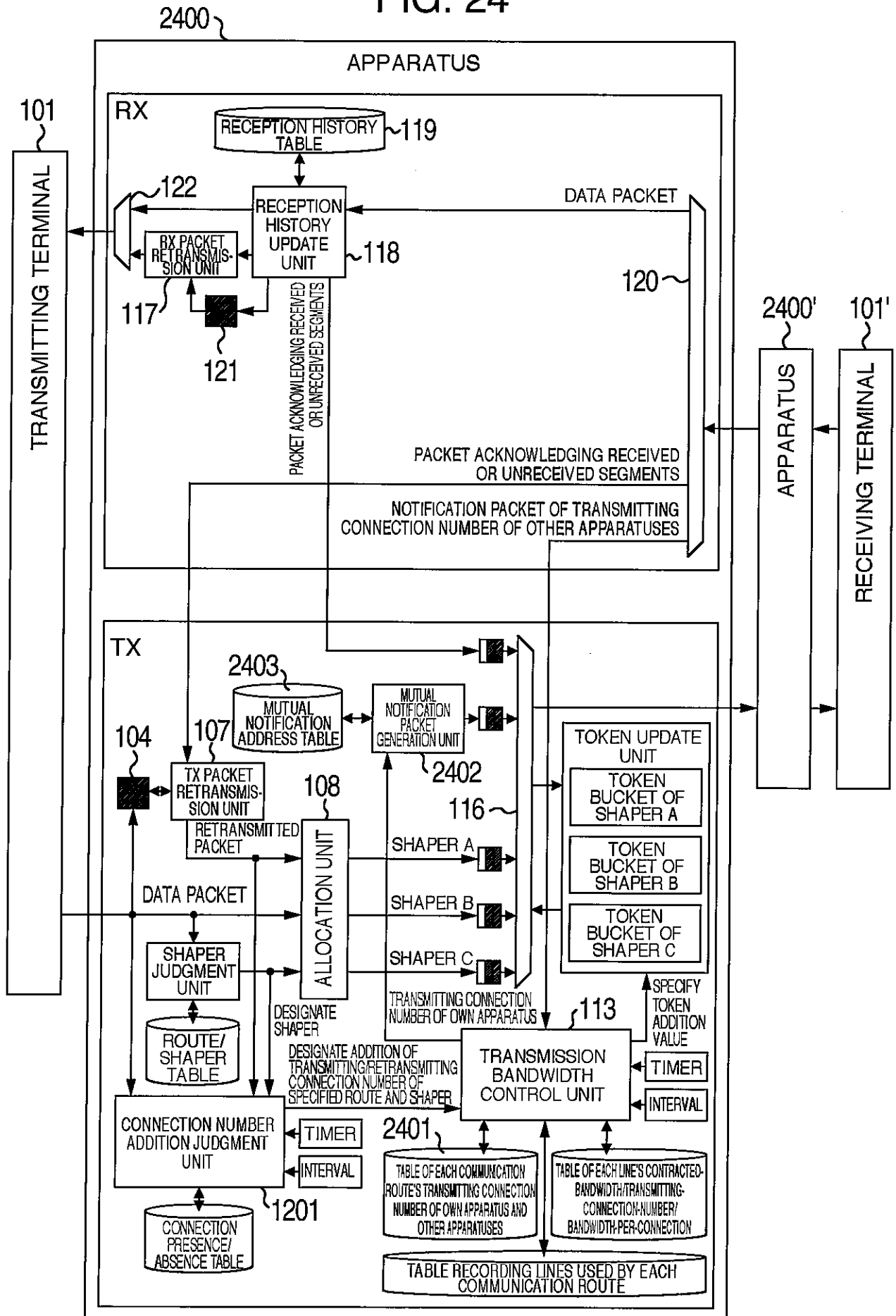


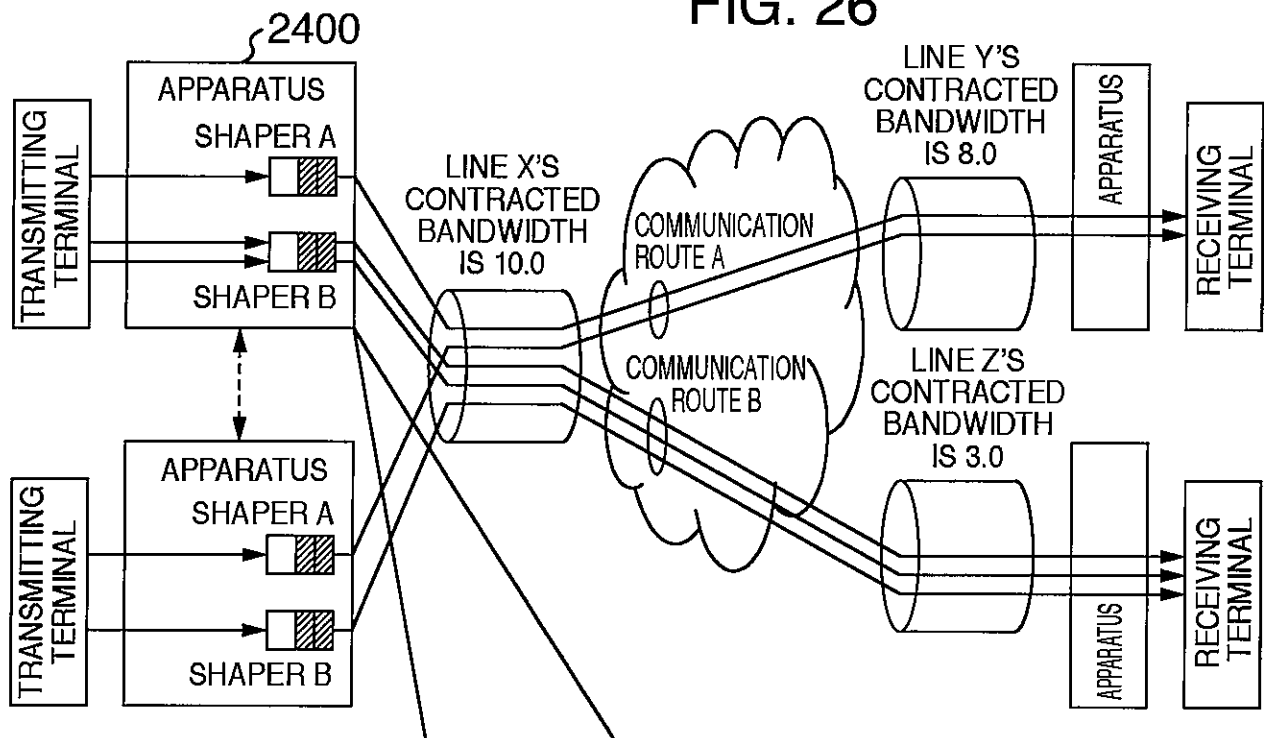
FIG. 25

2401

TABLE OF EACH COMMUNICATION ROUTE'S TRANSMITTING CONNECTION NUMBER OF OWN APPARATUS AND OTHER APPARATUSES

COMMUNICATION ROUTE	STATISTICAL DATA BEFORE BASE TIME		BASE TIME	STATISTICAL DATA AFTER BASE TIME	
	TRANSMITTING CONNECTION NUMBER			TRANSMITTING CONNECTION NUMBER INTEGRATION VALUE	
	OWN APPARATUS	OTHER APPARATUSES		OWN APPARATUS	OTHER APPARATUSES
A	10	20	15463	5	10
B	20	40	15463	7	20
C	30	50	15480	15	12

FIG. 26



2203			2401		
COMMUNICATION ROUTE	USED LINE	CONTROL BANDWIDTH	COMMUNICATION ROUTE	DOWNWARD CONNECTION NUMBER FROM OWN APPARATUS	DOWNWARD CONNECTION NUMBER FROM OTHER APPARATUSES
A	X,Y		A	1	1
B	X,Z		B	2	1

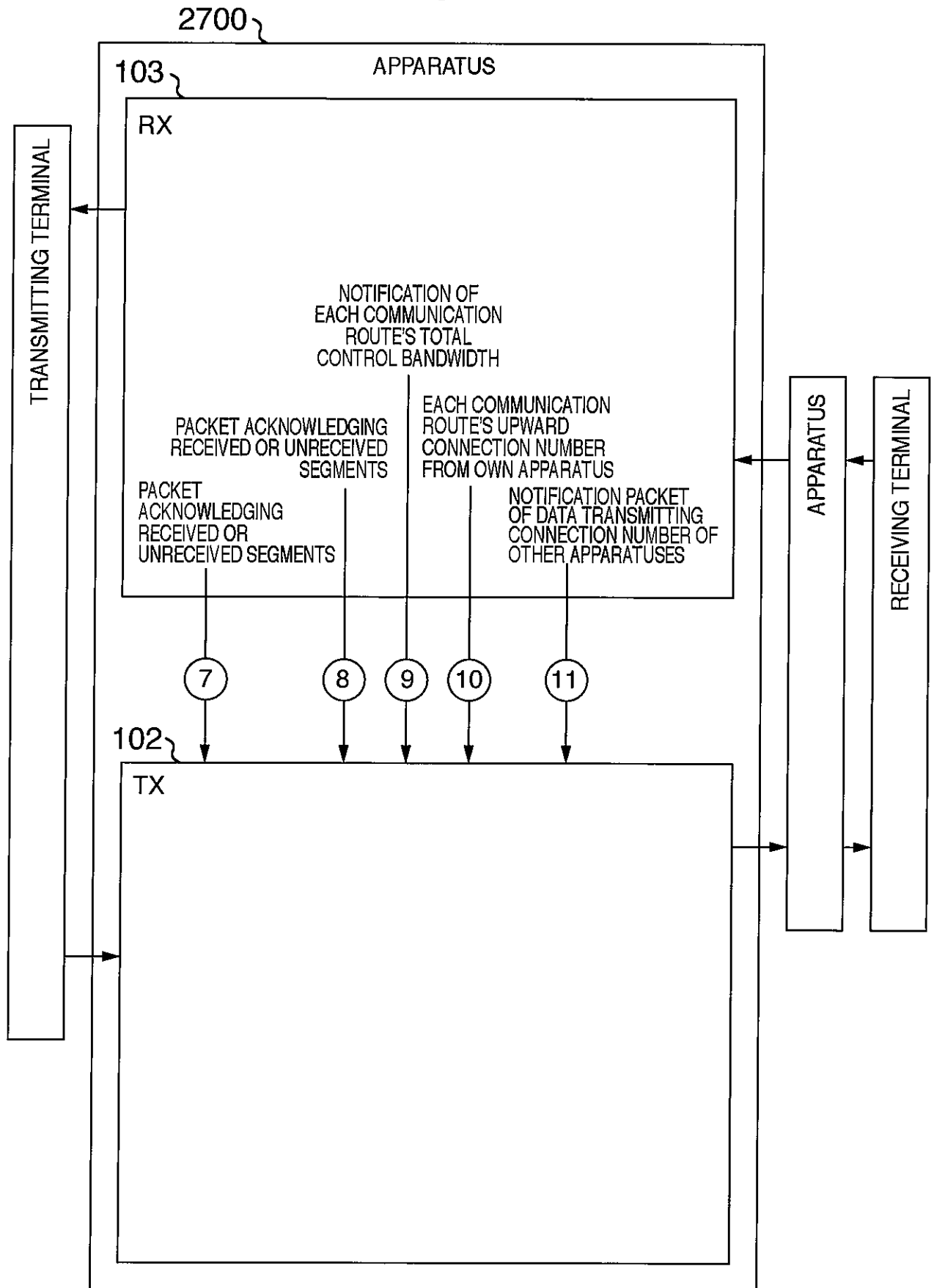
LINE	CONTRACTED BANDWIDTH			CONNECTION NUMBER			UNASSIGNED BANDWIDTH PER CONNECTION
	TOTAL	ALREADY ASSIGNED	UNASSIGNED	TOTAL	ALREADY ASSIGNED	UNASSIGNED	
X	10.0	0.0	10.0	5	0	5	2.0
Y	8.0	0.0	8.0	2	0	2	4.0
Z	3.0	0.0	3.0	3	0	3	1.0

COMMUNICATION ROUTE	USED LINE	CONTROL BANDWIDTH
A	X,Y	
B	X,Z	2.0

LINE	CONTRACTED BANDWIDTH			CONNECTION NUMBER			UNASSIGNED BANDWIDTH PER CONNECTION
	TOTAL	ALREADY ASSIGNED	UNASSIGNED	TOTAL	ALREADY ASSIGNED	UNASSIGNED	
X	10.0	3.0	7.0	5	3	2	3.5
Y	8.0	0.0	8.0	2	0	2	4.0
Z	3.0	3.0	0.0	3	3	0	0.0

COMMUNICATION ROUTE	USED LINE	CONTROL BANDWIDTH
A	X,Y	3.5
B	X,Z	2.0

FIG. 27A



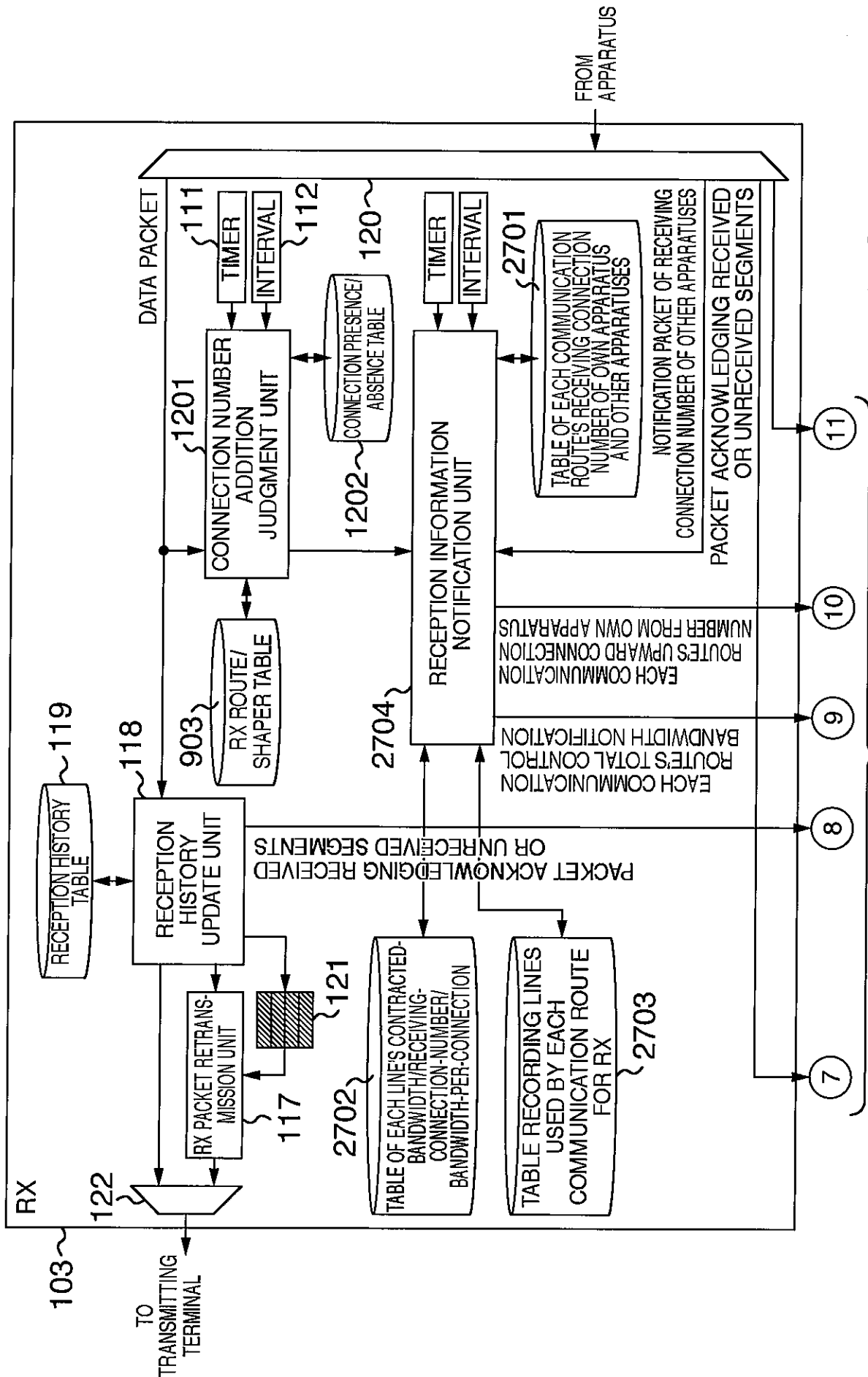


FIG. 27B

FIG. 27C

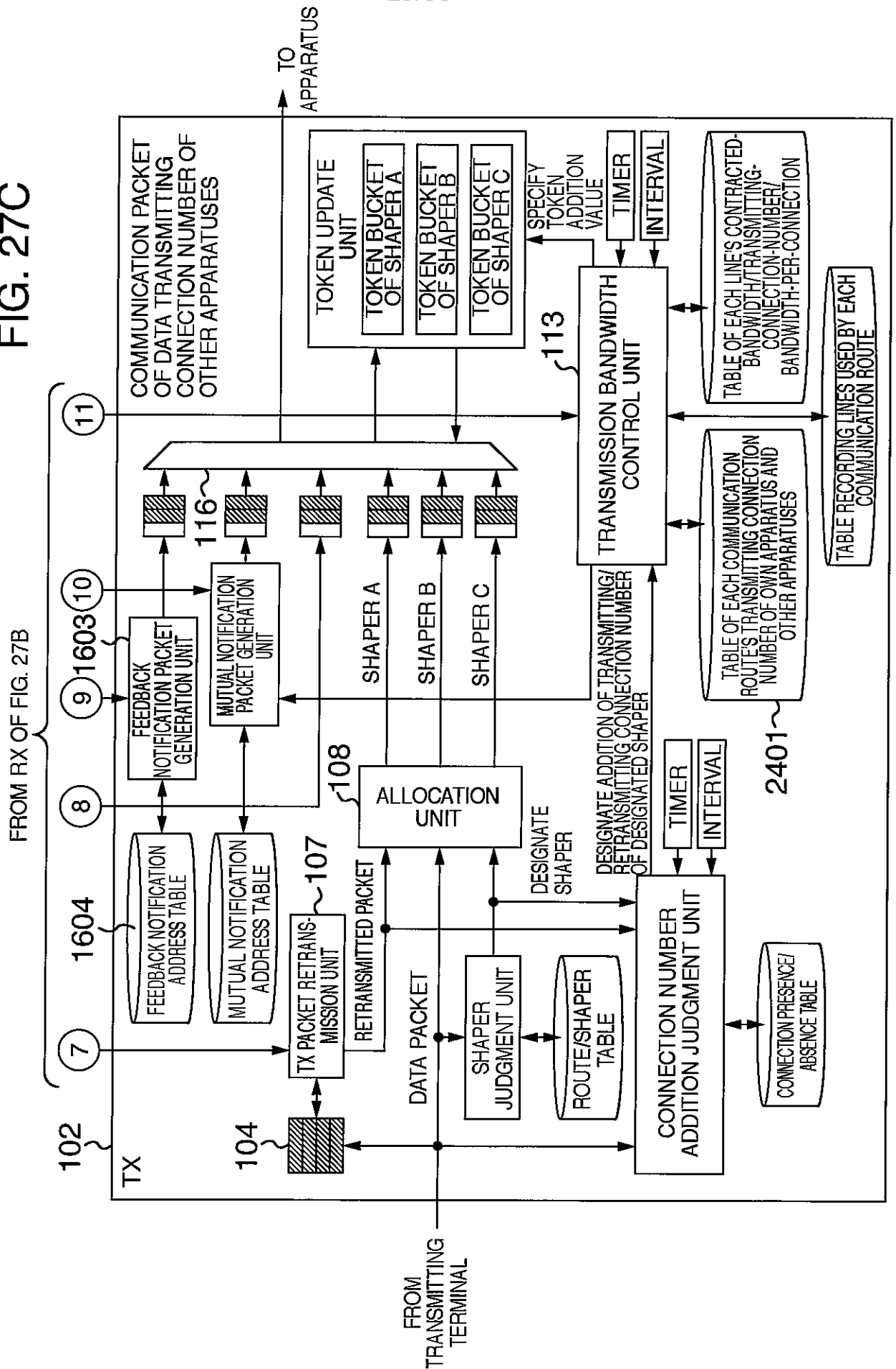


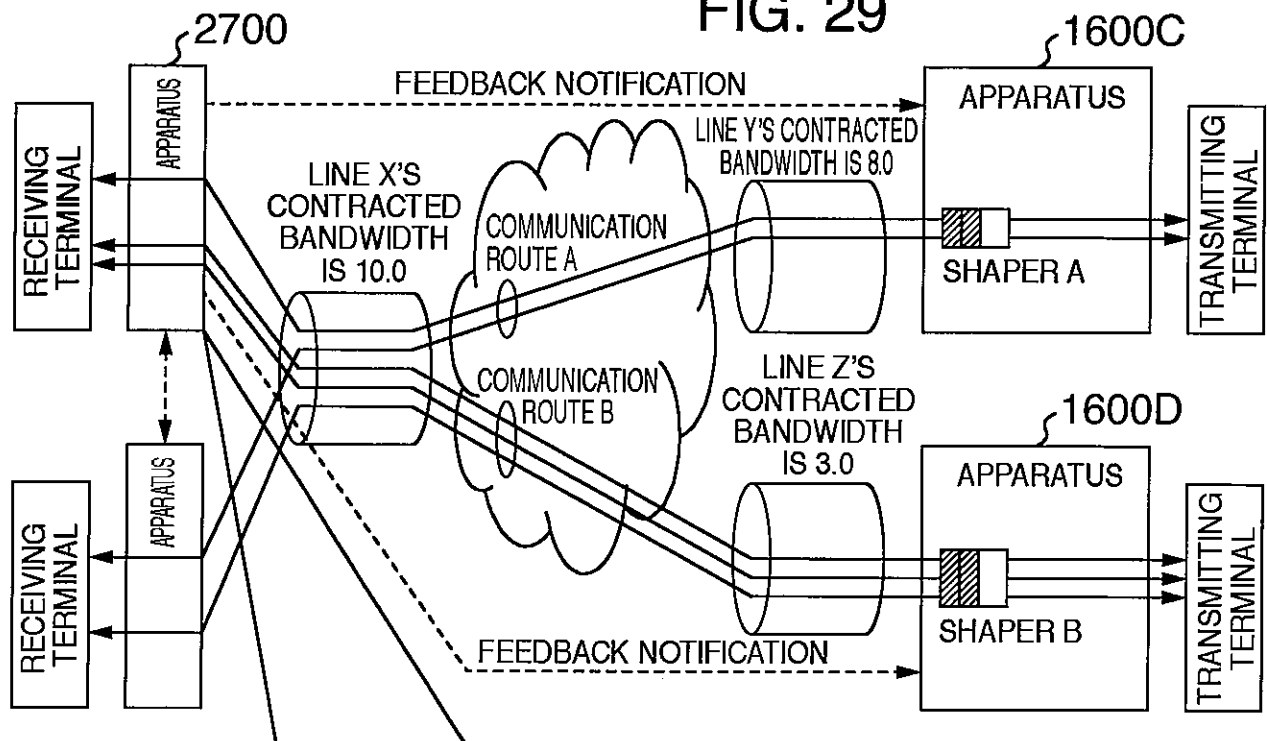
FIG. 28

2701

TABLE OF EACH COMMUNICATION ROUTE'S RECEIVING CONNECTION NUMBER OF OWN APPARATUS AND OTHER APPARATUSES

COMMUNICATION ROUTE	STATISTICAL DATA BEFORE BASE TIME		BASE TIME	STATISTICAL DATA AFTER BASE TIME	
	RECEIVING CONNECTION NUMBER			RECEIVING CONNECTION NUMBER INTEGRATION VALUE	
	OWN APPARATUS	OTHER APPARATUSES		OWN APPARATUS	OTHER APPARATUSES
A	10	20	15463	5	10
B					
C					

FIG. 29



2703			2701		
COMMUNICATION ROUTE	USED LINE	TOTAL CONTROL BANDWIDTH	COMMUNICATION ROUTE	RECEIVING CONNECTION NUMBER (OWN APPARATUS)	RECEIVING CONNECTION NUMBER (OTHER APPARATUSES)
A	X,Y		A	1	1
B	X,Z		B	2	1

LINE	CONTRACTED BANDWIDTH			RECEIVING CONNECTION NUMBER			UNASSIGNED BANDWIDTH PER CONNECTION
	TOTAL	ALREADY ASSIGNED	UNASSIGNED	TOTAL	ALREADY ASSIGNED	UNASSIGNED	
X	10.0	0.0	10.0	5	0	5	2.0
Y	8.0	0.0	8.0	2	0	2	4.0
Z	3.0	0.0	3.0	3	0	3	1.0

2703			2902		
COMMUNICATION ROUTE	USED LINE	TOTAL CONTROL BANDWIDTH	COMMUNICATION ROUTE	USED LINE	TOTAL CONTROL BANDWIDTH
A	X,Y		A	X,Y	
B	X,Z	3.0	B	X,Z	3.0

LINE	CONTRACTED BANDWIDTH			RECEIVING CONNECTION NUMBER			UNASSIGNED BANDWIDTH PER CONNECTION
	TOTAL	ALREADY ASSIGNED	UNASSIGNED	TOTAL	ALREADY ASSIGNED	UNASSIGNED	
X	10.0	3.0	7.0	5	3	2	3.5
Y	8.0	0.0	8.0	2	0	2	4.0
Z	3.0	3.0	0.0	3	3	0	0.0

2703			2904		
COMMUNICATION ROUTE	USED LINE	TOTAL CONTROL BANDWIDTH	COMMUNICATION ROUTE	USED LINE	TOTAL CONTROL BANDWIDTH
A	X,Y	7.0	A	X,Y	7.0
B	X,Z	3.0	B	X,Z	3.0

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FIG. 30

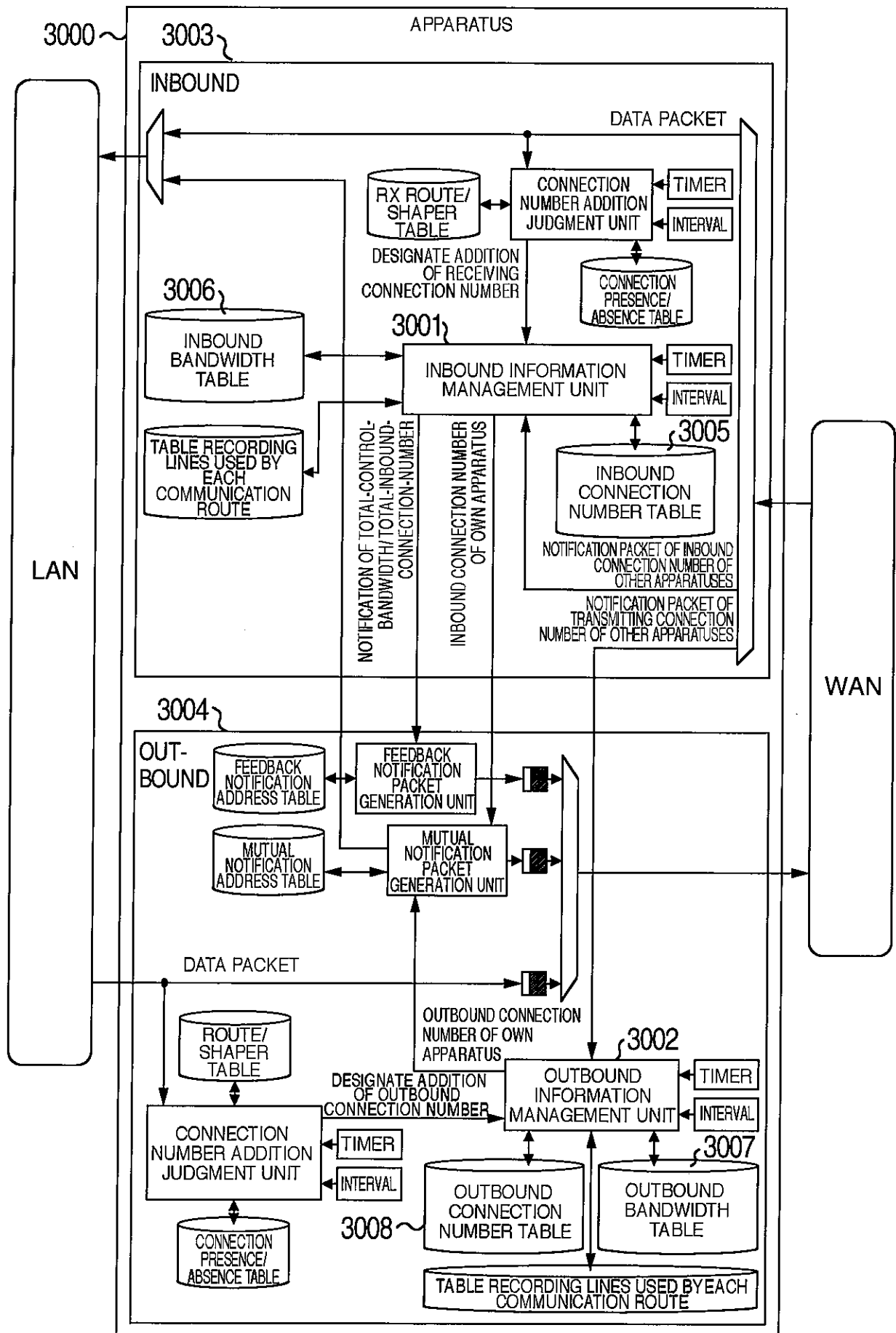


FIG. 31

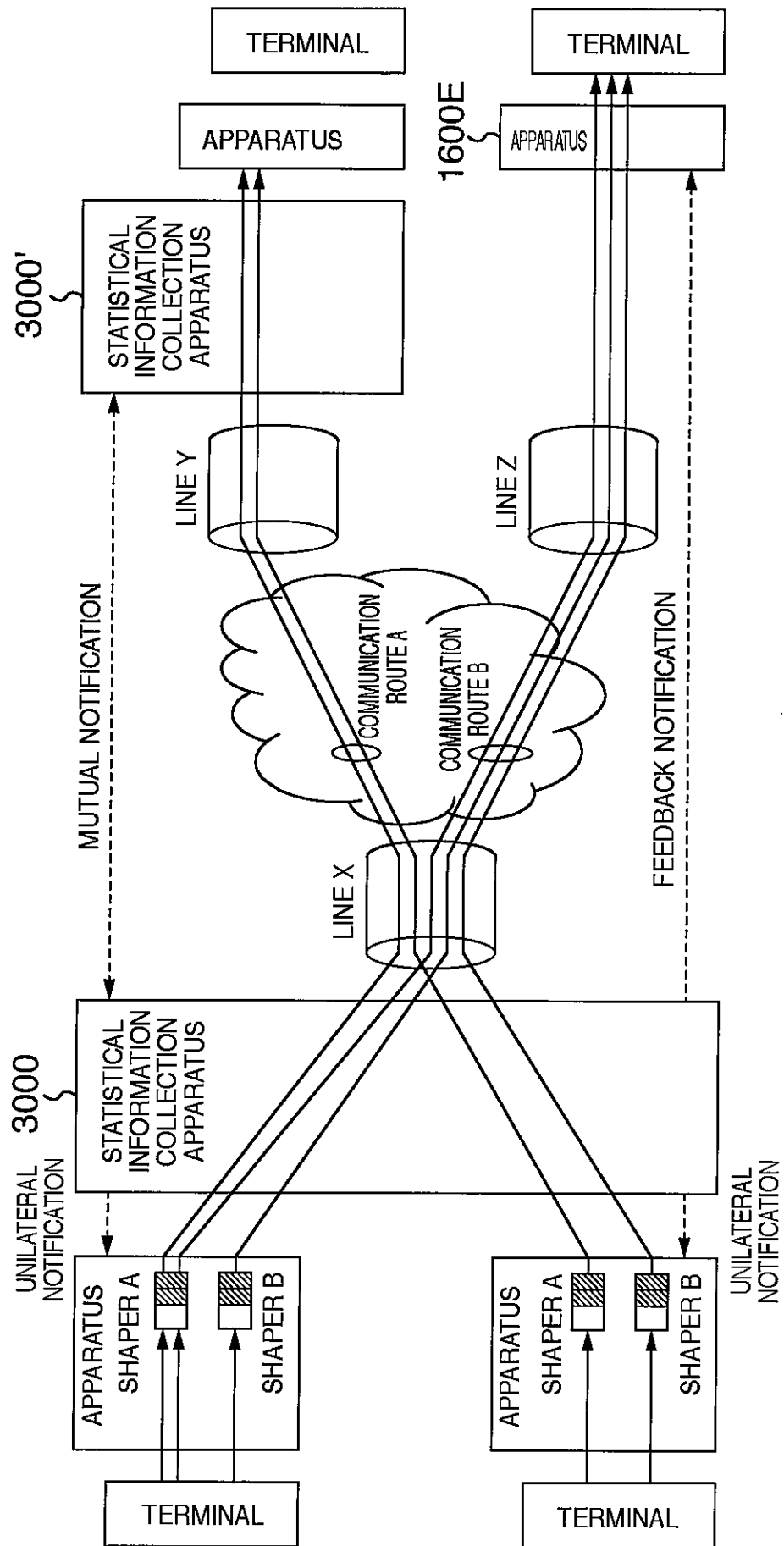


FIG. 32

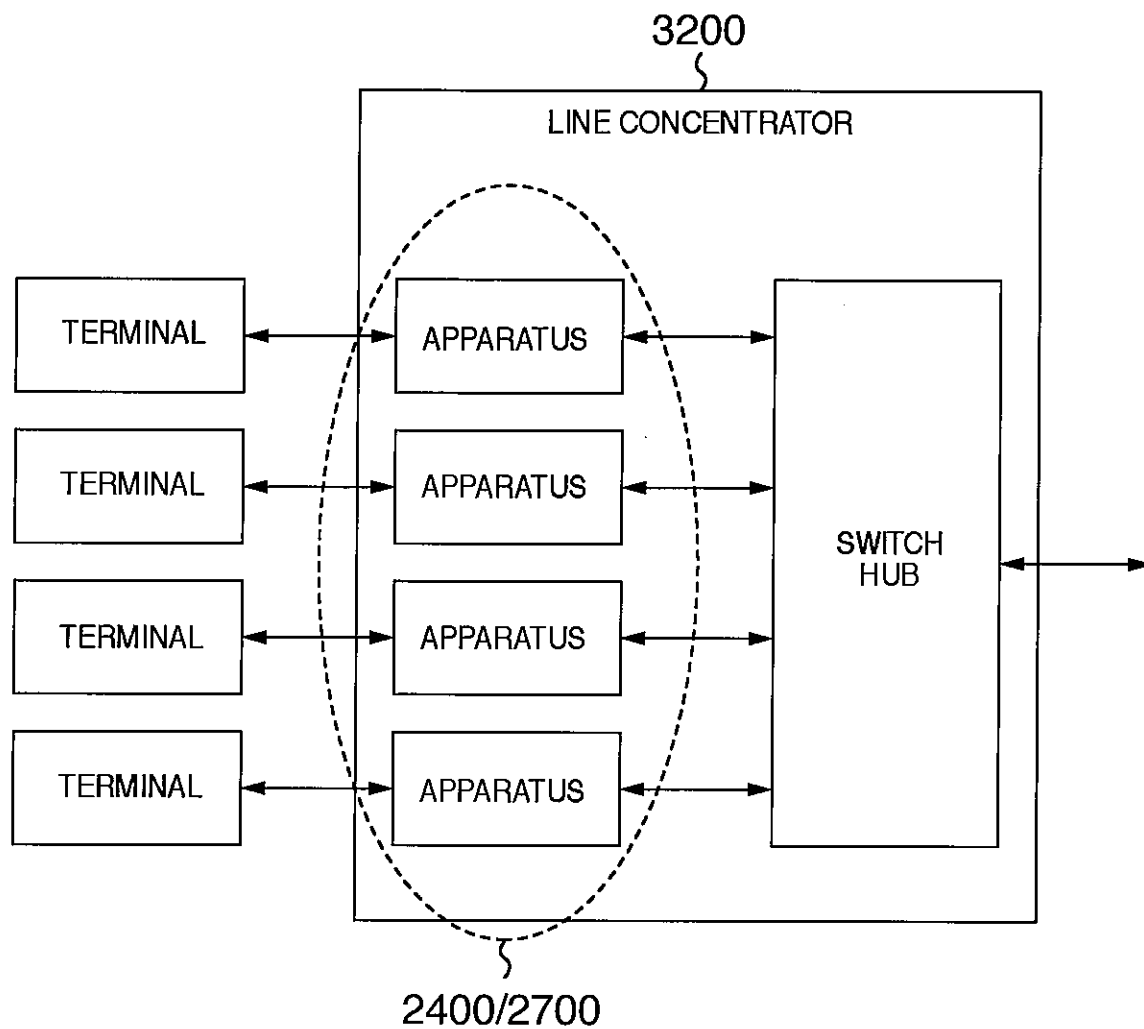


FIG. 33

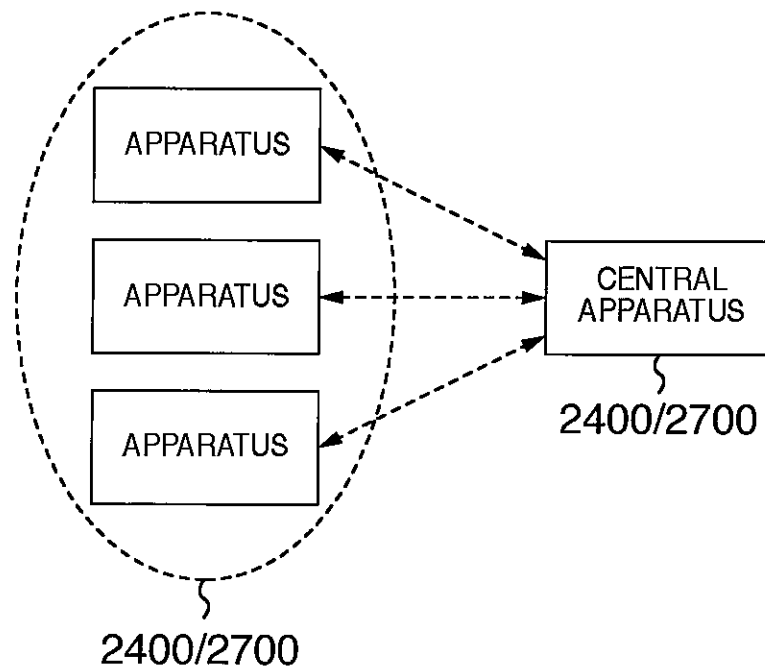


FIG. 34

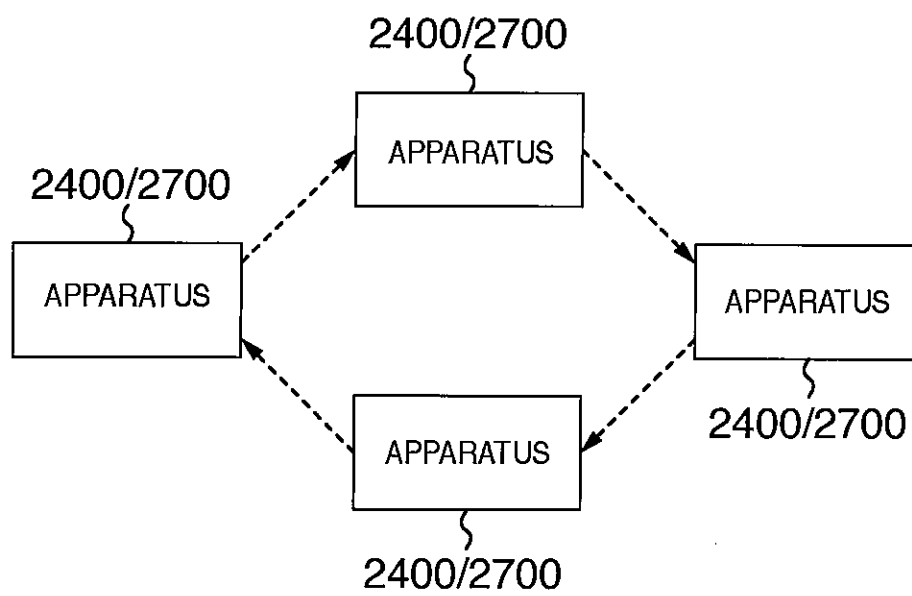


FIG. 35

