FIG.1

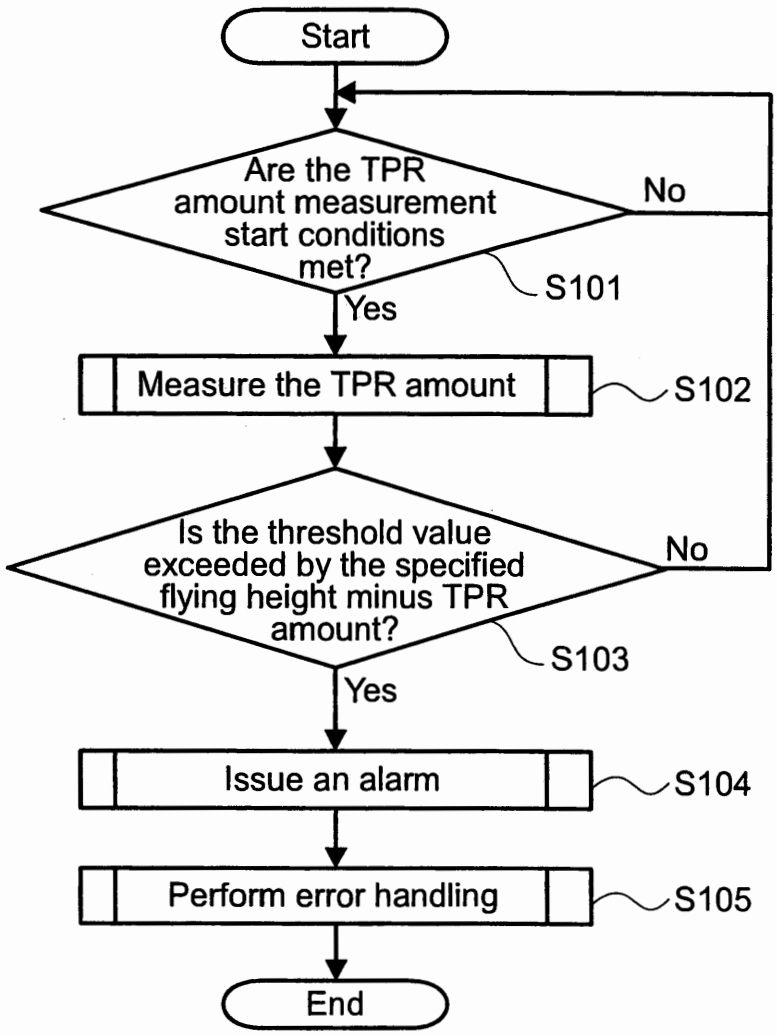
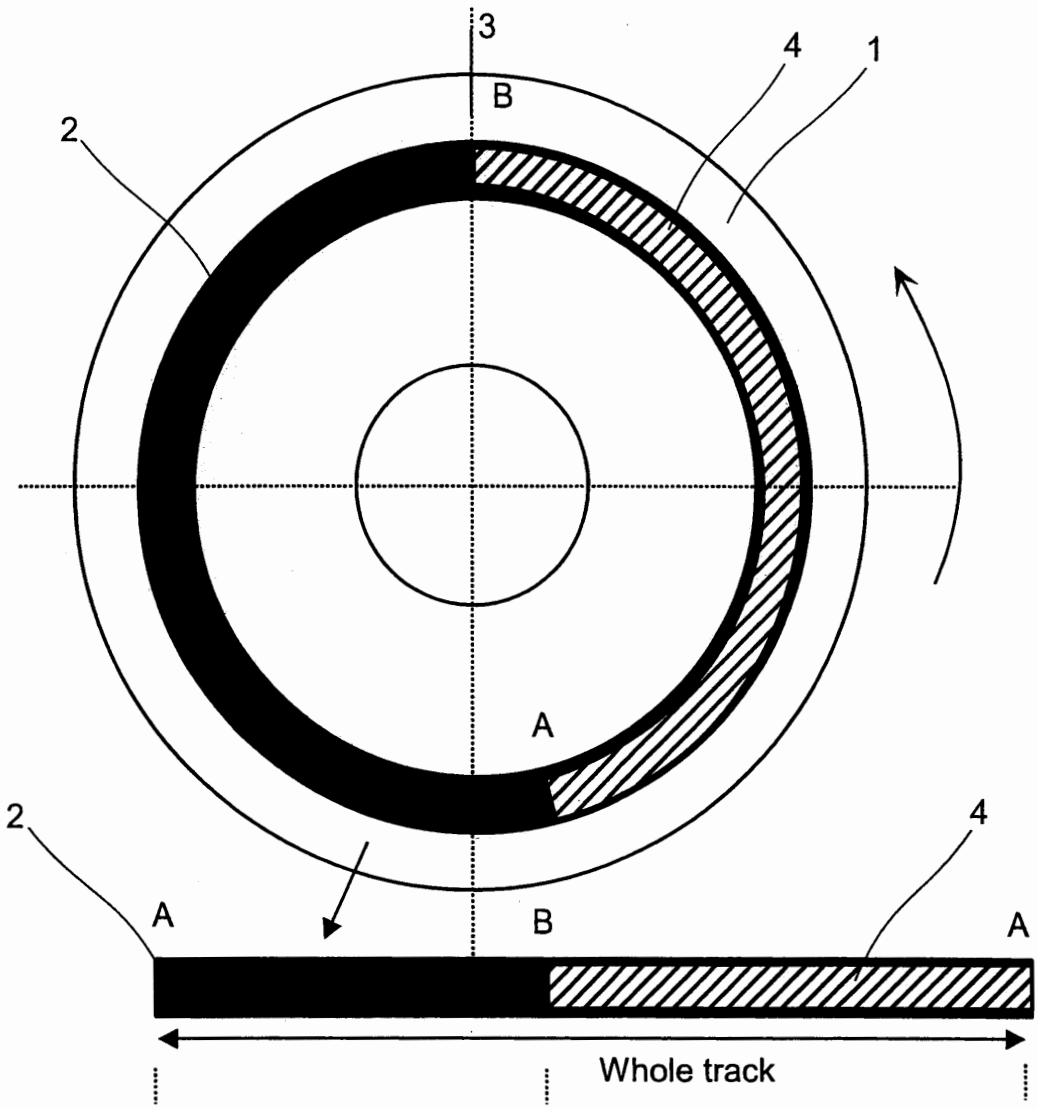

Start
Are the TPR amount measurement start conditions met?
No
S101
Yes
Measure the TPR amount
S102
Is the threshold value exceeded by the specified flying height minus TPR amount?
No
S103
Yes
Issue an alarm
S104
Perform error handling
S105
End

FIG.2


3
4
1
B
2
A
2
4
A
B
A
Whole track

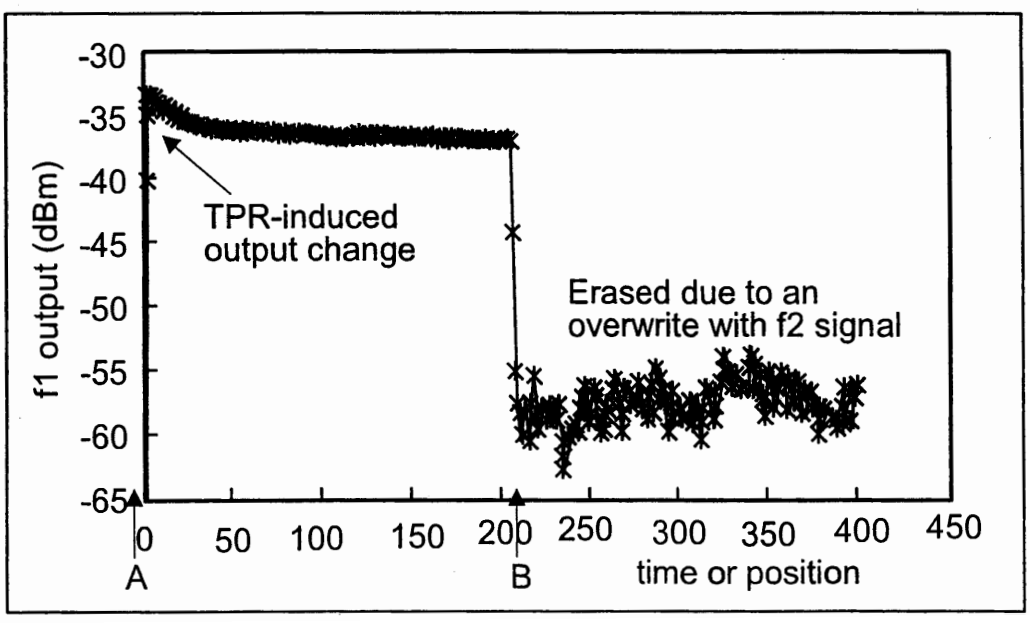

-30
-35
-40
-45
-50
-55
-60
-65
f1 output (dBm)
TPR-induced
output change
Erased due to an
overwrite with f2 signal
0
50
100
150
200
250
300
350
400
450
A
B
time or position

FIG.3

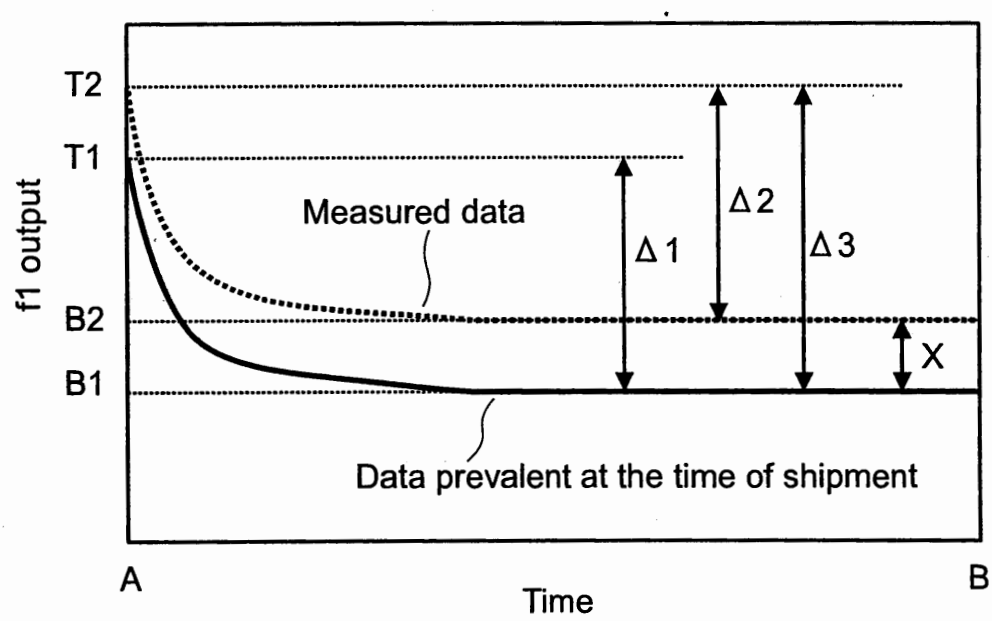

T2
T1
B2
B1
f1 output
Measured data
Δ1
Δ2
Δ3
X
Data prevalent at the time of shipment
A
B
Time

FIG.4

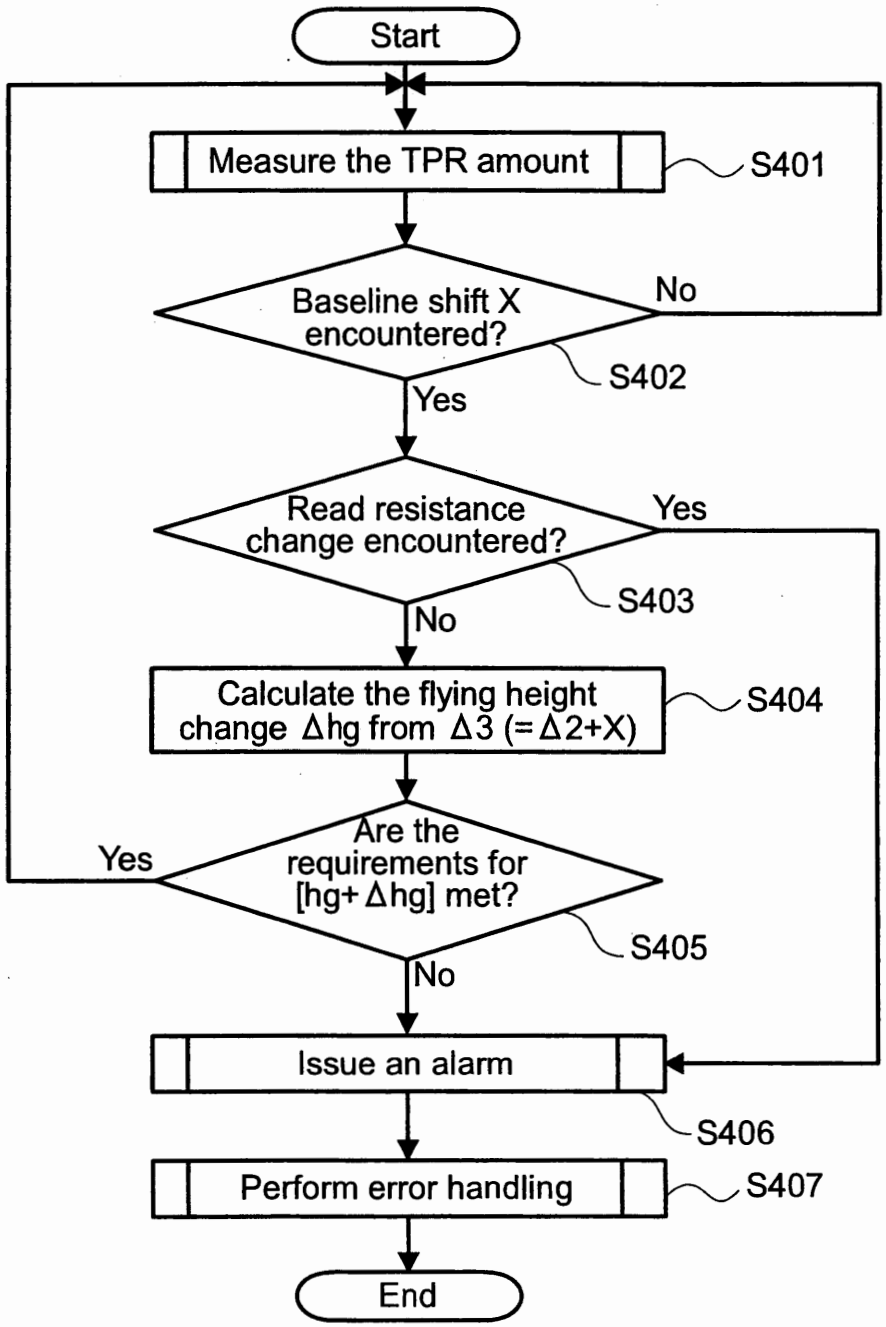

Start
Measure the TPR amount
S401
Baseline shift X encountered?
No
S402
Yes
Read resistance change encountered?
Yes
S403
No
Calculate the flying height change Δhg from Δ3 (=Δ2+X)
S404
Are the requirements for [hg+Δhg] met?
Yes
S405
No
Issue an alarm
S406
Perform error handling
S407
End

FIG.5

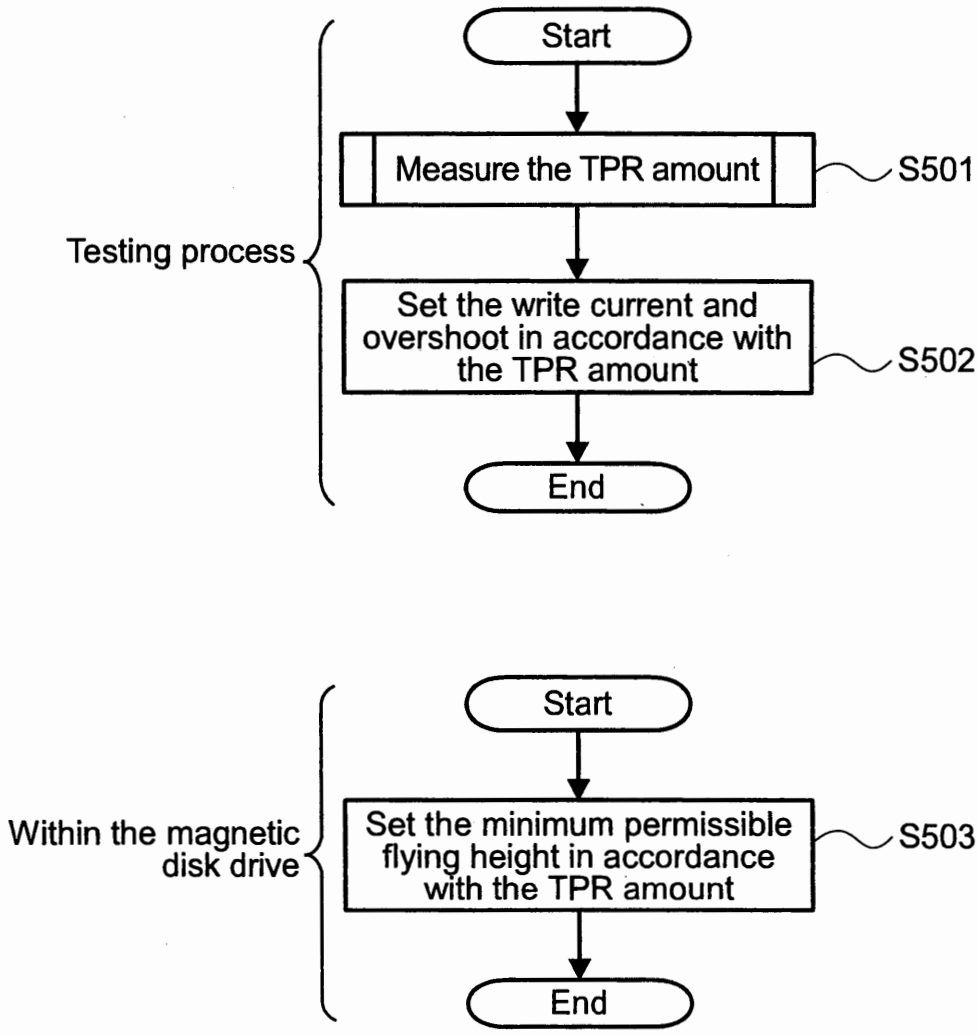

Start
Measure the TPR amount
S501
Testing process
Set the write current and overshoot in accordance with the TPR amount
S502
End
Start
Within the magnetic disk drive
Set the minimum permissible flying height in accordance with the TPR amount
S503
End

FIG.6

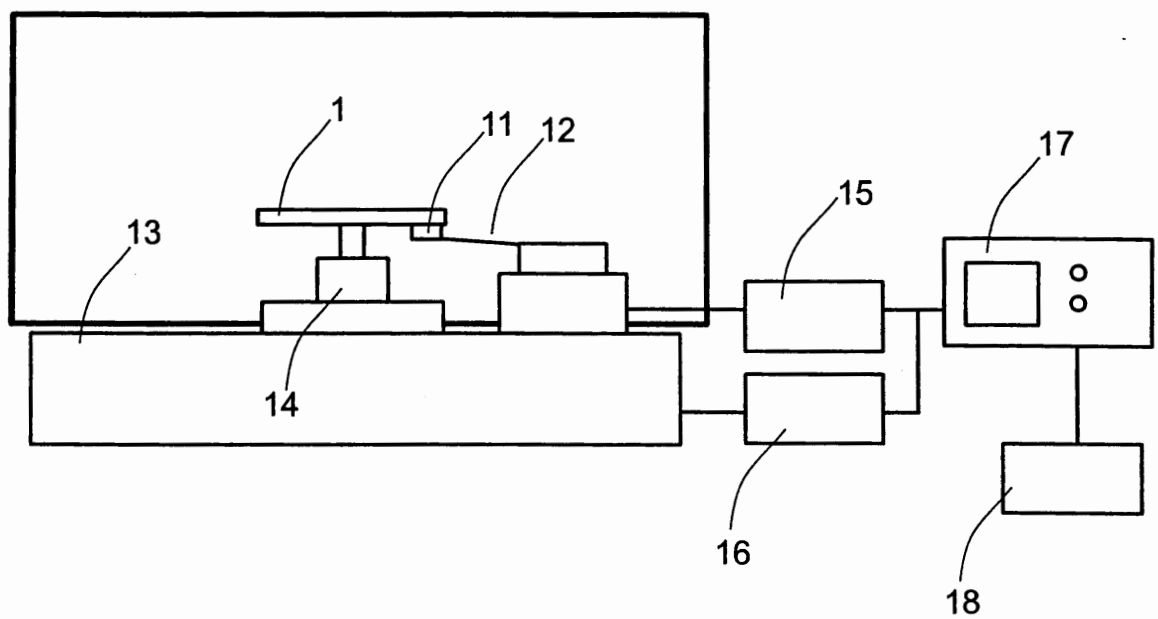


FIG.7

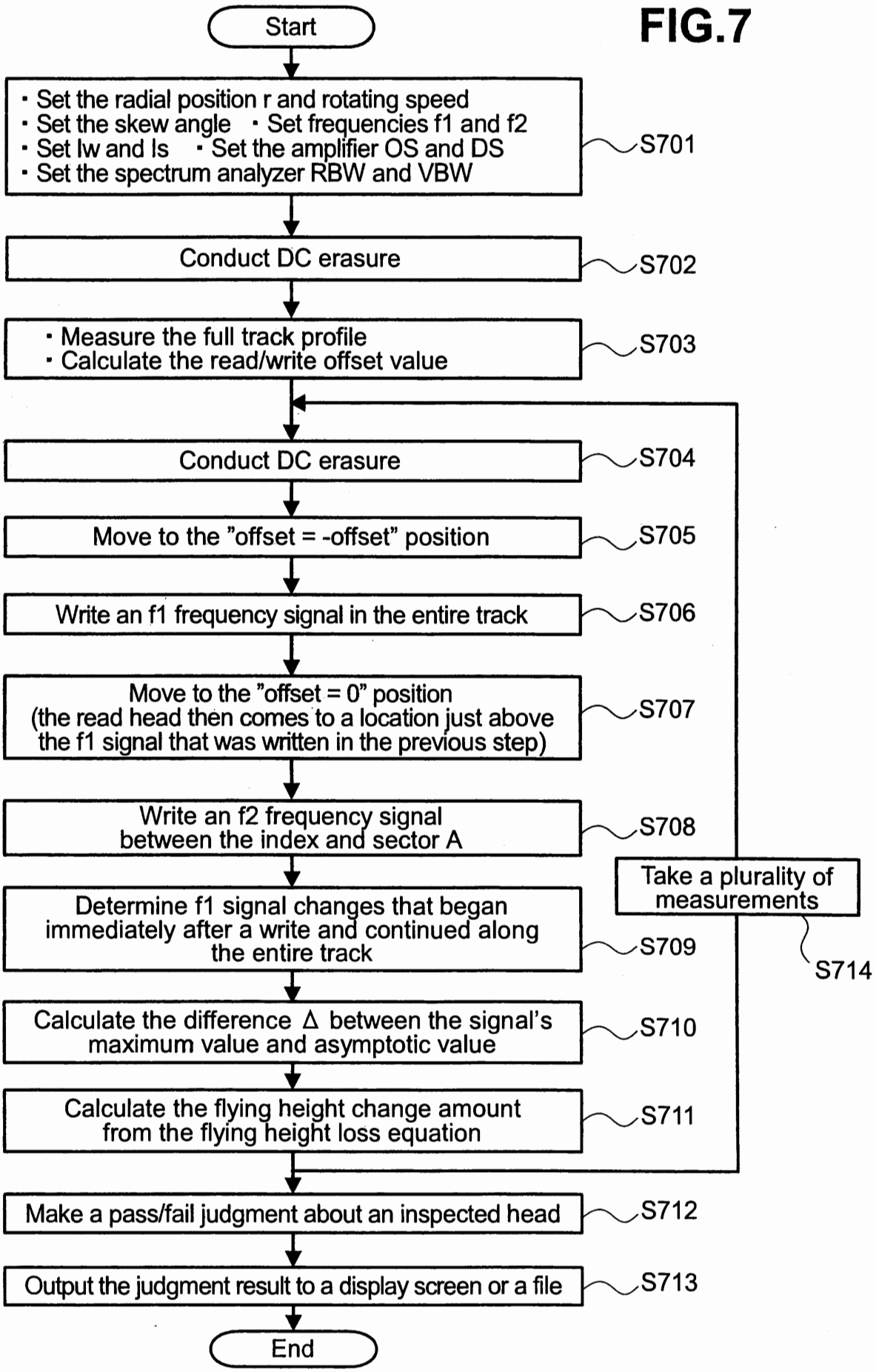

Start
• Set the radial position r and rotating speed
• Set the skew angle • Set frequencies f1 and f2
• Set Iw and Is • Set the amplifier OS and DS
• Set the spectrum analyzer RBW and VBW
S701
Conduct DC erasure
S702
• Measure the full track profile
• Calculate the read/write offset value
S703
Conduct DC erasure
S704
Move to the "offset = -offset" position
S705
Write an f1 frequency signal in the entire track
S706
Move to the "offset = 0" position
(the read head then comes to a location just above the f1 signal that was written in the previous step)
S707
Write an f2 frequency signal between the index and sector A
S708
Determine f1 signal changes that began immediately after a write and continued along the entire track
S709
Calculate the difference Δ between the signal's maximum value and asymptotic value
S710
Calculate the flying height change amount from the flying height loss equation
S711
Take a plurality of measurements
S714
Make a pass/fail judgment about an inspected head
S712
Output the judgment result to a display screen or a file
S713
End

FIG.8

