FIG.1

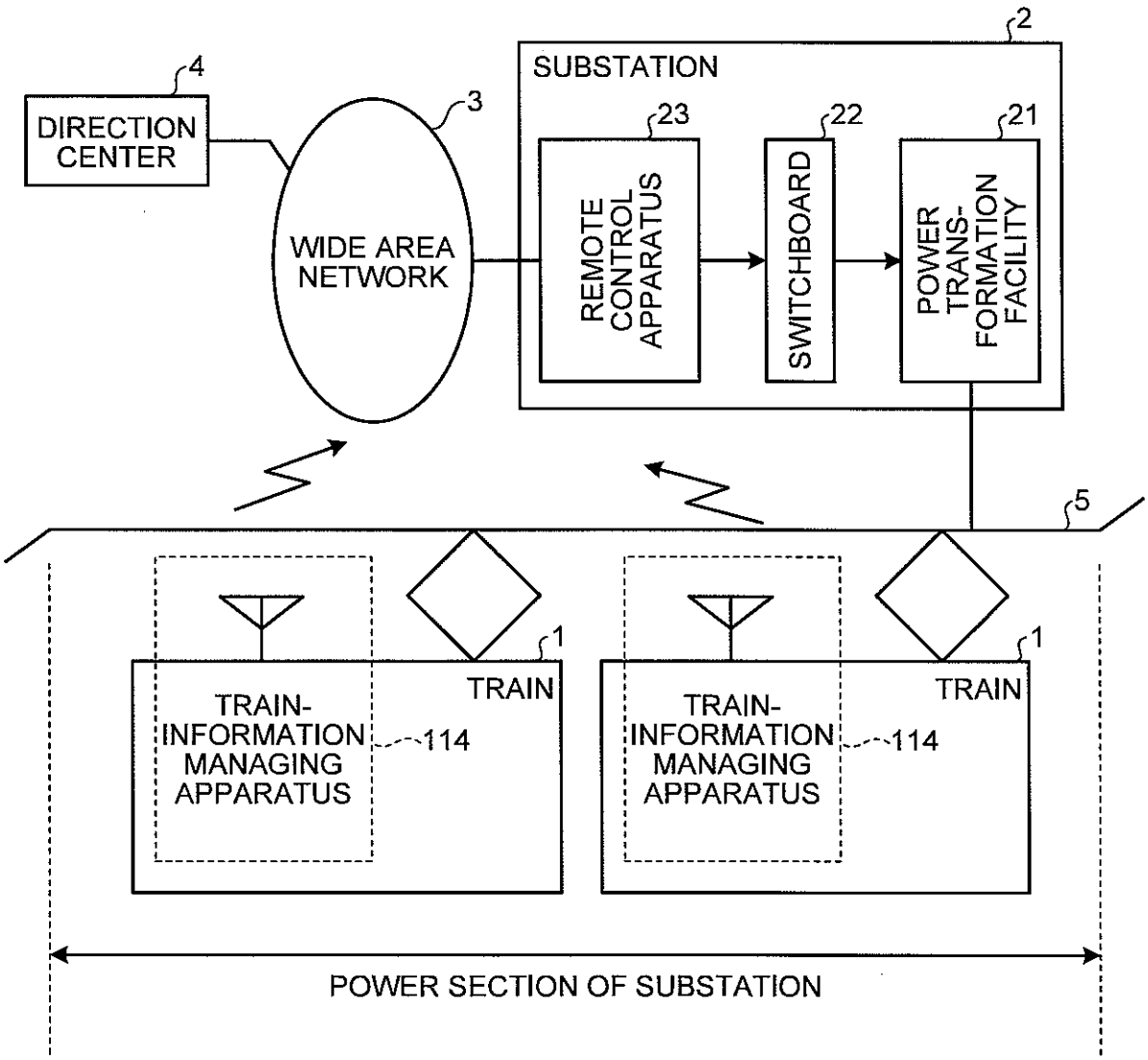

2
SUBSTATION
4
DIRECTION CENTER
3
WIDE AREA NETWORK
23
REMOTE CONTROL APPARATUS
22
SWITCHBOARD
21
POWER TRANS-FORMATION FACILITY
5
1
TRAIN
TRAIN-INFORMATION MANAGING APPARATUS
114
1
TRAIN
TRAIN-INFORMATION MANAGING APPARATUS
114
POWER SECTION OF SUBSTATION

FIG.2

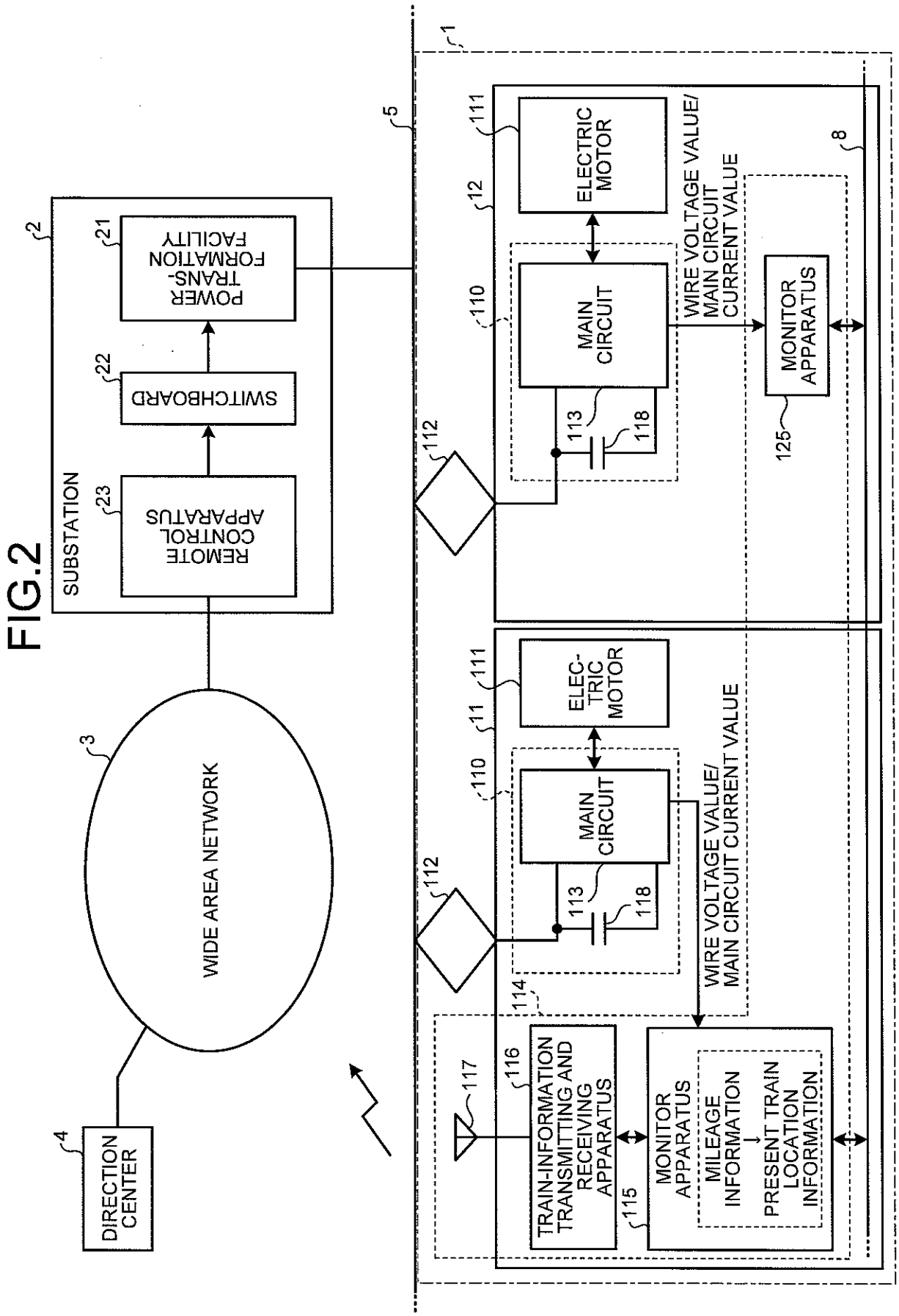

DIRECTION CENTER
4
WIDE AREA NETWORK
3
SUBSTATION
2
REMOTE CONTROL APPARATUS
23
SWITCHBOARD
22
POWER TRANS-FORMATION FACILITY
21
5
1
ELECTRIC MOTOR
111
12
MAIN CIRCUIT
110
113
118
112
WIRE VOLTAGE VALUE/ MAIN CIRCUIT CURRENT VALUE
MONITOR APPARATUS
125
8
ELEC-TRIC MOTOR
111
11
MAIN CIRCUIT
110
113
118
112
WIRE VOLTAGE VALUE/ MAIN CIRCUIT CURRENT VALUE
114
117
TRAIN-INFORMATION TRANSMITTING AND RECEIVING APPARATUS
116
MONITOR APPARATUS
115
MILEAGE INFORMATION
PRESENT TRAIN LOCATION INFORMATION

FIG.3

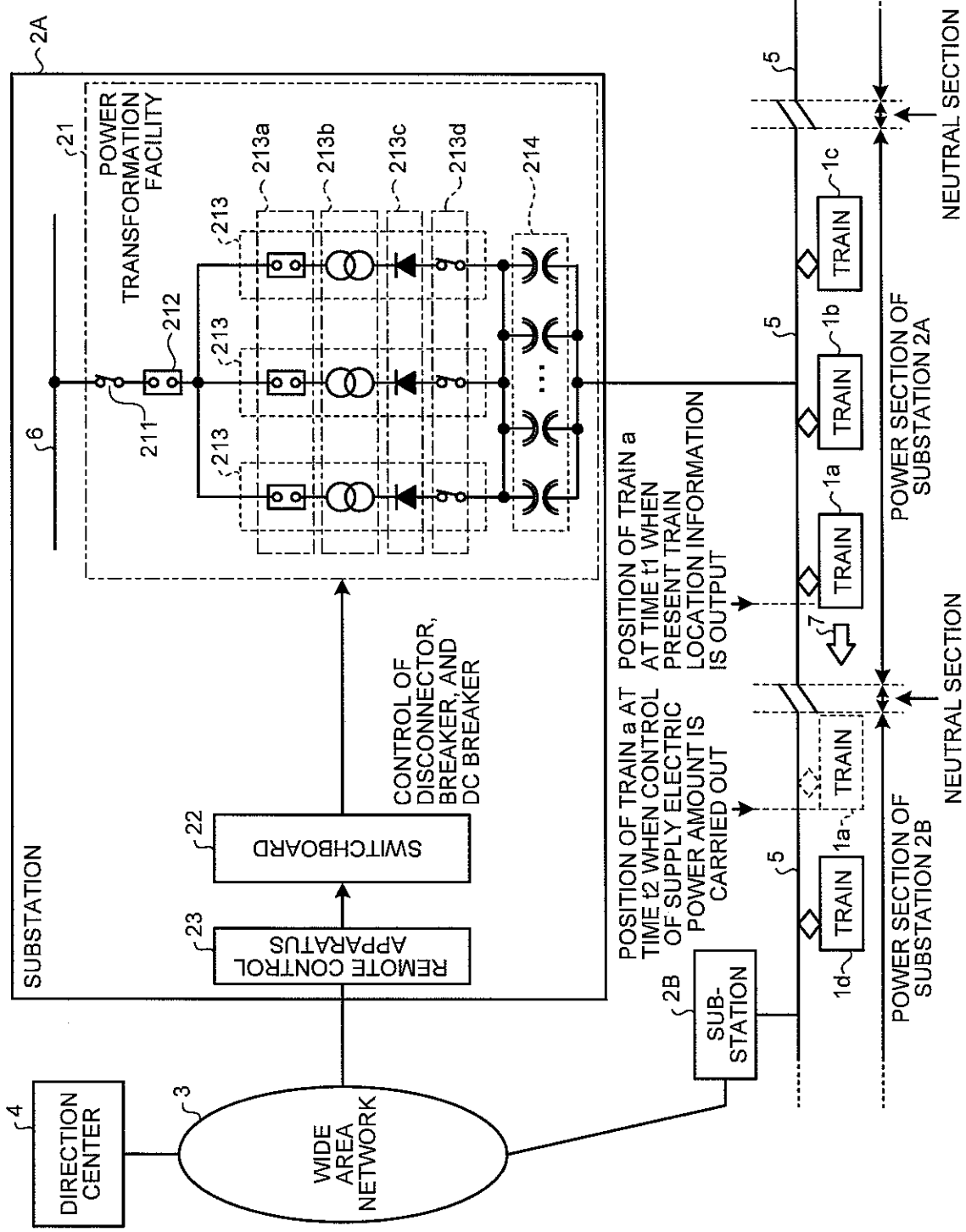
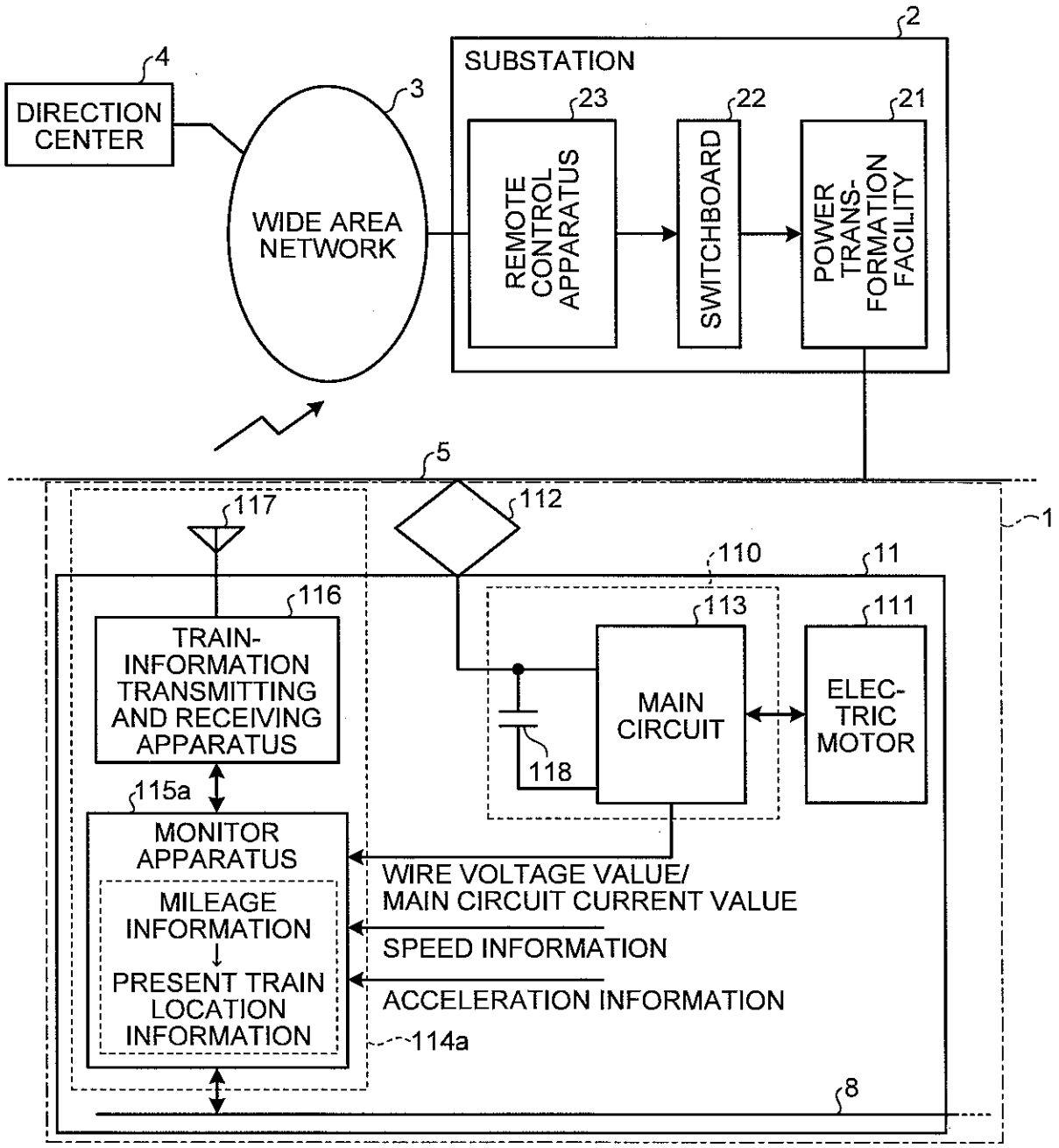

2A
SUBSTATION
21
POWER TRANSFORMATION FACILITY
213a
213b
213c
213d
214
213
212
211
6
22
SWITCHBOARD
23
REMOTE CONTROL APPARATUS
CONTROL OF DISCONNECTOR, BREAKER, AND DC BREAKER
4
DIRECTION CENTER
3
WIDE AREA NETWORK
2B
SUB-STATION
POSITION OF TRAIN a AT TIME t2 WHEN CONTROL OF SUPPLY ELECTRIC POWER AMOUNT IS CARRIED OUT
POSITION OF TRAIN a AT TIME t1 WHEN PRESENT TRAIN LOCATION INFORMATION IS OUTPUT
5
7
TRAIN
1a
1b
1c
1d
NEUTRAL SECTION
POWER SECTION OF SUBSTATION 2A
POWER SECTION OF SUBSTATION 2B

FIG.4


2
SUBSTATION
4
DIRECTION CENTER
3
WIDE AREA NETWORK
23
REMOTE CONTROL APPARATUS
22
SWITCHBOARD
21
POWER TRANS-FORMATION FACILITY
5
1
117
112
110
11
116
113
111
TRAIN-INFORMATION TRANSMITTING AND RECEIVING APPARATUS
MAIN CIRCUIT
ELEC-TRIC MOTOR
118
115a
MONITOR APPARATUS
MILEAGE INFORMATION
PRESENT TRAIN LOCATION INFORMATION
114a
WIRE VOLTAGE VALUE/ MAIN CIRCUIT CURRENT VALUE
SPEED INFORMATION
ACCELERATION INFORMATION
8