FIG.1

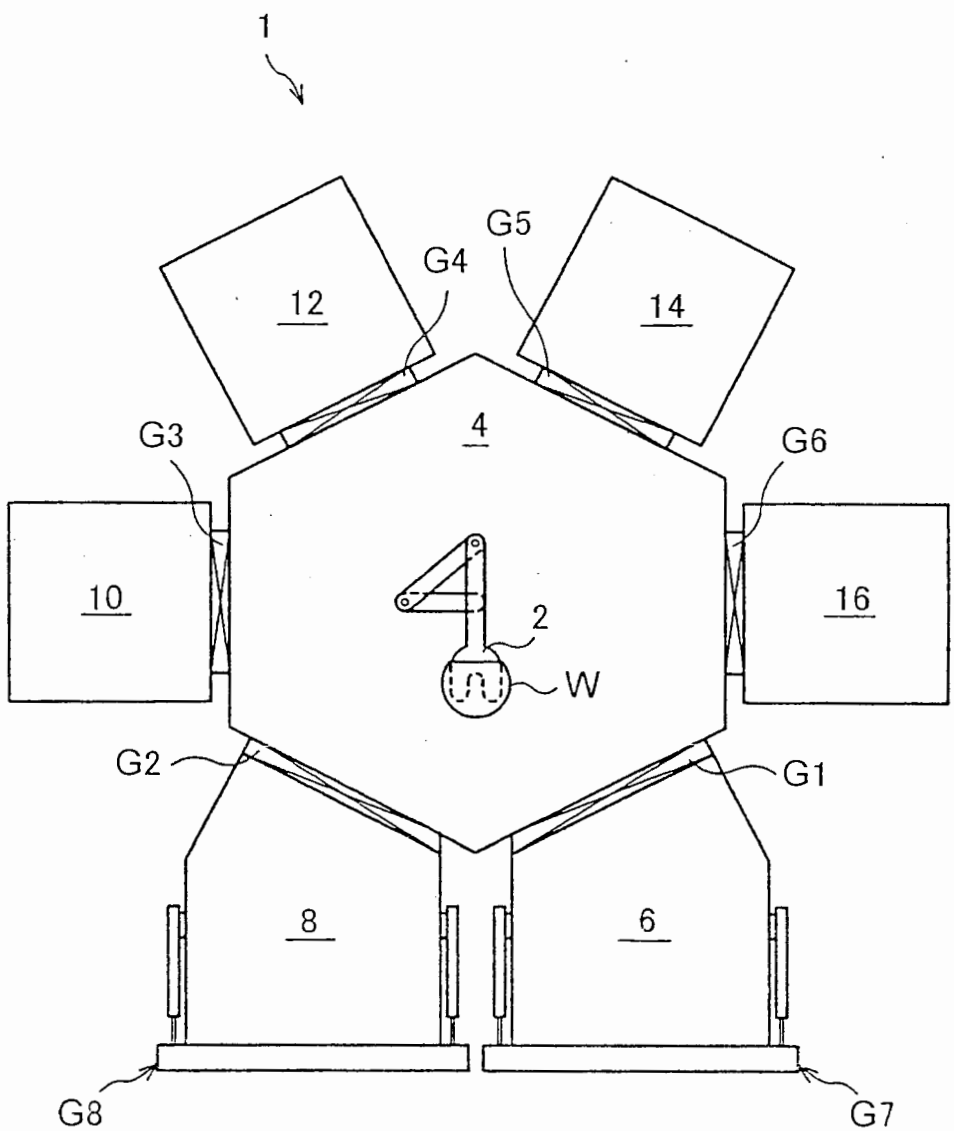


FIG.2

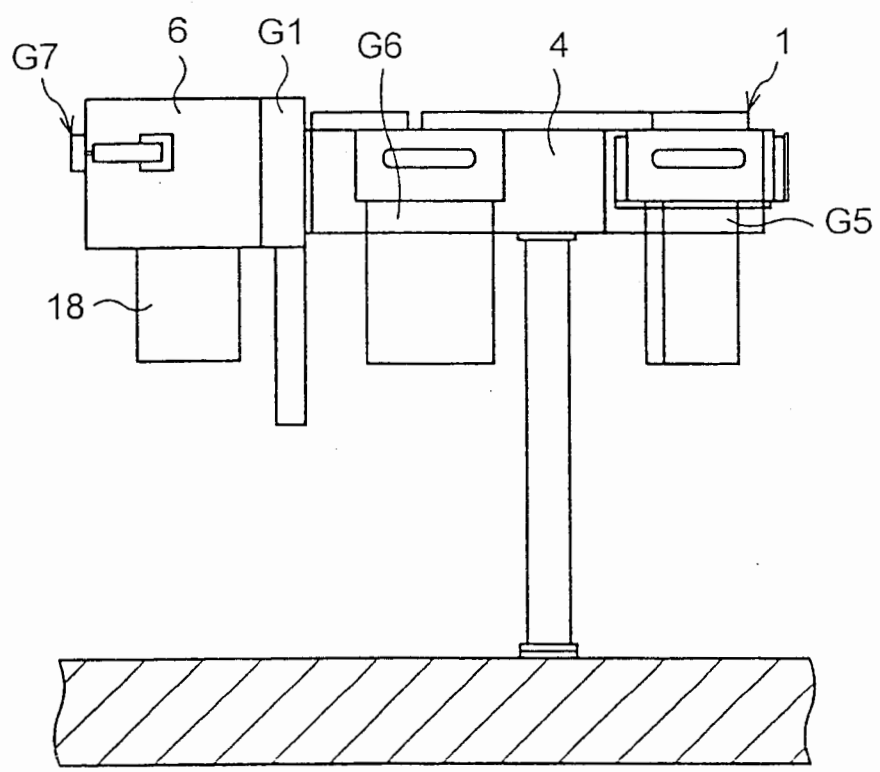


FIG.3

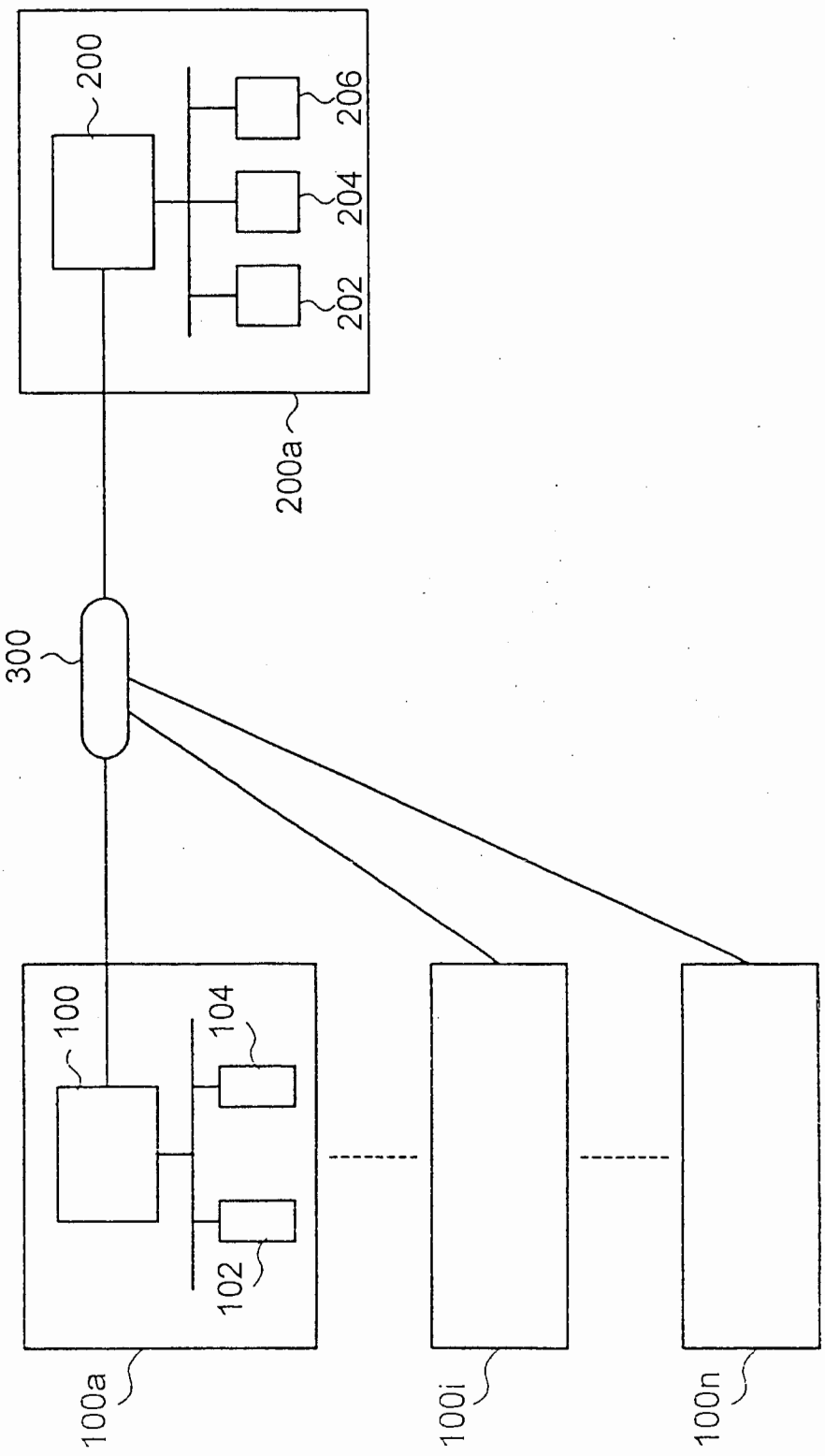


FIG.4

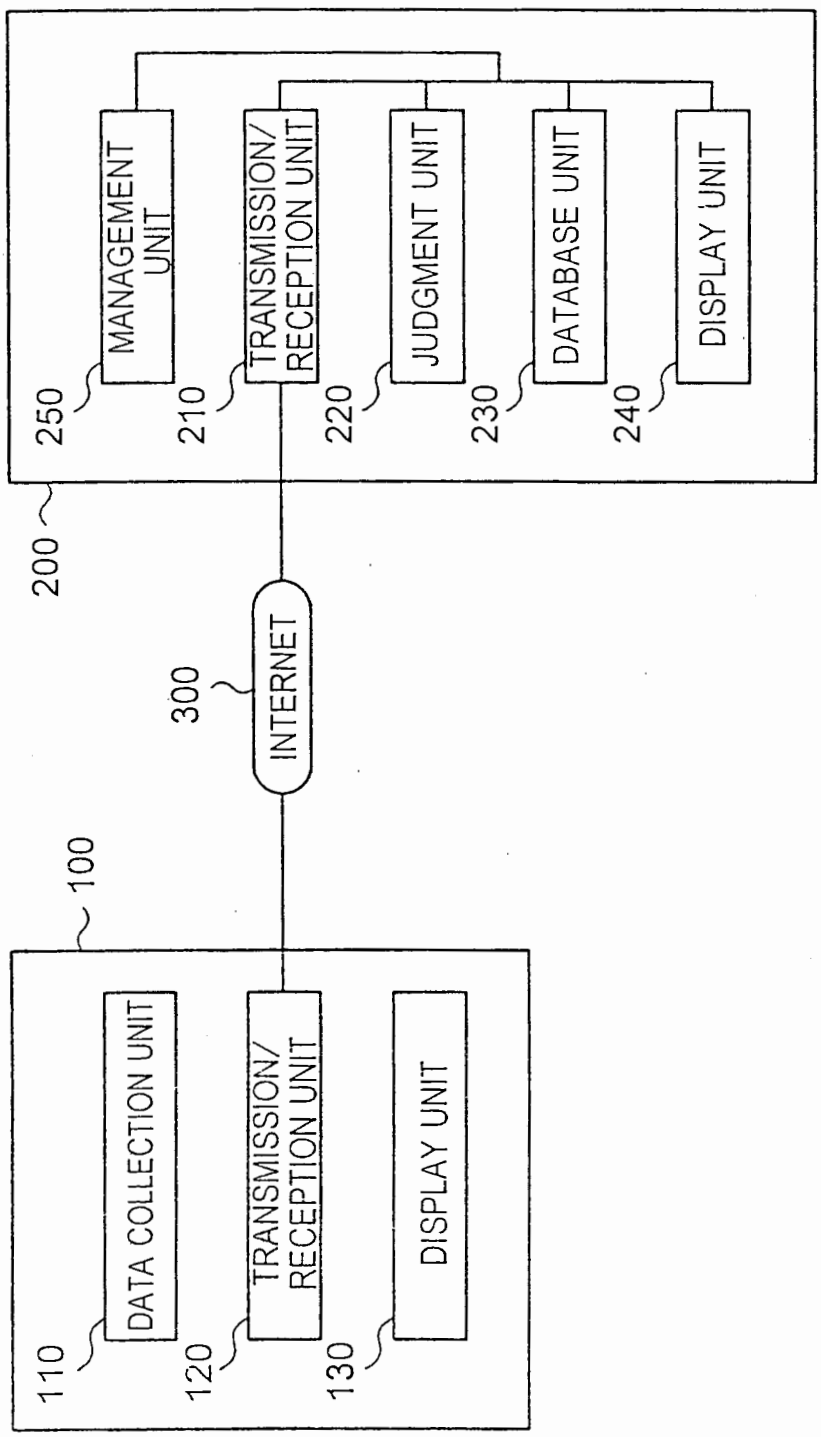

MANAGEMENT UNIT
TRANSMISSION/ RECEPTION UNIT
JUDGMENT UNIT
DATABASE UNIT
DISPLAY UNIT
250
210
220
230
240
200
300
INTERNET
100
DATA COLLECTION UNIT
TRANSMISSION/ RECEPTION UNIT
DISPLAY UNIT
110
120
130

FIG.5

Rec#	SN	TYPE	Date-Time	Tool Status	Status	Comment	PID
3045	U012345	U2-855DD	2000/7/12 10:26	PRDCT	Up Time		taro_nippon
3046	U012345	U2-855DD	2000/7/12 11:35	STDBY	Up Time		taro_nippon
3047	U012345	U2-855DD	2000/7/12 11:53	PRODU	Up Time		taro_nippon
3048	U012345	U2-855DD	2000/7/12 13:15	STDBY	Up Time		jiro_tokyo
3049	U012345	U2-855DD	2000/7/12 15:34	ENGNI	Up Time	Particle check, Etching rate check start	jiro_tokyo
3050	U012346	U2-856DD	2000/7/13 16:20	ENGNI	Up Time	Check ok , start production	jiro_tokyo
3050	U012345	U2-855DD	2000/7/12 17:26	PMCLE	Scheduled Down	start PM Regular cleaning	jiro_tokyo
3051	U012345	U2-855DD	2000/7/12 18:01	PMCLE	Scheduled Down	Change parts FR, SR	jiro_tokyo
3052	U012345	U2-855DD	2000/7/12 20:15	PRDCT	Up Time		kojiro_sasaki
3053	U012345	U2-855DD	2000/7/12 22:56	PROCED	Unscheduled Down	ARM Positioning Error:002002	kojiro_sasaki
3054	U012345	U2-855DD	2000/7/12 23:27	PROCED	Unscheduled Down	teaching	kojiro_sasaki
3055	U012345	U2-855DD	2000/7/13 0:45	PROCED	Unscheduled Down	Dummy 1 lot run start	kojiro_sasaki
3056	U012345	U2-855DD	2000/7/13 2:14	PRDCT	Up Time		musashi_miyamoto
3057	U012345	U2-855DD	2000/7/13 3:37	PRDCT	Up Time		musashi_miyamoto
3058	U012345	U2-855DD	2000/7/13 4:11	WAIFIX	Unscheduled Down	APC trouble, Vender called	musashi_miyamoto
3059	U012345	U2-855DD	2000/7/13 5:26	WAPART	Unscheduled Down	Waiting Part	musashi_miyamoto
3060	U012345	U2-855DD	2000/7/13 7:46	FIXING	Unscheduled Down	Vender FE is fixing.	taro_nippon
3061	U012345	U2-855DD	2000/7/13 8:13	PRDCT	Up Time		taro_nippon

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FIG.6

Tool Status	Tool Status J	Status
PRDCT	PRODUCTION	Up Time
STDBY	STANDBY	Up Time
ENGNI	ENGINEERING	Up Time
PMCLE	ROUTINE CLEANING	Scheduled Down
PMGRE	ROUTINE MAINTENANCE	Scheduled Down
FIXING	IN REPAIR	Unscheduled Down
WAIFIX	WAITING FOR REPAIR	Unscheduled Down
WAPART	WAITING FOR PART	Unscheduled Down
PROCED	IN REPAIR IN REFERENCE TO PROCEDURE MANUAL	Unscheduled Down
PRODWN	PROCESS DOWN	Unscheduled Down
DAYOFF	HOLIDAY	Nonscheduled Down

FIG.7

Date and time of update	Tool SN	Tool Status	Date and time of update	Tool SN	Tool Status
2000/7/13 8:26	U012345		2000/7/13 7:54	U062345	
2000/7/13 9:10	U018927		2000/7/13 8:34	U082345	
2000/7/13 8:13	U014832		2000/7/13 8:28	U022345	
2000/7/13 8:19	U014520		2000/7/13 9:13	U015630	
2000/7/13 8:56	U002345		2000/7/13 8:23	U013721	

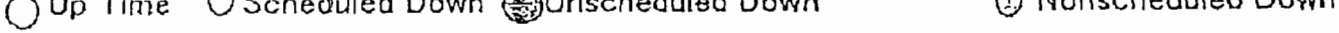


FIG.8

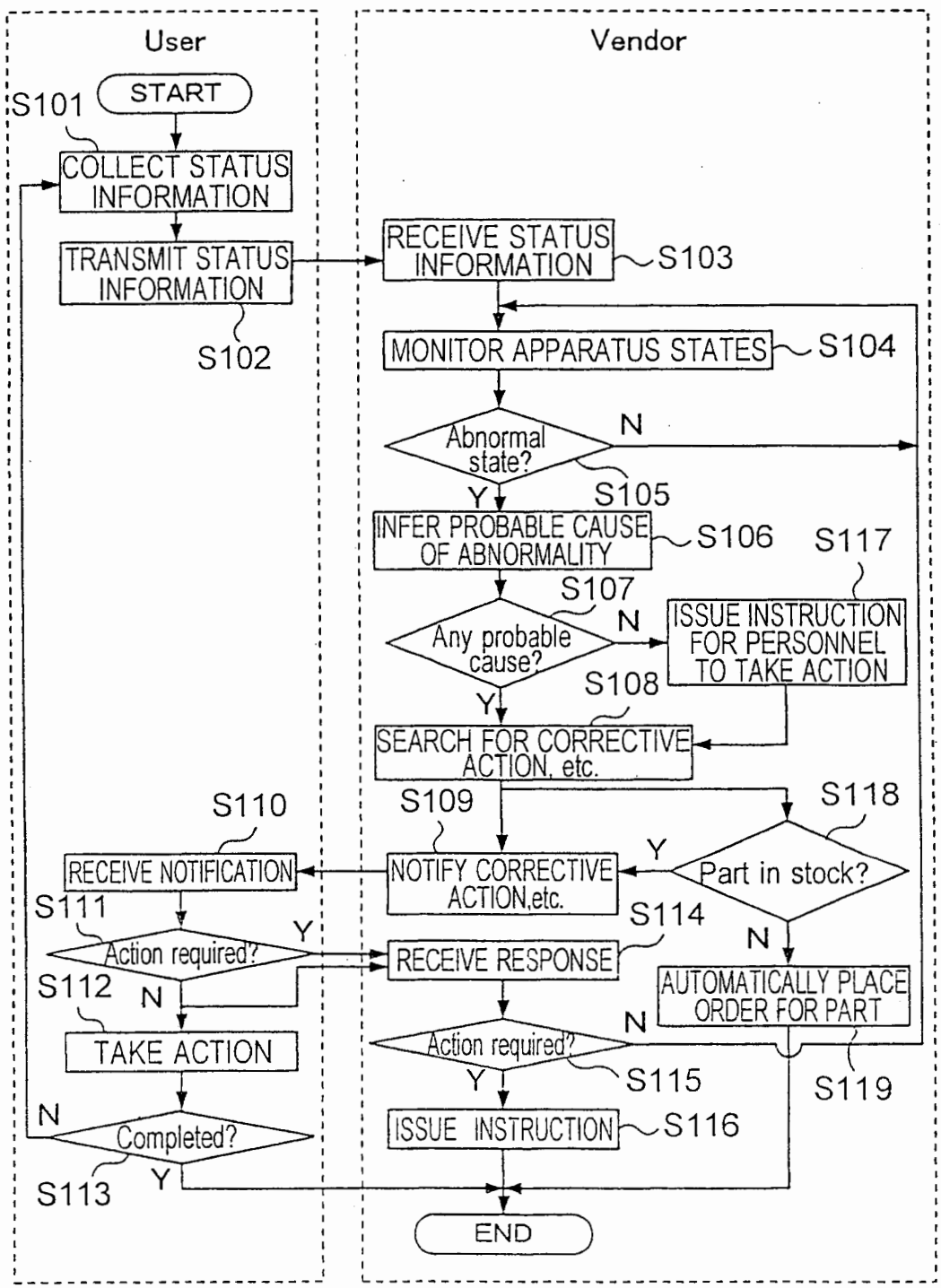

User
Vendor
START
S101
COLLECT STATUS INFORMATION
TRANSMIT STATUS INFORMATION
S102
RECEIVE STATUS INFORMATION
S103
MONITOR APPARATUS STATES
S104
Abnormal state?
N
Y
S105
INFER PROBABLE CAUSE OF ABNORMALITY
S106
S117
S107
Any probable cause?
N
ISSUE INSTRUCTION FOR PERSONNEL TO TAKE ACTION
Y
S108
SEARCH FOR CORRECTIVE ACTION, etc.
S110
S109
S118
RECEIVE NOTIFICATION
NOTIFY CORRECTIVE ACTION,etc.
Y
Part in stock?
S111
S114
Action required?
Y
RECEIVE RESPONSE
N
S112
N
AUTOMATICALLY PLACE ORDER FOR PART
TAKE ACTION
N
Action required?
S115
Y
S119
N
Completed?
ISSUE INSTRUCTION
S116
S113
Y
END

FIG.9A

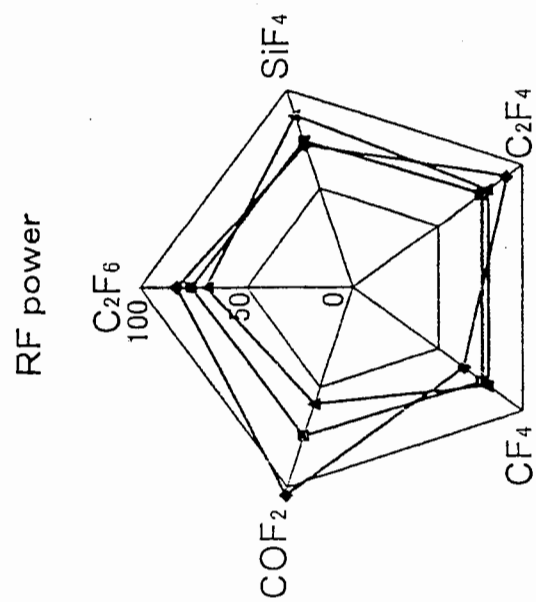

RF power
C2F6
100
50
0
SiF4
C2F4
CF4
COF2
2800 W
3300 W ⇒ 75
3800 W

FIG.9B

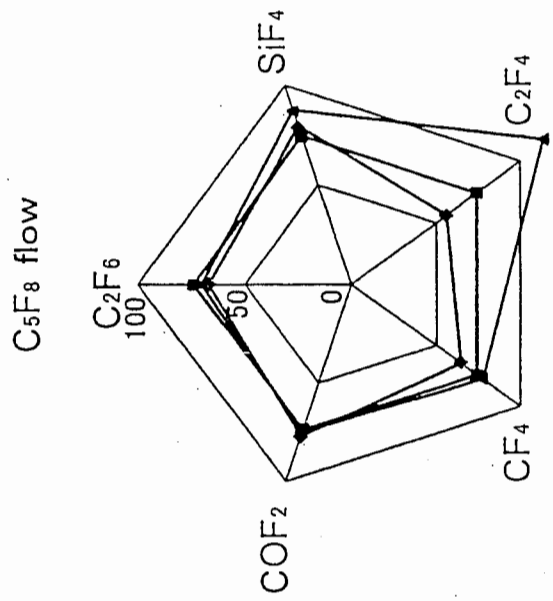

C5F8 flow
C2F6
100
50
0
SiF4
C2F4
CF4
COF2
15 sccm
18 sccm⇒75
21 sccm

FIG.10

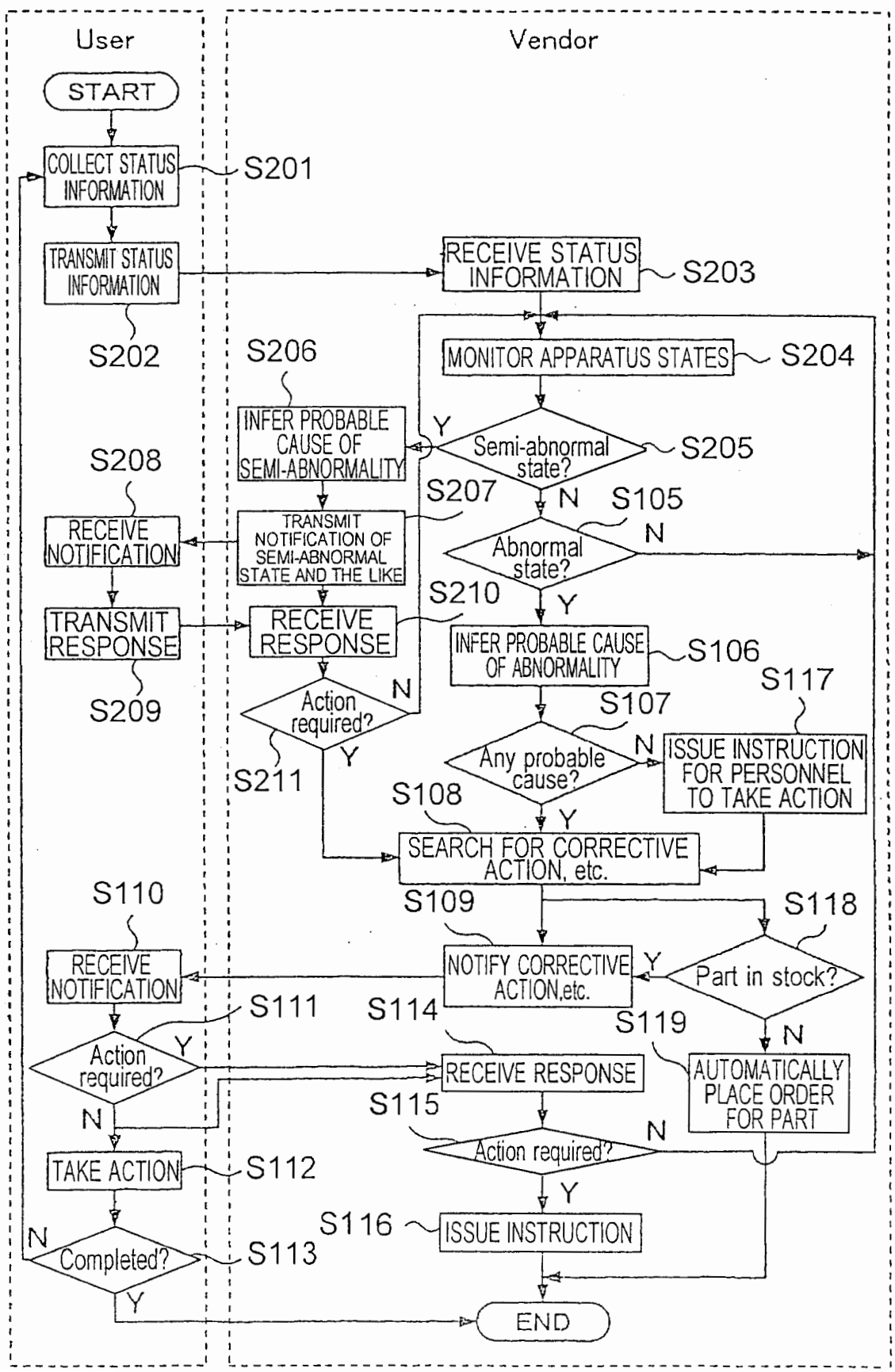
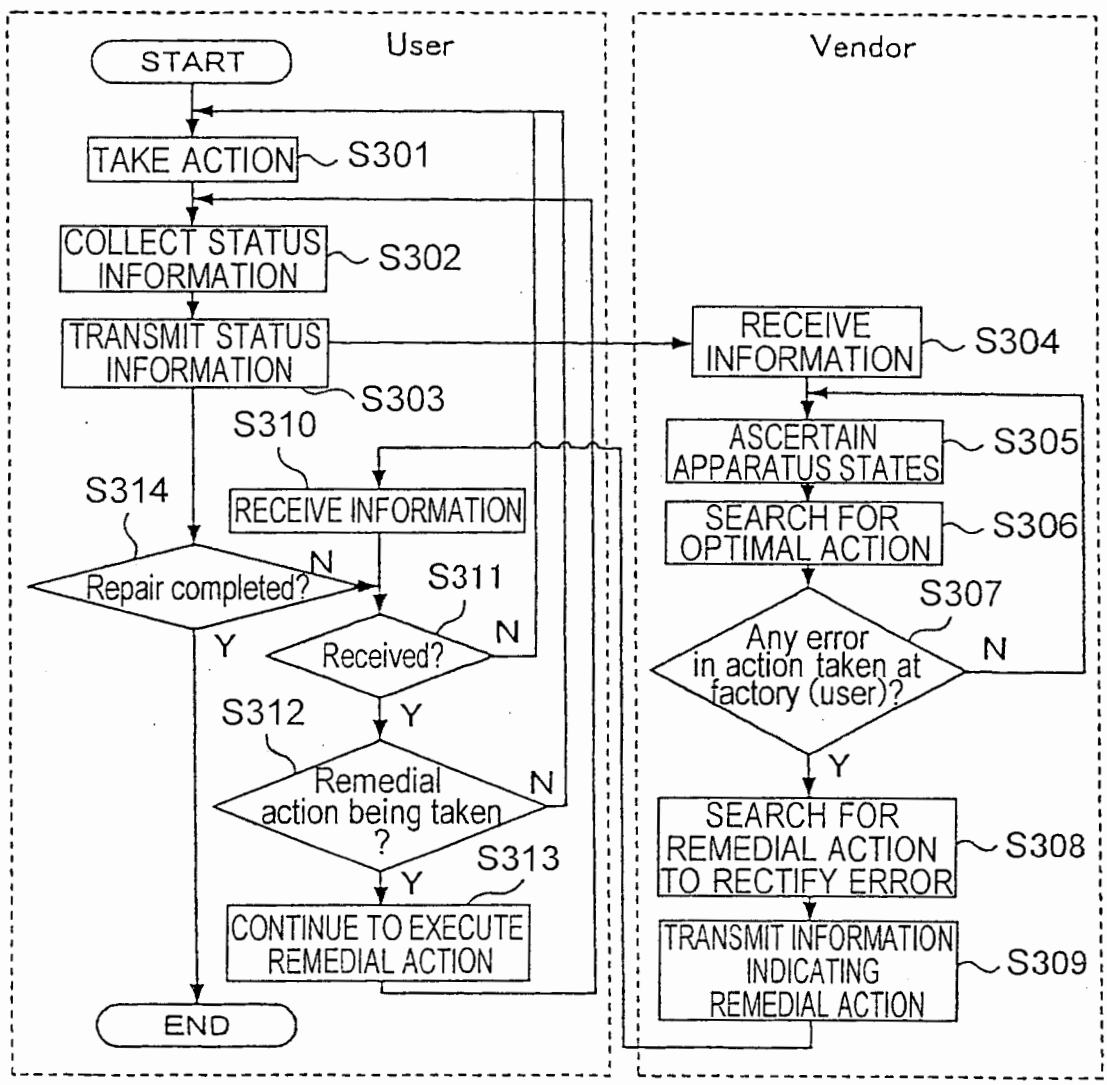

User
Vendor
START
COLLECT STATUS INFORMATION
S201
TRANSMIT STATUS INFORMATION
S202
RECEIVE STATUS INFORMATION
S203
MONITOR APPARATUS STATES
S204
Semi-abnormal state?
S205
Y
N
INFER PROBABLE CAUSE OF SEMI-ABNORMALITY
S206
TRANSMIT NOTIFICATION OF SEMI-ABNORMAL STATE AND THE LIKE
S207
RECEIVE NOTIFICATION
S208
TRANSMIT RESPONSE
S209
RECEIVE RESPONSE
S210
Action required?
S211
N
Y
S105
Abnormal state?
N
Y
INFER PROBABLE CAUSE OF ABNORMALITY
S106
S107
Any probable cause?
N
Y
S117
ISSUE INSTRUCTION FOR PERSONNEL TO TAKE ACTION
S108
SEARCH FOR CORRECTIVE ACTION, etc.
S109
NOTIFY CORRECTIVE ACTION,etc.
S110
RECEIVE NOTIFICATION
S111
Action required?
Y
N
TAKE ACTION
S112
Completed?
S113
N
Y
S114
RECEIVE RESPONSE
S115
Action required?
N
Y
S116
ISSUE INSTRUCTION
S118
Part in stock?
Y
N
S119
AUTOMATICALLY PLACE ORDER FOR PART
END

FIG.11


User
Vendor
START
TAKE ACTION
S301
COLLECT STATUS INFORMATION
S302
TRANSMIT STATUS INFORMATION
S303
S310
RECEIVE INFORMATION
S314
Repair completed?
N
Y
S311
Received?
N
Y
S312
Remedial action being taken ?
N
Y
S313
CONTINUE TO EXECUTE REMEDIAL ACTION
END
RECEIVE INFORMATION
S304
ASCERTAIN APPARATUS STATES
S305
SEARCH FOR OPTIMAL ACTION
S306
S307
Any error in action taken at factory (user)?
N
Y
SEARCH FOR REMEDIAL ACTION TO RECTIFY ERROR
S308
TRANSMIT INFORMATION INDICATING REMEDIAL ACTION
S309