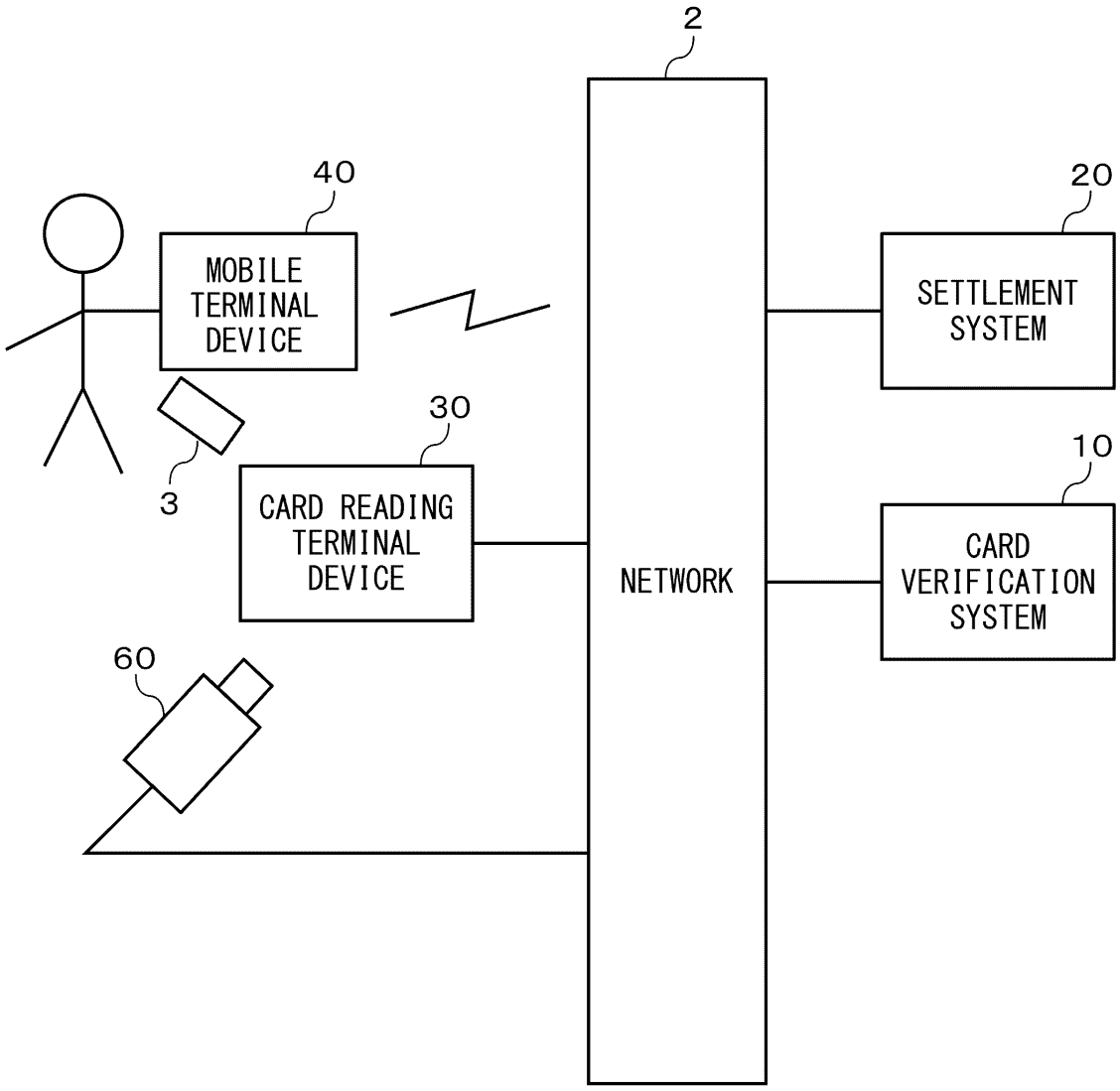
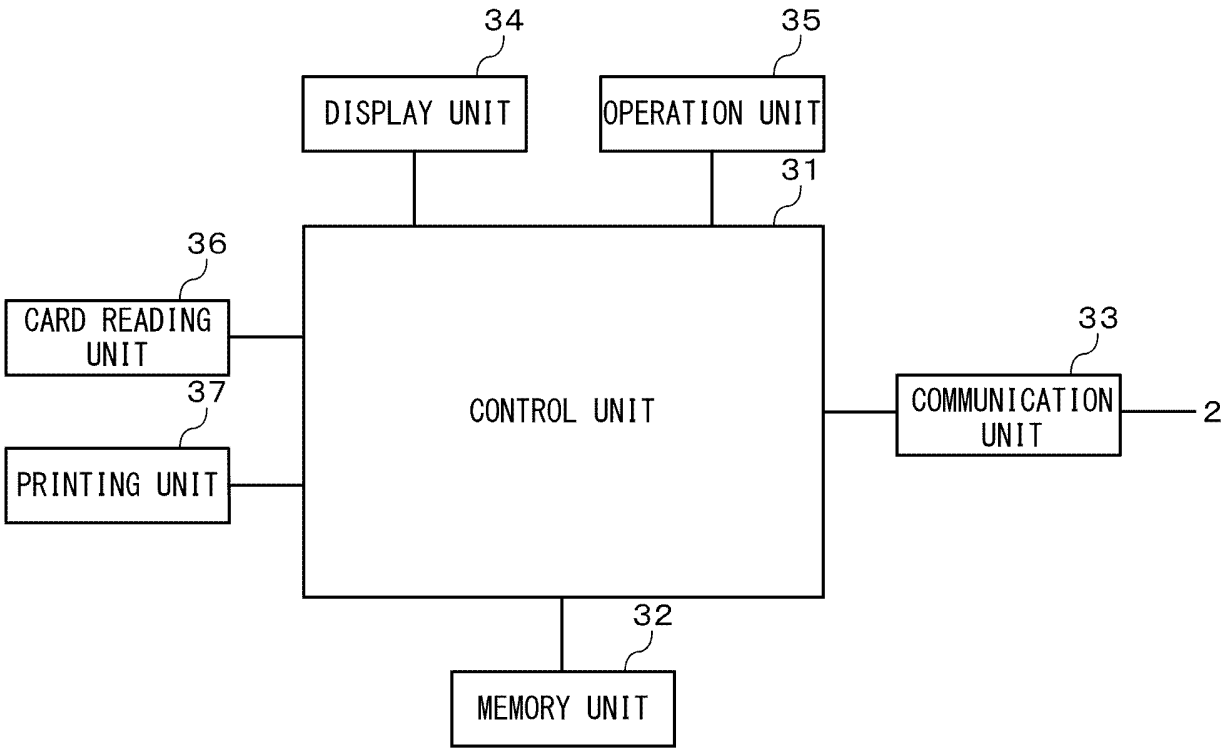
FIG. 1


2
40
MOBILE TERMINAL DEVICE
20
SETTLEMENT SYSTEM
3
30
CARD READING TERMINAL DEVICE
10
NETWORK
CARD VERIFICATION SYSTEM
60

1

FIG. 2



CARD READING TERMINAL DEVICE 30

FIG. 3

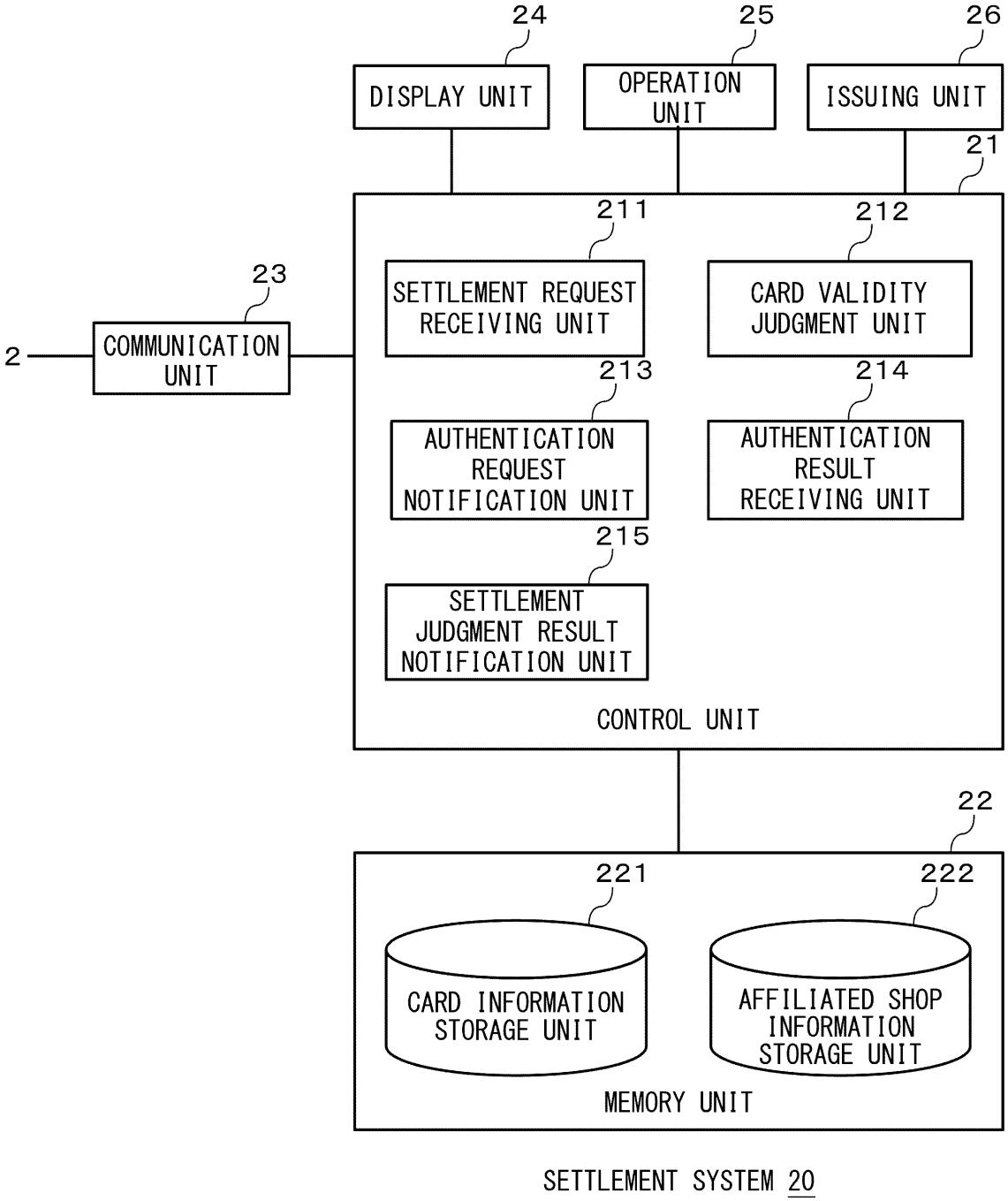
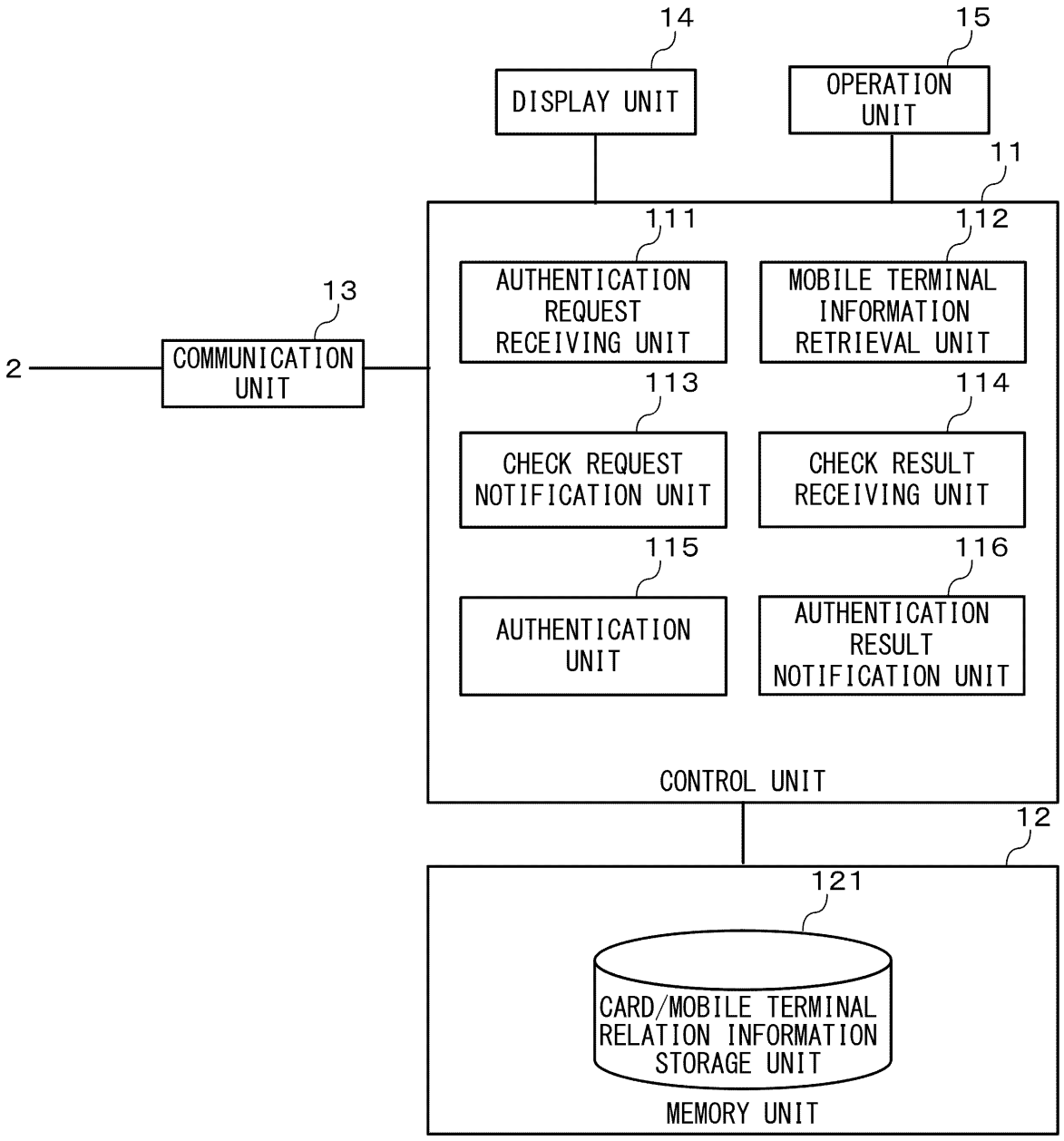

24
25
26
DISPLAY UNIT
OPERATION UNIT
ISSUING UNIT
21
211
212
23
SETTLEMENT REQUEST RECEIVING UNIT
CARD VALIDITY JUDGMENT UNIT
2
COMMUNICATION UNIT
213
214
AUTHENTICATION REQUEST NOTIFICATION UNIT
AUTHENTICATION RESULT RECEIVING UNIT
215
SETTLEMENT JUDGMENT RESULT NOTIFICATION UNIT
CONTROL UNIT
22
221
222
CARD INFORMATION STORAGE UNIT
AFFILIATED SHOP INFORMATION STORAGE UNIT
MEMORY UNIT
SETTLEMENT SYSTEM 20

FIG. 4



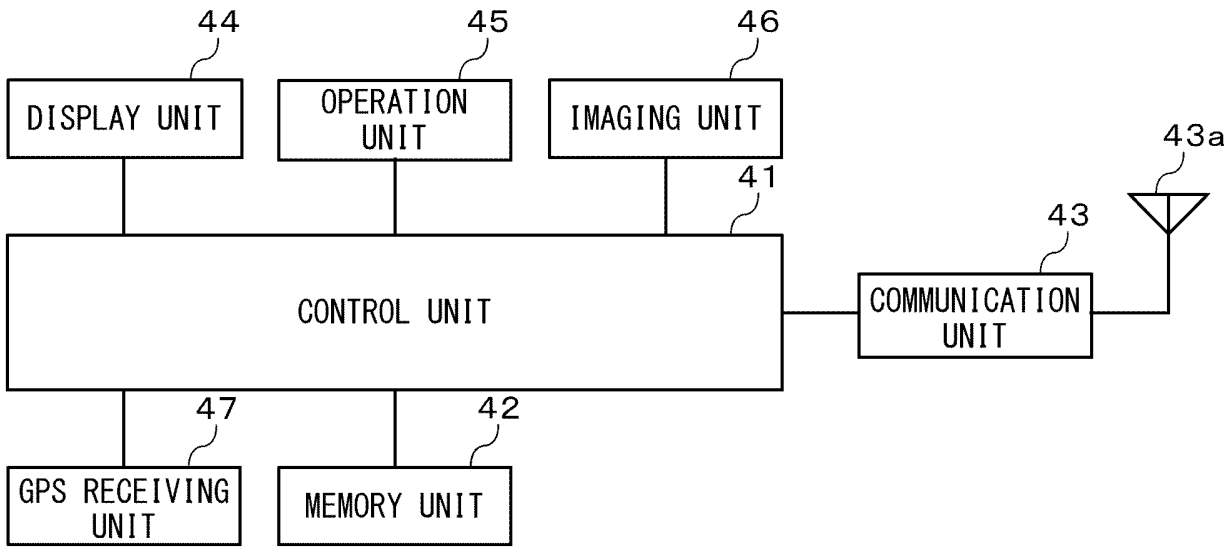
CARD VERIFICATION SYSTEM 10

FIG. 5

MANAGEMENT NUMBER	CARD INFORMATION				MOBILE TERMINAL DEVICE INFORMATION			
	CARD NUMBER	EXPIRATION DATE	CARDHOLDER'S NAME	SECURITY CODE	MOBILE TERMINAL TYPE	NOTIFICATION METHOD	TELEPHONE NUMBER	EMAIL ADDRESS
00000001	XXXX XXXX XXXX XXXX	XX/XX	○○ ○○	XXX	SMARTPHONE (MODEL NUMBER)	PUSH NOTIFICATION	090 XXXXXXXX	xxxxx@ xxxxx.ne.jp
00000002	XXXX XXXX XXXX XXXX	XX/XX	○○ ○○	XXX	FEATURE PHONE (MODEL NUMBER)	AUTOMATED VOICE GUIDANCE	090 XXXXXXXX	xxxxx@ xxxxx.ne.jp
00000003	XXXX XXXX XXXX XXXX	XX/XX	○○ ○○	XXX	SMARTPHONE (MODEL NUMBER)	PUSH NOTIFICATION	090 XXXXXXXX	xxxxx@ xxxxx.ne.jp
•	•	•	•	•	•	•	•	•
•	•	•	•	•	•	•	•	•
•	•	•	•	•	•	•	•	•
•	•	•	•	•	•	•	•	•

121a

FIG. 6



MOBILE TERMINAL DEVICE 40

FIG. 7

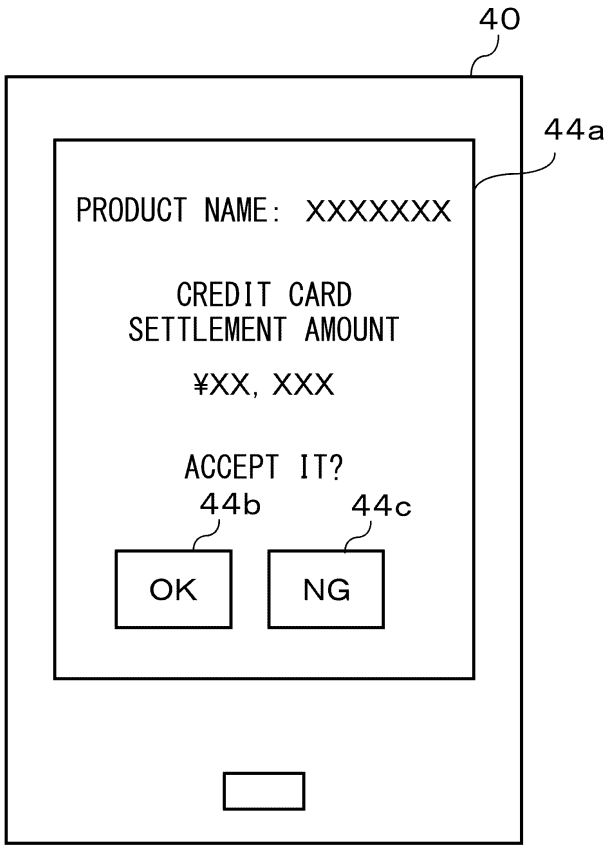


FIG. 8

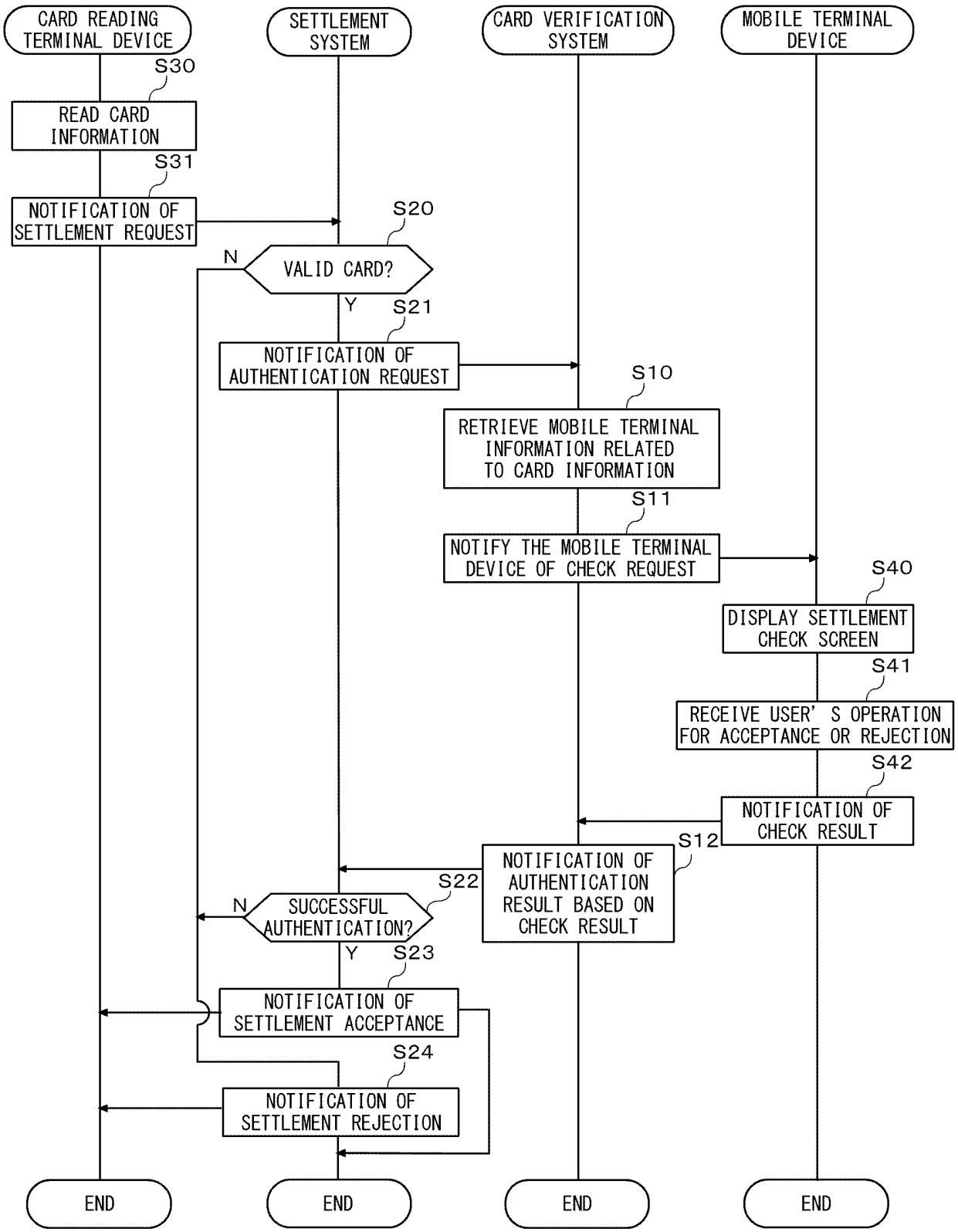

CARD READING TERMINAL DEVICE
SETTLEMENT SYSTEM
CARD VERIFICATION SYSTEM
MOBILE TERMINAL DEVICE
S30
READ CARD INFORMATION
S31
NOTIFICATION OF SETTLEMENT REQUEST
S20
VALID CARD?
N
Y
S21
NOTIFICATION OF AUTHENTICATION REQUEST
S10
RETRIEVE MOBILE TERMINAL INFORMATION RELATED TO CARD INFORMATION
S11
NOTIFY THE MOBILE TERMINAL DEVICE OF CHECK REQUEST
S40
DISPLAY SETTLEMENT CHECK SCREEN
S41
RECEIVE USER' S OPERATION FOR ACCEPTANCE OR REJECTION
S42
NOTIFICATION OF CHECK RESULT
S12
NOTIFICATION OF AUTHENTICATION RESULT BASED ON CHECK RESULT
S22
SUCCESSFUL AUTHENTICATION?
N
Y
S23
NOTIFICATION OF SETTLEMENT ACCEPTANCE
S24
NOTIFICATION OF SETTLEMENT REJECTION
END
END
END
END

FIG. 9

MANAGEMENT NUMBER	CARD INFORMATION				MOBILE TERMINAL DEVICE INFORMATION			
	CARD NUMBER	EXPIRATION DATE	CARDHOLDER'S NAME	SECURITY CODE	MOBILE TERMINAL TYPE	NOTIFICATION METHOD	TELEPHONE NUMBER	EMAIL ADDRESS
00000001	XXXX XXXX XXXX XXXX	XX/XX	○○ ○○	XXX	SMARTPHONE (MODEL NUMBER)	PUSH NOTIFICATION	090 XXXXXXXX	xxxxx@ xxxxx.ne.jp
					SMARTPHONE (MODEL NUMBER)	AUTOMATED VOICE GUIDANCE	090 XXXXXXXX	xxxxx@ xxxxx.ne.jp
00000002	XXXX XXXX XXXX XXXX	XX/XX	○○ ○○	XXX	FEATURE PHONE (MODEL NUMBER)	AUTOMATED VOICE GUIDANCE	090 XXXXXXXX	xxxxx@ xxxxx.ne.jp
00000003	XXXX XXXX XXXX XXXX	XX/XX	○○ ○○	XXX	SMARTPHONE (MODEL NUMBER)	PUSH NOTIFICATION	090 XXXXXXXX	xxxxx@ xxxxx.ne.jp
•	•	•	•	•	•	•	•	•
•	•	•	•	•	•	•	•	•
•	•	•	•	•	•	•	•	•
•	•	•	•	•	•	•	•	•

121b

FIG. 10

MANAGEMENT NUMBER	CARD INFORMATION					MOBILE TERMINAL DEVICE INFORMATION			
	CARD NUMBER	EXPIRATION DATE	CARDHOLDER' S NAME	SECURITY CODE	USABLE REGION	MOBILE TERMINAL TYPE	NOTIFICATION METHOD	PHONE NUMBER	EMAIL ADDRESS
00000001	XXXX XXXX XXXX XXXX	XX/XX	○○ ○○	XXX	JAPAN	SMARTPHONE (MODEL NUMBER)	PUSH NOTIFICATION	090 XXXXXXXX	xxxxx@ xxxxx.ne.jp
00000002	XXXX XXXX XXXX XXXX	XX/XX	○○ ○○	XXX	JAPAN, USA	FEATURE PHONE (MODEL NUMBER)	AUTOMATED VOICE GUIDANCE	090 XXXXXXXX	xxxxx@ xxxxx.ne.jp
00000003	XXXX XXXX XXXX XXXX	XX/XX	○○ ○○	XXX	UNRESTRICTED	SMARTPHONE (MODEL NUMBER)	PUSH NOTIFICATION	090 XXXXXXXX	xxxxx@ xxxxx.ne.jp
•	•	•	•	•	•	•	•	•	•
•	•	•	•	•	•	•	•	•	•
•	•	•	•	•	•	•	•	•	•
•	•	•	•	•	•	•	•	•	•

121c

FIG. 11

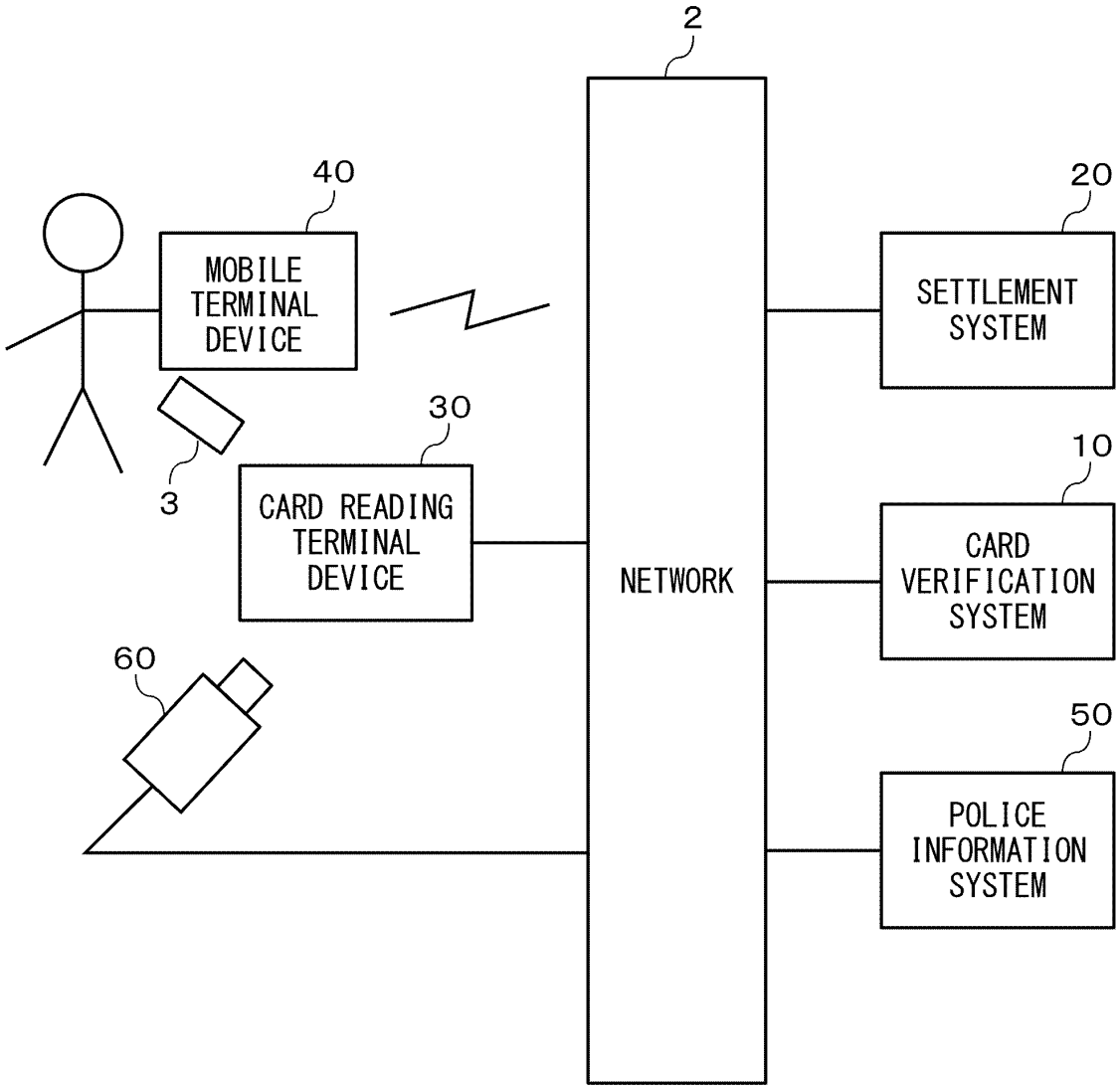

2
40
MOBILE TERMINAL DEVICE
20
SETTLEMENT SYSTEM
3
30
CARD READING TERMINAL DEVICE
10
NETWORK
CARD VERIFICATION SYSTEM
60
50
POLICE INFORMATION SYSTEM
1

FIG. 12

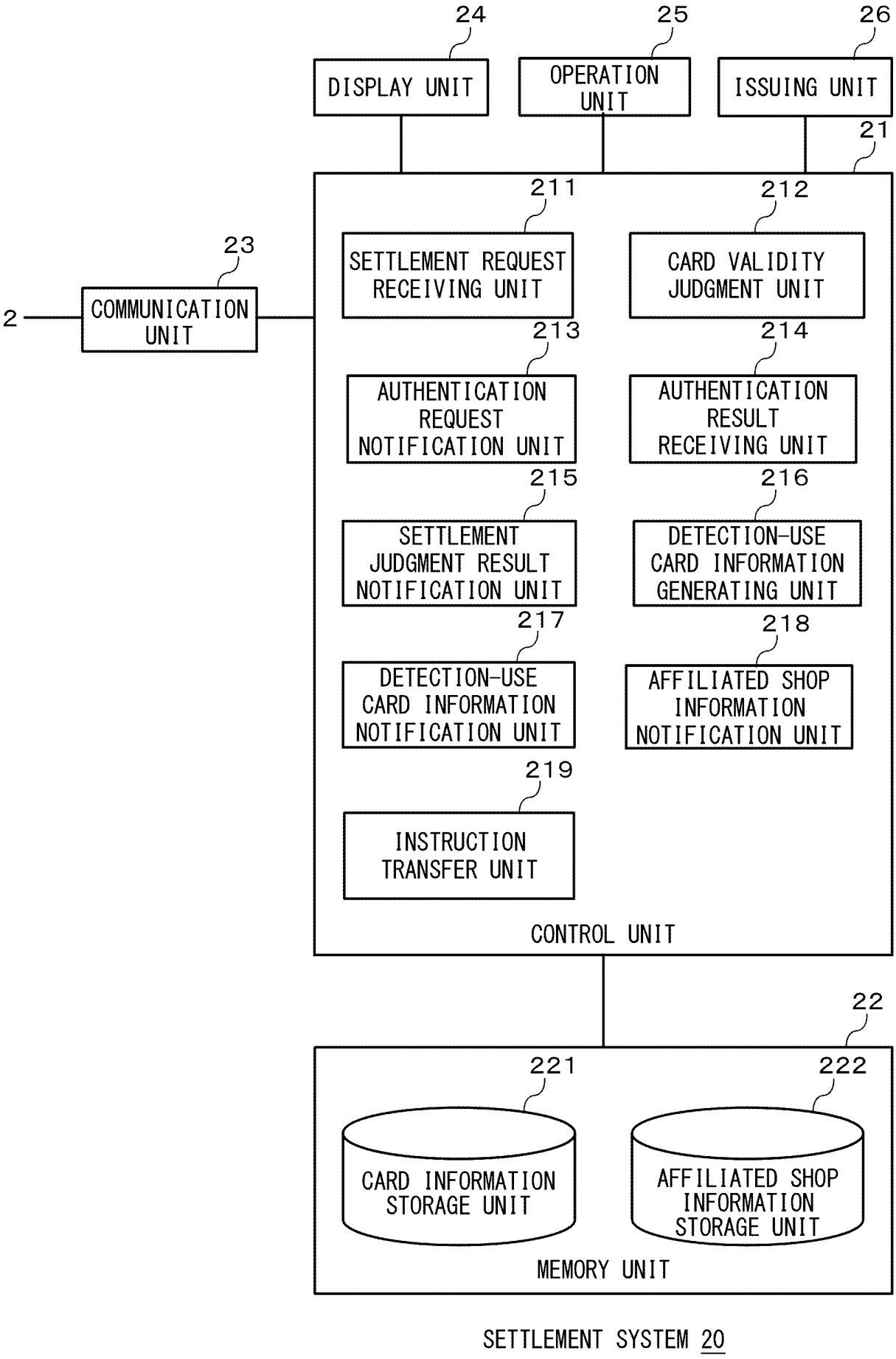
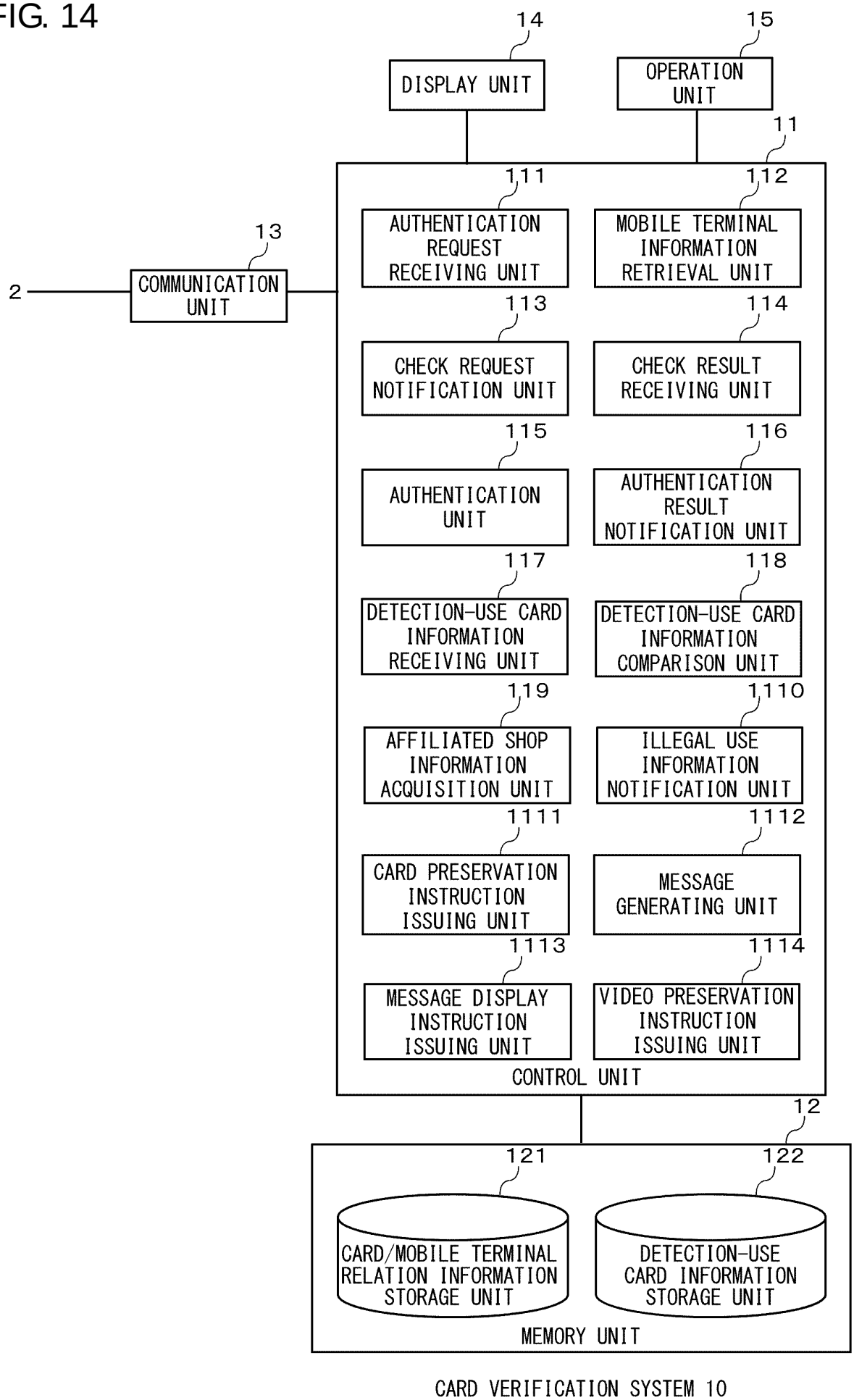

24
DISPLAY UNIT
25
OPERATION UNIT
26
ISSUING UNIT
21
211
SETTLEMENT REQUEST RECEIVING UNIT
212
CARD VALIDITY JUDGMENT UNIT
23
2
COMMUNICATION UNIT
213
AUTHENTICATION REQUEST NOTIFICATION UNIT
214
AUTHENTICATION RESULT RECEIVING UNIT
215
SETTLEMENT JUDGMENT RESULT NOTIFICATION UNIT
216
DETECTION-USE CARD INFORMATION GENERATING UNIT
217
DETECTION-USE CARD INFORMATION NOTIFICATION UNIT
218
AFFILIATED SHOP INFORMATION NOTIFICATION UNIT
219
INSTRUCTION TRANSFER UNIT
CONTROL UNIT
22
221
CARD INFORMATION STORAGE UNIT
222
AFFILIATED SHOP INFORMATION STORAGE UNIT
MEMORY UNIT
SETTLEMENT SYSTEM 20

FIG. 13

MANAGEMENT NUMBER	AFFILIATED SHOP ID	AFFILIATED SHOP NAME	ADDRESS	TELEPHONE NUMBER	READER TYPE	CARD RETURN REJECTION FUNCTION	MESSAGE DISPLAY FUNCTION	SECURITY CAMERA (NETWORK)	INVESTIGATIVE COOPERATION LEVEL
00000001	XXXXXXXX	○○BANK	JAPAN	03-XXXX -XXXX	ATM	YES	YES	YES (CONNECTED)	5
00000002	XXXXXXXX	○○STORE	JAPAN	03-XXXX -XXXX	BESIDE REGISTER	NO	YES	NO	3
00000003	XXXXXXXX	○○STORE	JAPAN	03-XXXX -XXXX	BESIDE REGISTER	NO	YES	YES (NOT CONNECTED)	2
• • • •	• • • •	• • • •	• • • •	• • • •	• • • •	• • • •	• • • •	• • • •	• • • •

222a

FIG. 14



CARD VERIFICATION SYSTEM 10

FIG. 15

MANAGEMENT NUMBER	DETECTION-USE CARD INFORMATION				
	CARD NUMBER	EXPIRATION DATE	CARDHOLDER'S NAME	SECURITY CODE	VALID FLAG
1001	XXXX XXXX XXXX XXXX	XX/XX	○○ ○○	XXX	1
1002	XXXX XXXX XXXX XXXX	XX/XX	○○ ○○	XXX	0
1003	XXXX XXXX XXXX XXXX	XX/XX	○○ ○○	XXX	1
• • • •	• • • •	• • • •	• • • •	• • • •	• • • •

122a

FIG. 16A

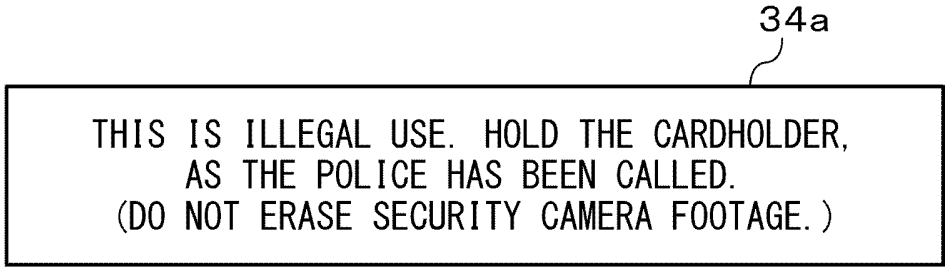


FIG. 16B

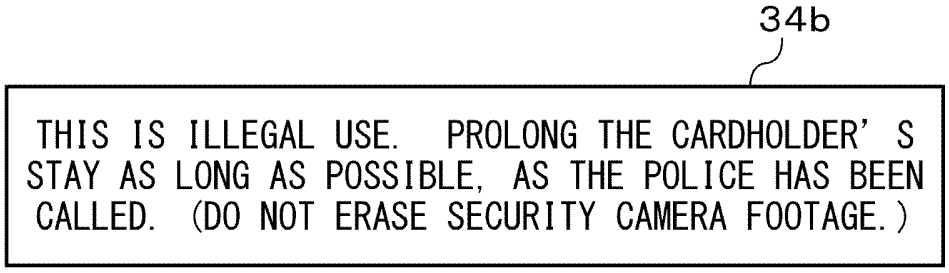


FIG. 16C

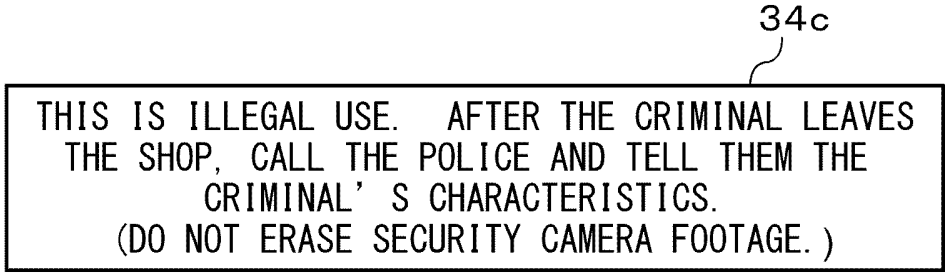


FIG. 16D

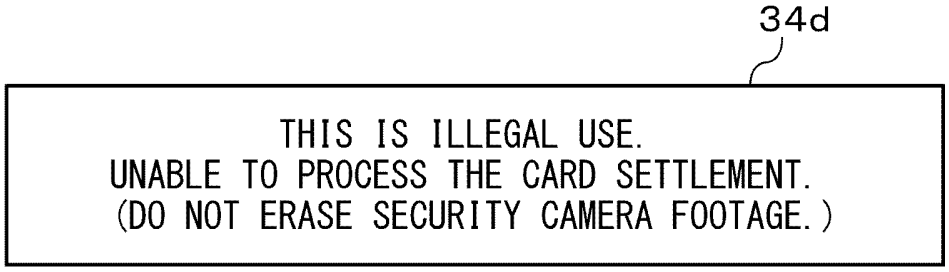


FIG. 17

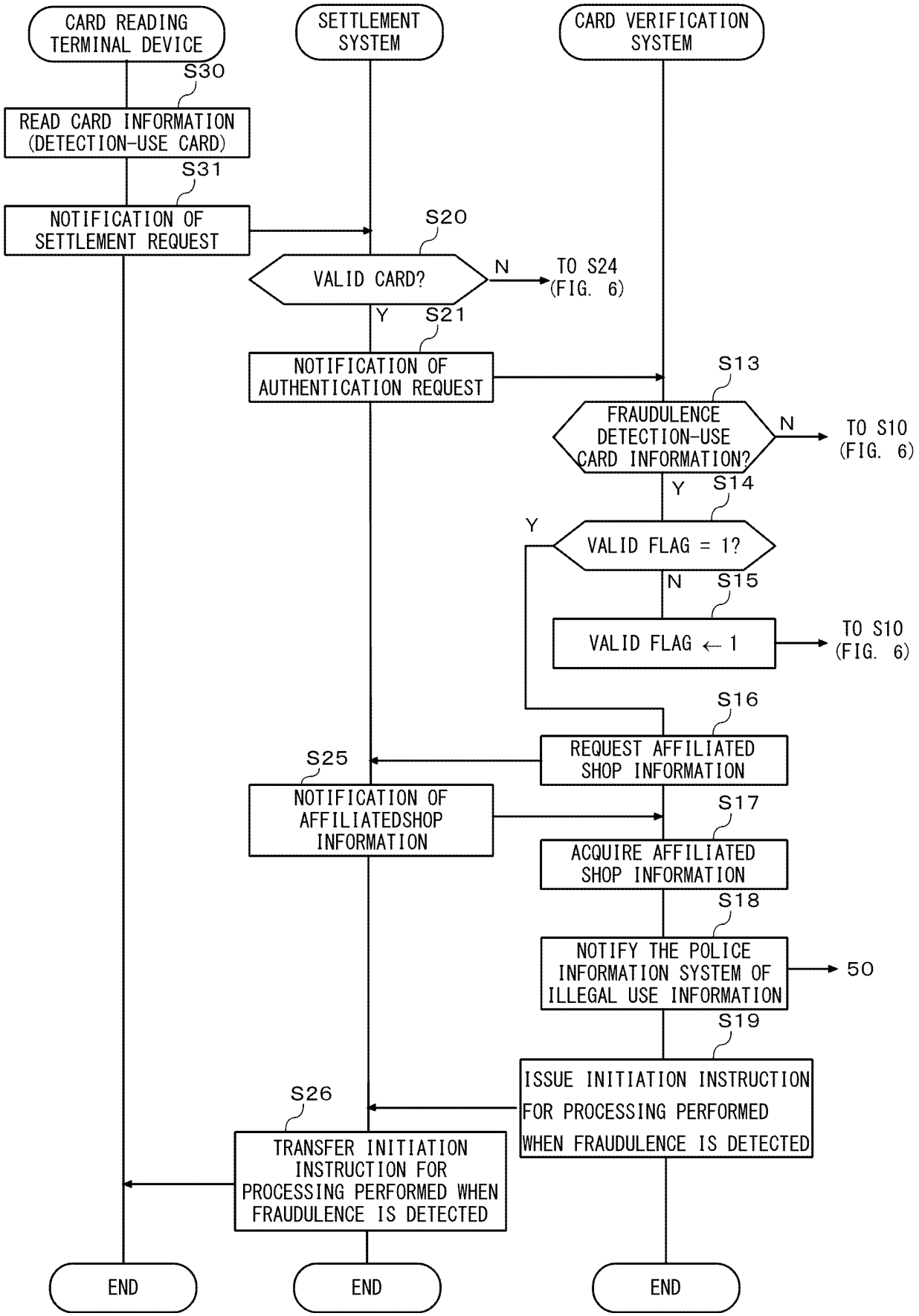
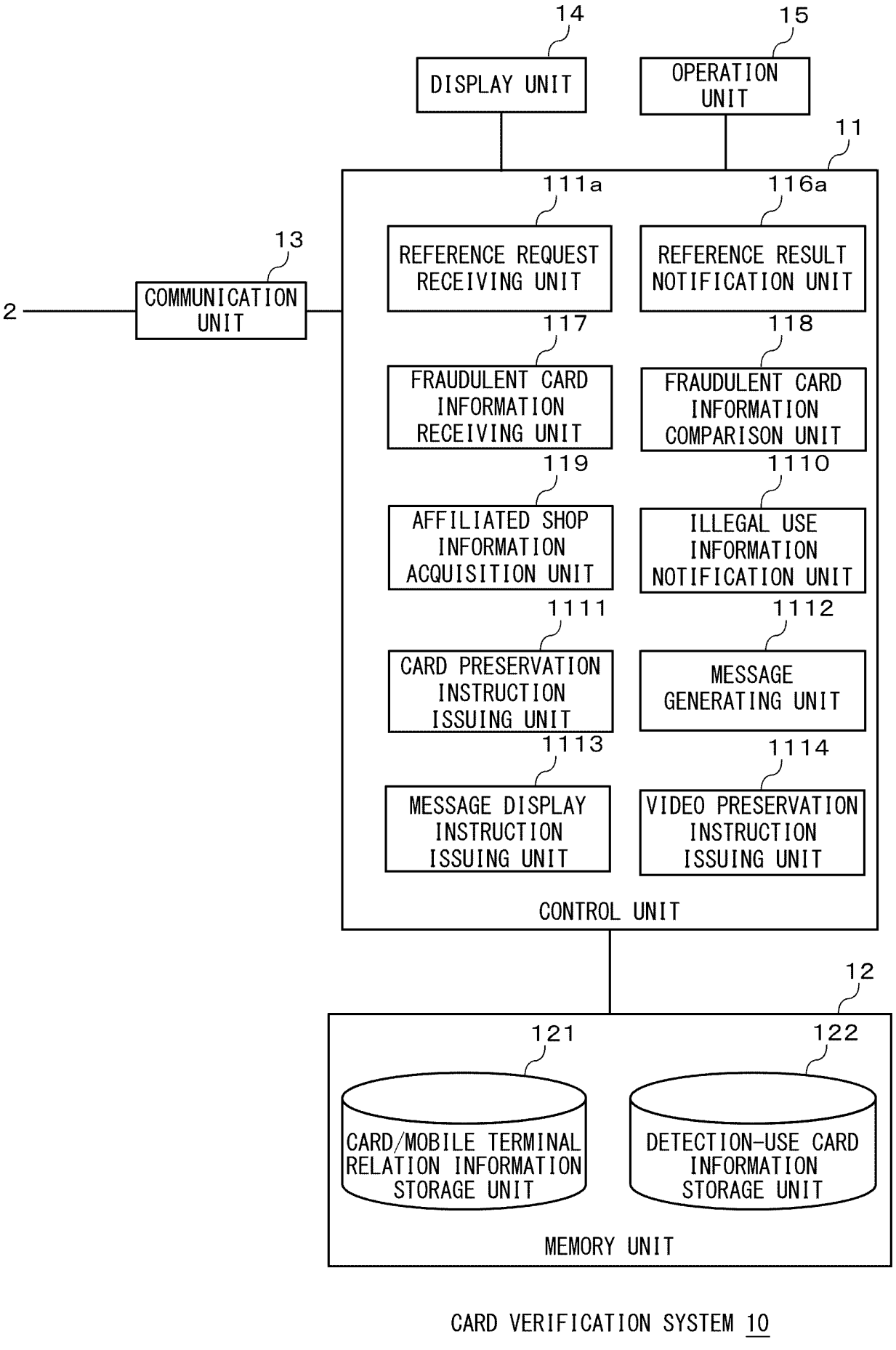

CARD READING TERMINAL DEVICE
SETTLEMENT SYSTEM
CARD VERIFICATION SYSTEM
S30
READ CARD INFORMATION (DETECTION-USE CARD)
S31
NOTIFICATION OF SETTLEMENT REQUEST
S20
VALID CARD?
N
TO S24 (FIG. 6)
Y
S21
NOTIFICATION OF AUTHENTICATION REQUEST
S13
FRAUDULENCE DETECTION-USE CARD INFORMATION?
N
TO S10 (FIG. 6)
Y
S14
VALID FLAG = 1?
Y
N
S15
VALID FLAG ← 1
TO S10 (FIG. 6)
S16
REQUEST AFFILIATED SHOP INFORMATION
S25
NOTIFICATION OF AFFILIATEDSHOP INFORMATION
S17
ACQUIRE AFFILIATED SHOP INFORMATION
S18
NOTIFY THE POLICE INFORMATION SYSTEM OF ILLEGAL USE INFORMATION
50
S19
ISSUE INITIATION INSTRUCTION FOR PROCESSING PERFORMED WHEN FRAUDULENCE IS DETECTED
S26
TRANSFER INITIATION INSTRUCTION FOR PROCESSING PERFORMED WHEN FRAUDULENCE IS DETECTED
END
END
END

FIG. 18


14
DISPLAY UNIT
15
OPERATION UNIT
11
111a
116a
13
REFERENCE REQUEST RECEIVING UNIT
REFERENCE RESULT NOTIFICATION UNIT
2
COMMUNICATION UNIT
117
118
FRAUDULENT CARD INFORMATION RECEIVING UNIT
FRAUDULENT CARD INFORMATION COMPARISON UNIT
119
1110
AFFILIATED SHOP INFORMATION ACQUISITION UNIT
ILLEGAL USE INFORMATION NOTIFICATION UNIT
1111
1112
CARD PRESERVATION INSTRUCTION ISSUING UNIT
MESSAGE GENERATING UNIT
1113
1114
MESSAGE DISPLAY INSTRUCTION ISSUING UNIT
VIDEO PRESERVATION INSTRUCTION ISSUING UNIT
CONTROL UNIT
12
121
122
CARD/MOBILE TERMINAL RELATION INFORMATION STORAGE UNIT
DETECTION-USE CARD INFORMATION STORAGE UNIT
MEMORY UNIT
CARD VERIFICATION SYSTEM 10