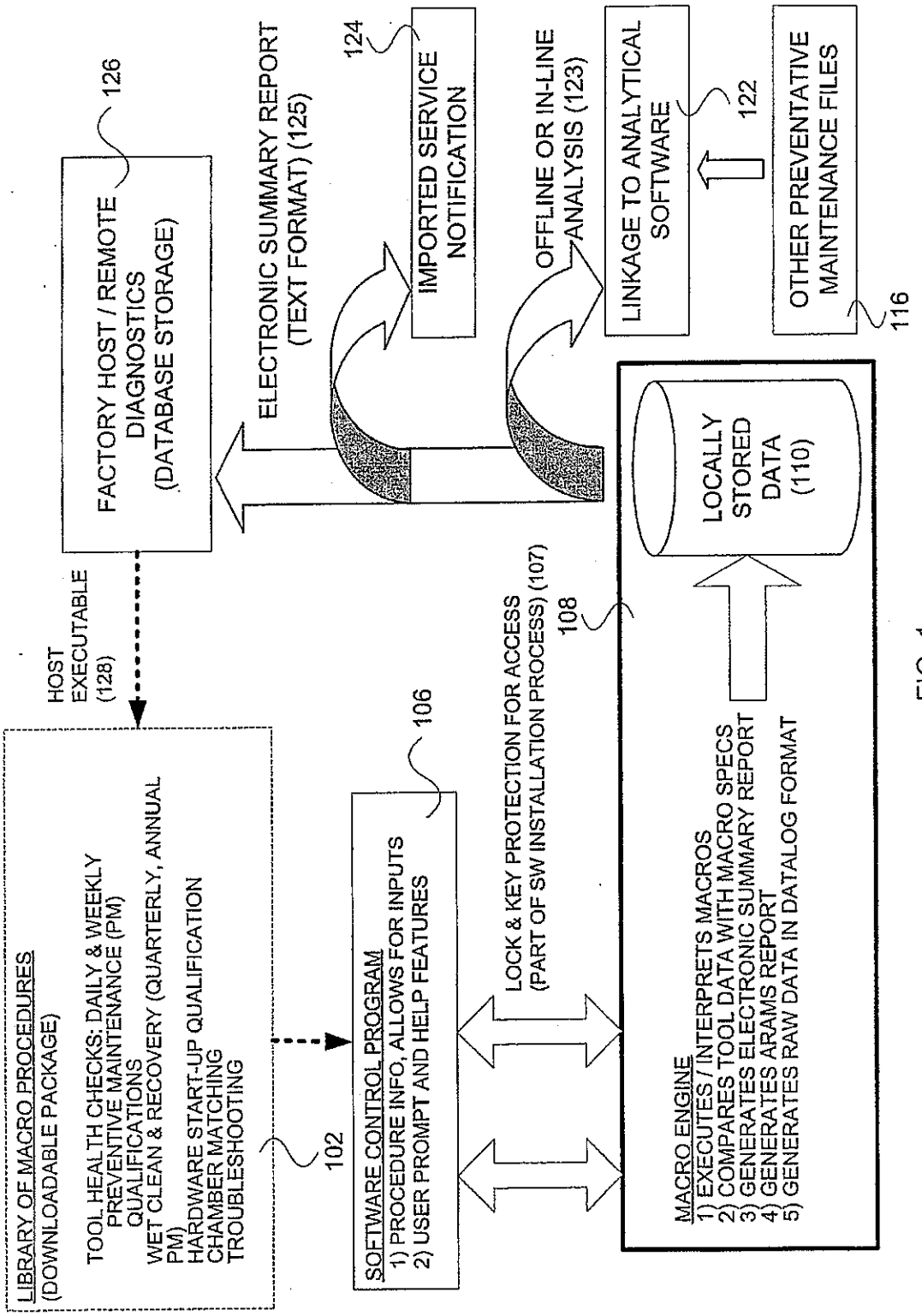

LIBRARY OF MACRO PROCEDURES
(DOWNLOADABLE PACKAGE)
TOOL HEALTH CHECKS: DAILY & WEEKLY
PREVENTIVE MAINTENANCE (PM)
QUALIFICATIONS
WET CLEAN & RECOVERY (QUARTERLY, ANNUAL PM)
HARDWARE START-UP QUALIFICATION
CHAMBER MATCHING
TROUBLESHOOTING
102
HOST EXECUTABLE (128)
FACTORY HOST / REMOTE DIAGNOSTICS (DATABASE STORAGE)
126
ELECTRONIC SUMMARY REPORT (TEXT FORMAT) (125)
IMPORTED SERVICE NOTIFICATION
124
OFFLINE OR IN-LINE ANALYSIS (123)
LINKAGE TO ANALYTICAL SOFTWARE
122
OTHER PREVENTATIVE MAINTENANCE FILES
116
SOFTWARE CONTROL PROGRAM
1) PROCEDURE INFO, ALLOWS FOR INPUTS
2) USER PROMPT AND HELP FEATURES
106
LOCK & KEY PROTECTION FOR ACCESS (PART OF SW INSTALLATION PROCESS) (107)
108
LOCALLY STORED DATA (110)
MACRO ENGINE
1) EXECUTES / INTERPRETS MACROS
2) COMPARES TOOL DATA WITH MACRO SPECS
3) GENERATES ELECTRONIC SUMMARY REPORT
4) GENERATES ARAMS REPORT
5) GENERATES RAW DATA IN DATALOG FORMAT

FIG. 1

FIG. 2

```
step1: (
        command: #setOnline
        parameters: (
                title: 'PM Offline'
                description: 'Process chamber state offline to prevent waferflow into the PM after this macro step.
This ensures that users do not inadvertently process unintended wafers during the macro sequence.'
                online: false
                continueIfFailed: true
                startRequired: false
        )
)
step2: (
        command: #ioRequest
        parameters: (
                title: 'System Info'
                description: 'Records the current values stored in the software AI parameters on the
PM/Diagnose/System Information UI subpage.  This information provides a snapshot of the tool state.'
                ioPoints: (
                        ioPoint1: 'WaferSize'
                        ioPoint2: 'CurrentWaferCount'
                        ioPoint3: 'TotalWaferCount'
                        ioPoint4: 'TCPRFCurrentRFOnTime'
                        ioPoint5: 'TCPRFTotalRFOnTime'
                        ioPoint6: 'TCPRFTotalRFOnInHours'
                        ioPoint7: 'BiasRFCurrentRFOnTime'
                        ioPoint8: 'BiasRFTotalRFOnTime'
                        ioPoint9: 'BiasRFTotalRFOnInHours'
                        ioPoint10: 'ProcessManometerZeroOffset'
                        ioPoint11: 'ElapsedRFTimeToClean'
                        ioPoint12: 'ElapsedWaferCountToClean'
                        ioPoint13: 'mode'
                )
                continueIfFailed: true
                startRequired: false
        )
)
step3: (
        command: #userInput
        parameters: (
                title: 'Daily User Input'
                description: 'This is the start of the Daily Process Module Qual macro sequence. The purpose is to
monitor key tool performance data and alert users when the tool has drifted out of control.'
                requiredStep: '10'
                steps: (
                        step1: (
                                description: 'Enter User Name'
                                helpText: 'Required Input in the comments column user full name for identification
and tracking purposes.'
                        )
                        step2: (
                                description: 'Enter the purpose for this test currently'
                                helpText: 'Input in the comments column a brief description of any relevant
hardware/process related information for this Process Module.'
                        )
                )
                continueIfFailed: true
```

FIG. 2

```
57                      startRequired: false
58              )
59      )
60      step4: (
61              command: #ioCheck
62              parameters: (
63                      title: 'Chamber Temp Check'
64                      description: 'Checks the current values stored in the software AI parameters on the
65      PM/Diagnose/IO/System Heater Channels UI subpage and other temperature related software parameters vs. their
66      recommended setpoints.'
67                      ioPoints: (
68                              ioPoint1: (
69                                      name: 'BiasElectrodeHousingTemperatureMonitor_AI'
70                                      value: 60
71                                      tolerance:5
72                              )
73                              ioPoint2: (
74                                      name: 'ChamberFrontLeftTemperatureMonitor_AI'
75                                      value: 60
76                                      tolerance:5
77                              )
78                              ioPoint3: (
79                                      name: 'ChamberFrontRightTemperatureMonitor_AI'
80                                      value: 60
81                                      tolerance:5
82                              )
83                              ioPoint4: (
84                                      name: 'ChamberRearLeftTemperatureMonitor_AI'
85                                      value: 60
86                                      tolerance:5
87                              )
88                              ioPoint5: (
89                                      name: 'ChamberRearRightTemperatureMonitor_AI'
90                                      value: 60
91                                      tolerance:5
92                              )
93                              ioPoint6: (
94                                      name: 'GasRingTemperatureMonitor_AI'
95                                      value: 60
96                                      tolerance:5
97                              )
98                              ioPoint7: (
99                                      name: 'ThrottleValveTemperatureMonitor_AI'
100                                     value: 60
101                                     tolerance:5
102                             )
103                             ioPoint8: (
104                                     name: 'InnerESCTemperature_AI'
105                                     value: 60
106                                     tolerance:5
107                             )
108                             ioPoint9: (
109                                     name: 'TCUMonitor_AI'
110                                     value: 20
111                                     tolerance:5
112                             )
```

FIG. 2

```
113                             ioPoint10: (
114                                     name: 'OuterESCTemperature_AI'
115                                     value: 60
116                                     tolerance:5
117                             )
118                     )
119                     continueIfFailed: false
120                     startRequired: false
121             )
122     )
123     step5: (
124             command: #pumpDown
125             parameters: (
126
127                     title: 'Chamber Pumpdown (0.5mT/5min/3x)'
128                     description: 'This macro executes a chamber pumpdown. The (0.5mT/5min/3x) notation refers to a
129     check for base pressure of 0.5mT, if this condition is not met there will be a 2 minute delay prior to retry, with a total of
130     3 pumpdown attempts.'
131                     limit: 0.5
132                     delaytime: 5
133                     retry: 3
134                     continueIfFailed: true
135                     startRequired: false
136             )
137     )
138     step6: (
139             command: #idle
140             parameters: (
141                     title: 'Chamber idle'
142                     description: 'Chamber is pumped down idle for 5 minutes.'
143                     time: 5
144                     continueIfFailed: true
145                     startRequired: false
146             )
147     )
148     step7: (
149             command: #ioRequest
150             parameters: (
151                     title: 'Pressure Information'
152                     description: 'Records the current values stored in the software AI parameters on the
153     PM/Diagnose/IO/Manometer Raw Reading UI subpage and other pressure related software parameters.'
154                     ioPoints: (
155                             ioPoint1: 'ProcessManometer_AI'
156                             ioPoint2: 'ProcessManometerZeroOffset'
157                             ioPoint3: 'ProcessManometerAdjustedPressure'
158                             ioPoint4: 'ProcessManometer_RawAI'
159                             ioPoint5: 'ChamberPressureManometer_AI'
160                             ioPoint6: 'ChamberManometer_RawAI'
161                             ioPoint7: 'ForelinePressureManometer_AI'
162                             ioPoint8: 'ChamberManometerReadingInTorr'
163                             ioPoint9: 'ChamberManometerZeroOffset'
164                             ioPoint10: 'ChamberManometerAdjustedPressure'
165                     )
166                     continueIfFailed: true
167                     startRequired: false
168             )
```

FIG. 2

```
169     )
170     step8: (
171             command: #leakback
172             parameters: (
173                     title: 'Chamber Leakrate (1mT/5min/3x)'
174                     description: 'Executes a chamber leakrate check. The (1mT/5min/3x) notation refers to a check for
175     leakrate of 1mT/min, if this condition is not met there will be a 5 minute delay prior to retry, with a total of 3 leakrate
176     attempts.'
177                     limit: 1
178                     delaytime: 5
179                     retry: 3
180                     continueIfFailed: true
181                     startRequired: false
182             )
183     )
184     step9: (
185             command: #pumpDown
186             parameters: (
187                     title: 'Chamber Pumpdown (0.5mT/5min/3x)'
188                     description: 'This macro executes a chamber pumpdown. The (0.5mT/5min/3x) notation refers to a
189     check for base pressure of 0.5mT, if this condition is not met there will be a 2 minute delay prior to retry, with a total of
190     3 pumpdown attempts.'
191                     limit: 0.5
192                     delaytime: 5
193                     retry: 3
194                     continueIfFailed: true
195                     startRequired: false
196             )
197     )
198     step10: (
199             command: #vciProbe
200             parameters: (
201                     title: 'VCI No-Plasma V-Probe'
202                     description: 'This macro executes the VCI No-Plasma V-Probe test with spec checking.'
203                     NumberSamples: 40
204                     NumberSetpoints: 20
205                     SampleInterval: 125
206                     setpt: (
207                             setpt1: 5
208                             setpt2: 10
209                             setpt3: 15
210                             setpt4: 20
211                             setpt5: 25
212                             setpt6: 30
213                             setpt7: 35
214                             setpt8: 40
215                             setpt9: 45
216                             setpt10: 50
217                             setpt11: 55
218                             setpt12: 60
219                             setpt13: 65
220                             setpt14: 70
221                             setpt15: 75
222                             setpt16: 80
223                             setpt17: 0
224                             setpt18: 0
```

FIG. 2

```
                        setpt19: 0
                        setpt20: 0
                )
                StabilizeTime: 5
                continueIfFailed: true
                startRequired: false
                effectiveResistance: 0.385
                eRTolerance: 57
                rSquare: 0.999
        )
)
step11: (
        command: #pumpDown
        parameters: (
                title: 'Chamber Pumpdown (0.5mT/5min/3x)'
                description: 'This macro executes a chamber pumpdown. The (0.5mT/5min/3x) notation refers to a check for base pressure of 0.5mT, if this condition is not met there will be a 2 minute delay prior to retry, with a total of 3 pumpdown attempts.'
                limit: 0.5
                delaytime: 5
                retry: 3
                continueIfFailed: true
                startRequired: false
        )
)
step12: (
        command: #onePointGasCal
        parameters: (
                title: 'Gas Cal One Point 100%'
                description: 'This macro executes the one point gas calibration for process gases at 100% of MFC full scale. Each gas setpoint is compared to actual flow with spec checking.'
                gaslineArray: '000000000001'
                setpt: (
                        setpt1: 100
                        setpt2: 100
                        setpt3: 100
                        setpt4: 100
                        setpt5: 100
                        setpt6: 100
                        setpt7: 100
                        setpt8: 100
                        setpt9: 100
                        setpt10: 100
                        setpt11: 100
                        setpt12: 100
                )
                toleranceList:(
                        Gas1:5
                        Gas2:5
                        Gas3:5
                        Gas4:2
                        Gas5:5
                        Gas6:5
                        Gas7:5
                        Gas8:5
                        Gas9:5
```

FIG. 2

```
                    Gas10:5
                    Gas11:5
                    Gas12:5
                )
                continueIfFailed: true
                startRequired: false
        )
)
step13: (
        command: #onePointGasCal
        parameters: (
                title: 'Gas Cal One Point 30%'
                description: 'This macro executes the one point gas calibration for process gases at 30% of MFC full
scale. Each gas setpoint is compared to actual flow with spec checking.'
                gaslineArray: '111111111111'
                setpt: (
                        setpt1: 30
                        setpt2: 30
                        setpt3: 30
                        setpt4: 30
                        setpt5: 30
                        setpt6: 30
                        setpt7: 30
                        setpt8: 30
                        setpt9: 30
                        setpt10: 30
                        setpt11: 30
                        setpt12: 30
                )
                toleranceList:(
                        Gas1:5
                        Gas2:5
                        Gas3:5
                        Gas4:2
                        Gas5:5
                        Gas6:5
                        Gas7:5
                        Gas8:5
                        Gas9:5
                        Gas10:5
                        Gas11:5
                        Gas12:5
                )
                continueIfFailed: true
                startRequired: false
        )
)
step14: (
        command: #onePointGasCal
        parameters: (
                title: 'Gas Cal One Point at 10%'
                description: 'This macro executes the one point gas calibration for process gases at 10% of MFC full
scale. Each gas setpoint is compared to actual flow with spec checking.'
                gaslineArray: '000100000001'
                setpt: (
                        setpt1: 10
```

FIG. 2

```
                                setpt2: 10
                                setpt3: 10
                                setpt4: 10
                                setpt5: 10
                                setpt6: 10
                                setpt7: 10
                                setpt8: 10
                                setpt9: 10
                                setpt10: 10
                                setpt11: 10
                                setpt12: 10
                        )
                        toleranceList:(
                                Gas1:5
                                Gas2:5
                                Gas3:5
                                Gas4:2
                                Gas5:5
                                Gas6:5
                                Gas7:5
                                Gas8:5
                                Gas9:5
                                Gas10:5
                                Gas11:5
                                Gas12:5
                        )
                        continueIfFailed: true
                        startRequired: false
                )
        )
        step15: (
                command: #setOnline
                parameters: (
                        title: 'PM Online'
                        description: 'Process chamber state online to allow waferflow into the PM after this macro step.  This
ensures that users can routinely process wafers after the completion of the macro sequence.'
                        online: true
                        continueIfFailed: true
                        startRequired: false
                )
        )
```

FIG. 3

Tool ID: Generic
Chamber ID: PM2
Macro Report:

Macro Result Summary:
Macro Completed Successfully
Macro time elapsed:0 day 1 hour 17 minute 12 second.

Step No.	Step Description	Type	Status
1	PM Offline	Auto	Passed
2	System Info	Auto	Passed
3	Daily User Input	Man	Passed
4	Chamber Temp Check	Auto	Failed
5	Chamber Pumpdown (0.5mT/5min/3x)	Auto	Passed
6	Chamber Idle	Auto	Passed
7	Pressure Information	Auto	Passed
8	Chamber Leakrate (1mT/5min/3x)	Auto	Passed
9	Chamber Pumpdown (0.5mT/5min/3x)	Auto	Passed
10	VCI No-Plasma V-Probe	Auto	Passed
11	Chamber Pumpdown (0.5mT/5min/3x)	Auto	Passed
12	Gas Cal One Point 70%	Auto	Passed
13	Chamber Pumpdown (0.5mT/5min/3x)	Auto	Passed
14	Gas Cal One Point Various	Auto	Failed
15	PM Online	Auto	Passed

Macro Step1: PM Offline

Command: Take PM Offline
Status: Passed
Timestamp: 4/17/2003 6:28:4

Macro Step2: System Info

Command: IO Point Request
Status: Passed
Timestamp: 4/17/2003 6:28:4
IO Points Data:

IO Points	Value
BiasRFCurrentRFOnTime	12139.9
BiasRFTotalRFOnInHours	202.332
BiasRFTotalRFOnTime	12139.9
CurrentWaferCount	11049
ElapsedRFTimeToClean	0
ElapsedWaferCountToClean	0
mode	Maintenance
ProcessManometerZeroOffset	-0.146484
TCPRFCurrentRFOnTime	20770.4
TCPRFTotalRFOnInHours	346.174
TCPRFTotalRFOnTime	20770.4
TotalWaferCount	11049
WaferSize	200MM

FIG. 3

Macro Step3: Daily User Input

Command: Intervention Required Command
Step1:Enter User Name
Comments:RR
Status: Completed
Completion Time:4/17/2003 6:28:6
Step2:Enter the purpose for this test currently
Comments:
Status: Completed
Completion Time:4/17/2003 6:28:10
Status: Passed

Macro Step4: Chamber Temp Check

Command: IO Point Check
Status: Passed
Timestamp: 4/17/2003 6:28:10
IO Points Data:

IO Points	Value	Spec Value	Percent Error	Spec Tolerance
BiasElectrodeHousingTemperatureMonitor_AI	60.1	60	0%	5%
ChamberFrontLeftTemperatureMonitor_AI	60.1	60	0%	5%
ChamberFrontRightTemperatureMonitor_AI	60.1	60	0%	5%
ChamberRearLeftTemperatureMonitor_AI	60.1	60	0%	5%
ChamberRearRightTemperatureMonitor_AI	60.1	60	0%	5%
GasRingTemperatureMonitor_AI	60.2	60	0%	5%
InnerESCTemperature_AI	59.5062	60	1%	5%
OuterESCTemperature_AI	60.0624	60	0%	5%
TCUMonitor_AI	19	20	5%	5%
ThrottleValveTemperatureMonitor_AI	60.1	60	0%	5%

Macro Step5: Chamber Pumpdown (0.5mT/5min/3x)

Command: Pump Down
Status: Passed
Timestamp: 4/17/2003 6:28:12
Chamber Pressure: 0.292969

Macro Step6: Chamber Idle

Command: Idle Delay
Status: Passed
Timestamp: 4/17/2003 6:33:12

FIG. 3

Macro Step7: Pressure Information

Command: IO Point Request	
Status: Passed	
Timestamp: 4/17/2003 6:33:12	
IO Points Data:	
IO Points	Value
ChamberManometerAdjustedPressure	0
ChamberManometerReadingInTorr	0.0292969
ChamberManometerZeroOffset	-29.2969
ChamberManometer_RawAI	29.2969
ChamberPressureManometer_AI	29.2969
ForelinePressureManometer_AI	29.2969
ProcessManometerAdjustedPressure	0.292969
ProcessManometerZeroOffset	-0.146484
ProcessManometer_AI	0.439453
ProcessManometer_RawAI	43.9453

Macro Step8: Chamber Leakrate (1mT/5min/3x)

Command: Leakback
Status: Passed
Timestamp: 4/17/2003 6:36:46
Leakrate: 0.301339

Macro Step9: Chamber Pumpdown (0.5mT/5min/3x)

Command: Pump Down
Status: Passed
Timestamp: 4/17/2003 6:37:16
Chamber Pressure: 0.292969

FIG. 3

Macro Step10: VCI No-Plasma V-Probe

Command: VCIProbe
Status: Passed
Number Samples: 40
Number Setpoints: 20
Sample Interval: 125
Stabilize Time: 5
Timestamp: 4/17/2003 6:40:10
Capacitance: 320
Slope: 4541.11
R Squared: 0.99998
Effective Resistance: 0.593536
Effective Resistance Tolerance: 57%

Setpoint:	VProbe	VProbeSq	Forward	Reflected
5	148.682	22106.2	4.89844	1.92969
10	213.398	45538.9	10.0937	3.97813
15	262.632	68975.5	15.0664	6.21953
20	303.94	92379.8	20.1875	7.67422
25	338.35	114480	25.2047	7.27344
30	368.672	135919	30.2219	0
35	396.548	157250	34.868	0
40	424.922	180559	39.7813	0
45	451.084	203477	44.9766	0
50	475.723	226312	49.875	0
55	499.468	249468	55.1594	0
60	521.587	272053	59.9094	0
65	542.183	293962	64.7187	0
70	562.808	316752	69.825	0
75	583.242	340171	74.8125	0
80	602.812	363383	79.8742	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

Macro Step11: Chamber Pumpdown (0.5mT/5min/3x)

Command: Pump Down
Status: Passed
Timestamp: 4/17/2003 6:40:40
Chamber Pressure: 0.292969

FIG. 3

Macro Step12: Gas Cal One Point 70%

Command: One Point Gas Calibration						
Status: Failed						
Error Text: One Point Gas Calibration Failed. Calibration out of error tolerance.						
Gas Line: Gas1						
Gas Name: Cl2-200						
TimeStamp: 4/17/200306:45:23						
Tolerance Spec: 5%						
Result: Within Tolerance						
Req Flow	Actual Flow	R Squared	Cal Point	Inv Volume	Delta	% Error
136.5	133.572	0.999948	178	95657.2	2.9279	2.14498
Gas Line: Gas2						
Gas Name: HBr-500						
TimeStamp: 4/17/200306:49:40						
Tolerance Spec: 5%						
Result: Within Tolerance						
Req Flow	Actual Flow	R Squared	Cal Point	Inv Volume	Delta	% Error
350	339.984	0.99997	141	96363	10.016	2.86171
Gas Line: Gas3						
Gas Name: CF4-200						
TimeStamp: 4/17/200306:54:32						
Tolerance Spec: 5%						
Result: Within Tolerance						
Req Flow	Actual Flow	R Squared	Cal Point	Inv Volume	Delta	% Error
140	135.935	0.999957	178	96404.9	4.06541	2.90387
Gas Line: Gas4						
Gas Name: O2-20						
TimeStamp: 4/17/200306:59:15						
Tolerance Spec: 2%						
Result: Out of Tolerance						
Req Flow	Actual Flow	R Squared	Cal Point	Inv Volume	Delta	% Error
14	13.7176	0.996471	177	95532.6	0.282428	2.01734
Gas Line: Gas5						
Gas Name: O2-200						
TimeStamp: 4/17/200307:04:04						
Tolerance Spec: 5%						
Result: Within Tolerance						
Req Flow	Actual Flow	R Squared	Cal Point	Inv Volume	Delta	% Error
140	137.088	0.999958	178	95593.5	2.91156	2.07969
Gas Line: Gas6						
Gas Name: He-500						
TimeStamp: 4/17/200307:08:09						
Tolerance Spec: 5%						
Result: Within Tolerance						
Req Flow	Actual Flow	R Squared	Cal Point	Inv Volume	Delta	% Error
350	340.355	0.999969	141	96258	9.64511	2.75575
Gas Line: Gas7						
Gas Name: SF6-200						
TimeStamp: 4/17/200307:13:00						
Tolerance Spec: 5%						
Result: Within Tolerance						
Req Flow	Actual Flow	R Squared	Cal Point	Inv Volume	Delta	% Error
140	136.284	0.999954	177	96158	3.71646	2.65461

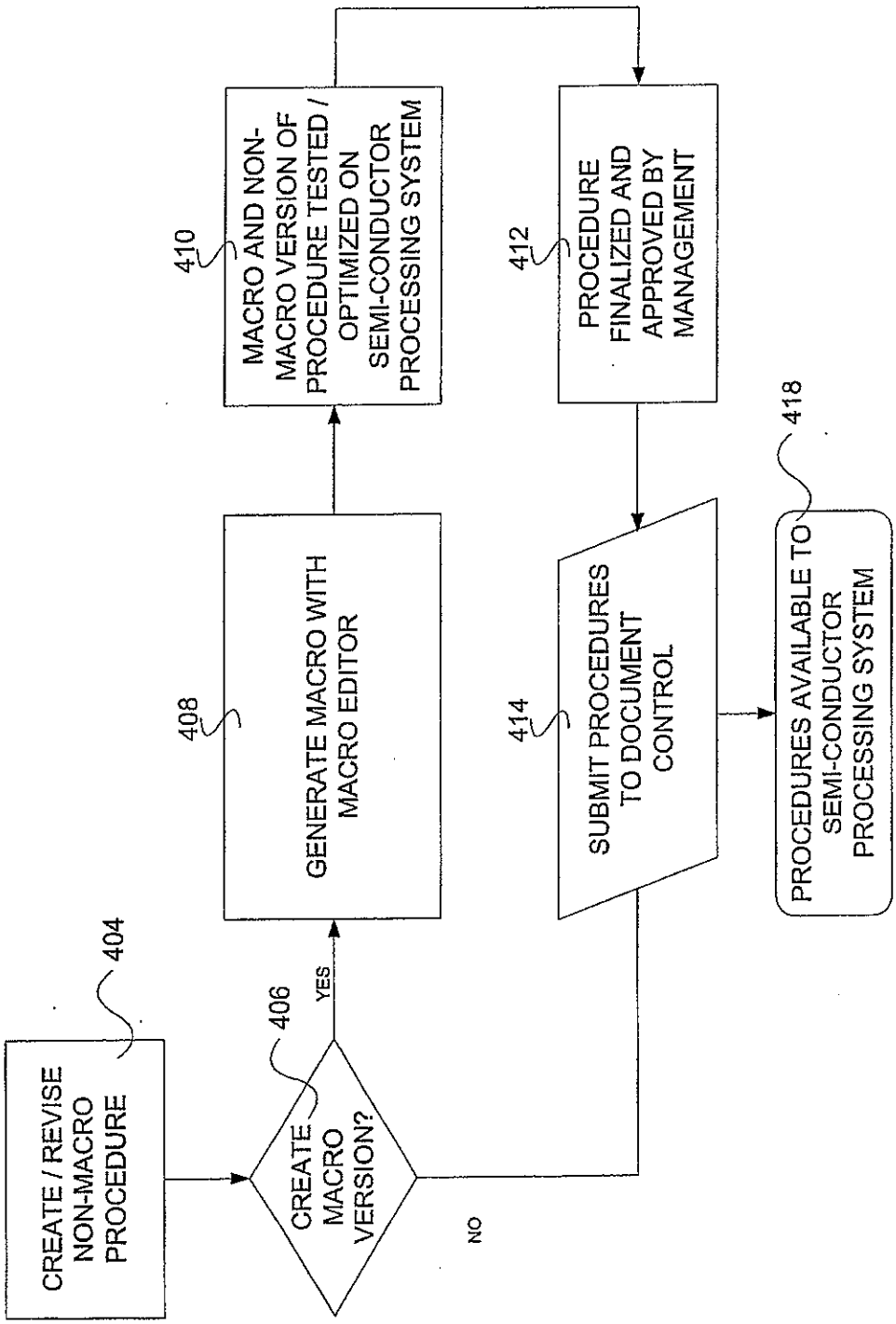

CREATE / REVISE NON-MACRO PROCEDURE
404
CREATE MACRO VERSION?
406
YES
NO
GENERATE MACRO WITH MACRO EDITOR
408
MACRO AND NON-MACRO VERSION OF PROCEDURE TESTED / OPTIMIZED ON SEMI-CONDUCTOR PROCESSING SYSTEM
410
PROCEDURE FINALIZED AND APPROVED BY MANAGEMENT
412
SUBMIT PROCEDURES TO DOCUMENT CONTROL
414
PROCEDURES AVAILABLE TO SEMI-CONDUCTOR PROCESSING SYSTEM
418

FIG. 4

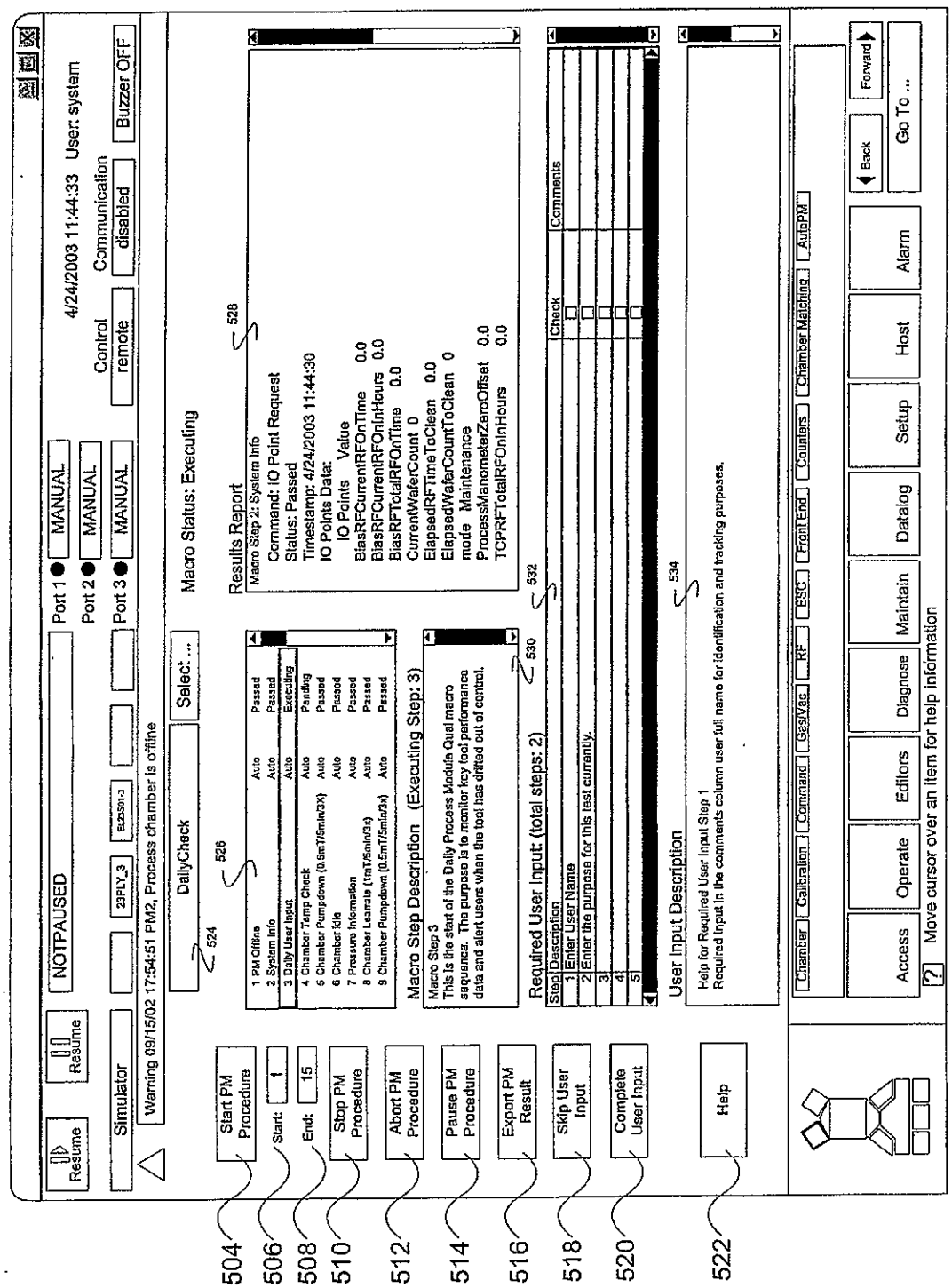

Resume
Resume
NOTPAUSED
Port 1
MANUAL
Port 2
MANUAL
Port 3
MANUAL
4/24/2003 11:44:33 User: system
Control
remote
Communication
disabled
Buzzer OFF
Simulator
23FLY_3
Warning 09/15/02 17:54:51 PM2, Process chamber is offline
DailyCheck
Select ...
524
526
Macro Status: Executing
Results Report
528
Macro Step 2: System Info
Command: IO Point Request
Status: Passed
Timestamp: 4/24/2003 11:44:30
IO Points Data:
IO Points Value
BiasRFCurrentRFOnTime 0.0
BiasRFCurrentRFOnInHours 0.0
BiasRFTotalRFOnTime 0.0
CurrentWaferCount 0
ElapsedRFTimeToClean 0.0
ElapsedWaferCountToClean 0
mode Maintenance
ProcessManometerZeroOffset 0.0
TCPRFTotalRFOnInHours 0.0
1 PM Offline Auto Passed
2 System Info Auto Passed
3 Daily User Input Auto Executing
4 Chamber Temp Check Auto Pending
5 Chamber Pumpdown (0.5mT/5min/3X) Auto Passed
6 Chamber Idle Auto Passed
7 Pressure Information Auto Passed
8 Chamber Leamrate (1mT/5min/3x) Auto Passed
9 Chamber Pumpdown (0.5mT/5min/3x) Auto Passed
Macro Step Description (Executing Step: 3)
Macro Step 3
This is the start of the Daily Process Module Qual macro sequence. The purpose is to monitor key tool performance data and alert users when the tool has drifted out of control.
530
Required User Input: (total steps: 2)
532
Step Description Check Comments
1 Enter User Name
2 Enter the purpose for this test currently.
3
4
5
User Input Description
534
Help for Required User Input Step 1
Required Input in the comments column user full name for identification and tracking purposes.
Start PM Procedure
Start: 1
End: 15
Stop PM Procedure
Abort PM Procedure
Pause PM Procedure
Export PM Result
Skip User Input
Complete User Input
Help
504
506
508
510
512
514
516
518
520
522
Chamber Calibration Command Gas/Vac RF ESC FrontEnd Counters Chamber Matching AutoPM
Access Operate Editors Diagnose Maintain Datalog Setup Host Alarm
Back Forward
Go To ...
Move cursor over an item for help information

FIG. 5A

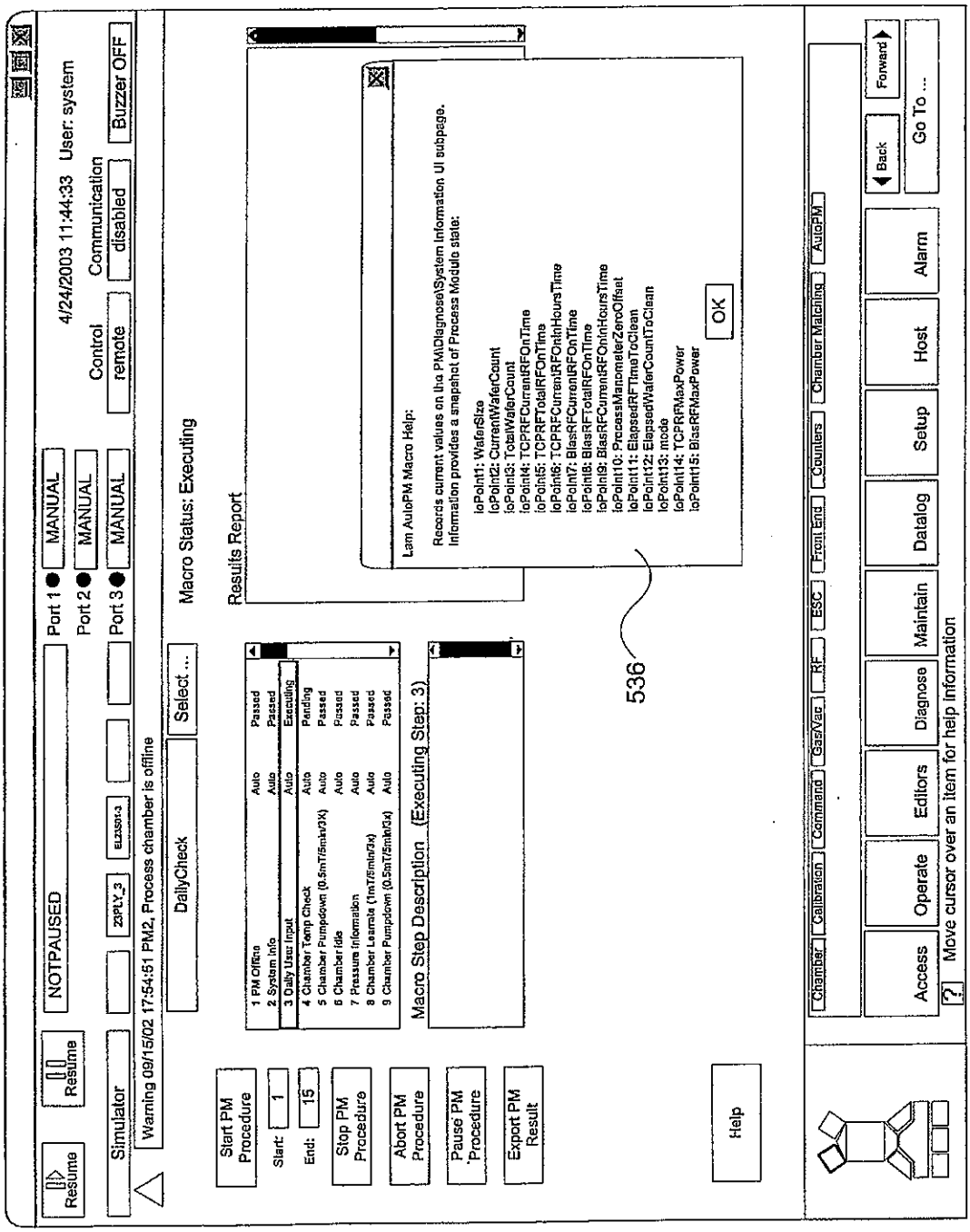

Resume
Resume
NOTPAUSED
Port 1
MANUAL
Port 2
MANUAL
Port 3
MANUAL
4/24/2003 11:44:33 User: system
Control
remote
Communication
disabled
Buzzer OFF
Simulator
Warning 09/15/02 17:54:51 PM2, Process chamber is offline
DailyCheck
Select ...
Macro Status: Executing
Start PM Procedure
Start:
End:
Stop PM Procedure
Abort PM Procedure
Pause PM Procedure
Export PM Result
Help
Macro Step Description (Executing Step: 3)
Results Report
Lam AutoPM Macro Help:
OK
536
Chamber
Calibration
Command
GasVac
RF
ESC
Front End
Counters
Chamber Matching
AutoPM
Access
Operate
Editors
Diagnose
Maintain
Datalog
Setup
Host
Alarm
Back
Forward
Go To ...
Move cursor over an item for help information

FIG. 5B

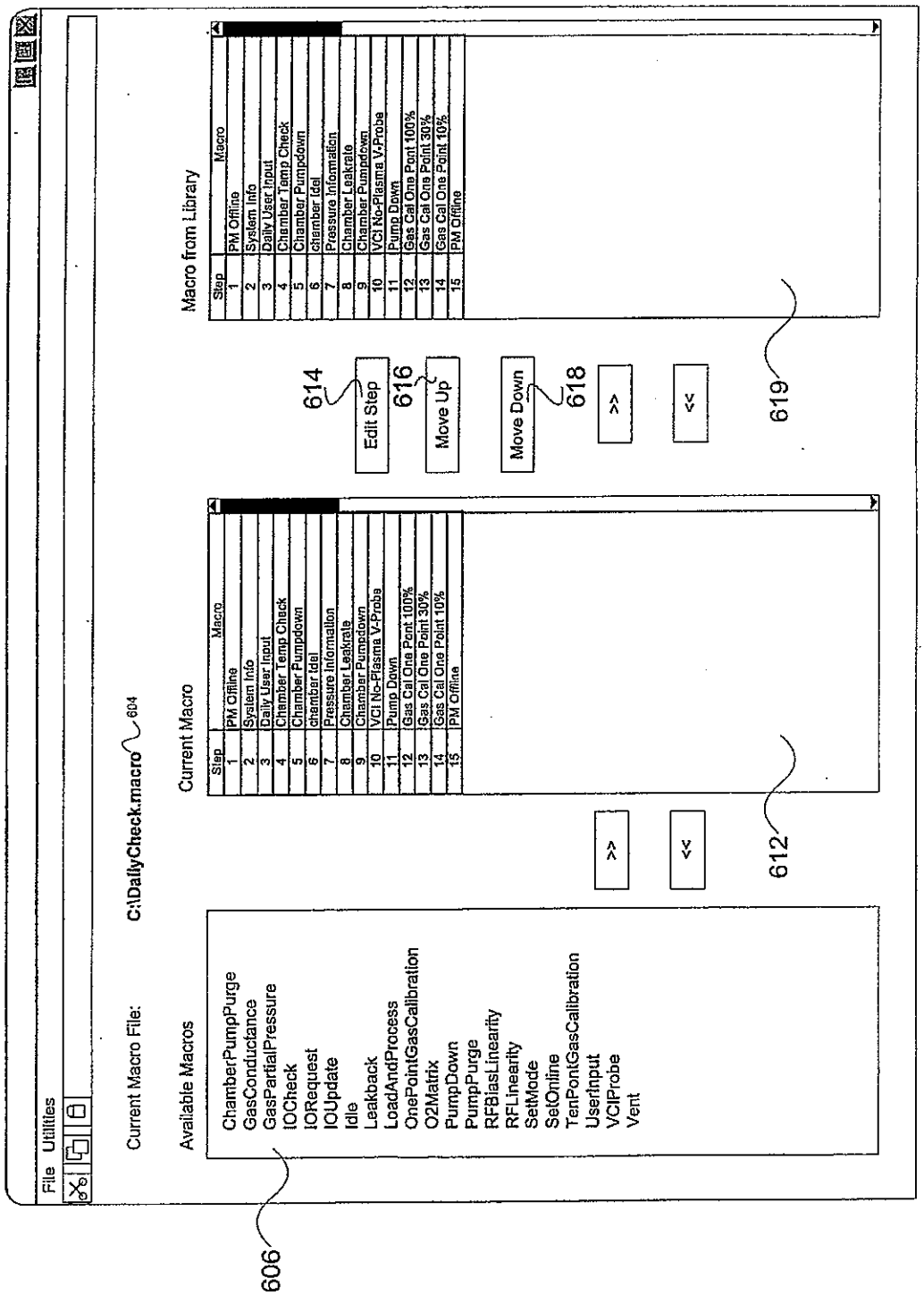

File Utilities
Current Macro File:
C:\DailyCheck.macro
604
Available Macros
ChamberPumpPurge
GasConductance
GasPartialPressure
IOCheck
IORequest
IOUpdate
Idle
Leakback
LoadAndProcess
OnePointGasCalibration
O2Matrix
PumpDown
PumpPurge
RFBiasLinearity
RFLinearity
SetMode
SetOnline
TenPontGasCalibration
UserInput
VCIProbe
Vent
606
Current Macro
Step
Macro
1 PM Offline
2 System Info
3 Daily User Input
4 Chamber Temp Check
5 Chamber Pumpdown
6 chamber Idel
7 Pressure Information
8 Chamber Leakrate
9 Chamber Pumpdown
10 VCI No-Plasma V-Probe
11 Pump Down
12 Gas Cal One Pont 100%
13 Gas Cal One Point 30%
14 Gas Cal One Point 10%
15 PM Offline
>>
<<
612
614
Edit Step
616
Move Up
618
Move Down
>>
<<
Macro from Library
619
Step
Macro
1 PM Offline
2 System Info
3 Daily User Input
4 Chamber Temp Check
5 Chamber Pumpdown
6 chamber Idel
7 Pressure Information
8 Chamber Leakrate
9 Chamber Pumpdown
10 VCI No-Plasma V-Probe
11 Pump Down
12 Gas Cal One Pont 100%
13 Gas Cal One Point 30%
14 Gas Cal One Point 10%
15 PM Offline

FIG. 6A

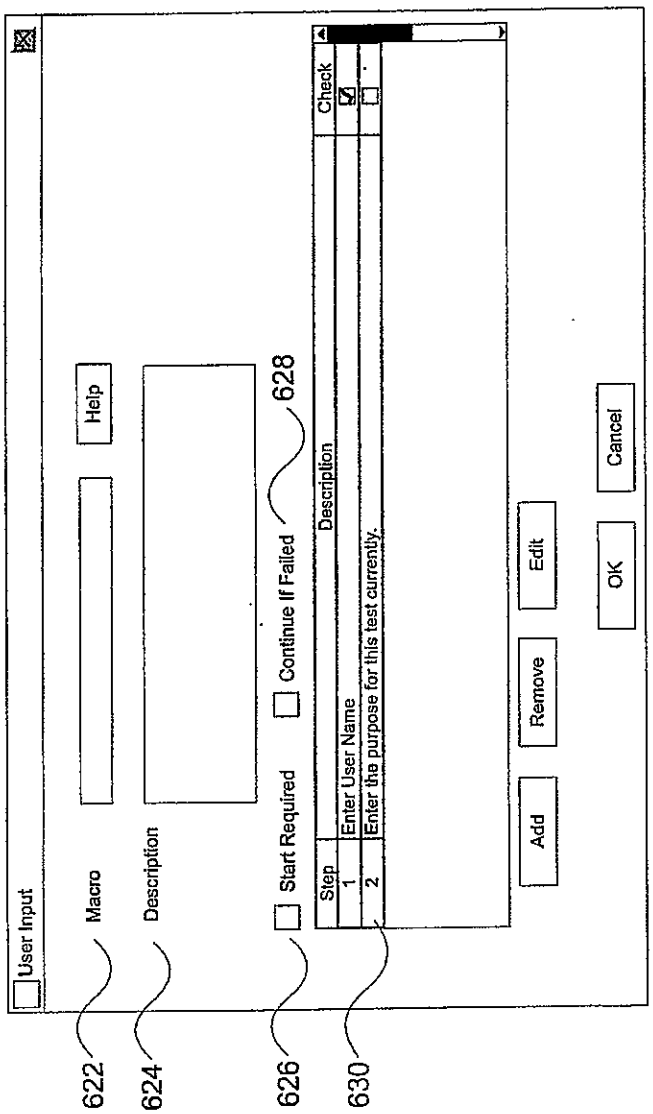

User Input
Macro
Description
Start Required
Continue If Failed
Help
Step
Description
Check
1
Enter User Name
2
Enter the purpose for this test currently.
Add
Remove
Edit
OK
Cancel
622
624
626
628
630

FIG. 6B