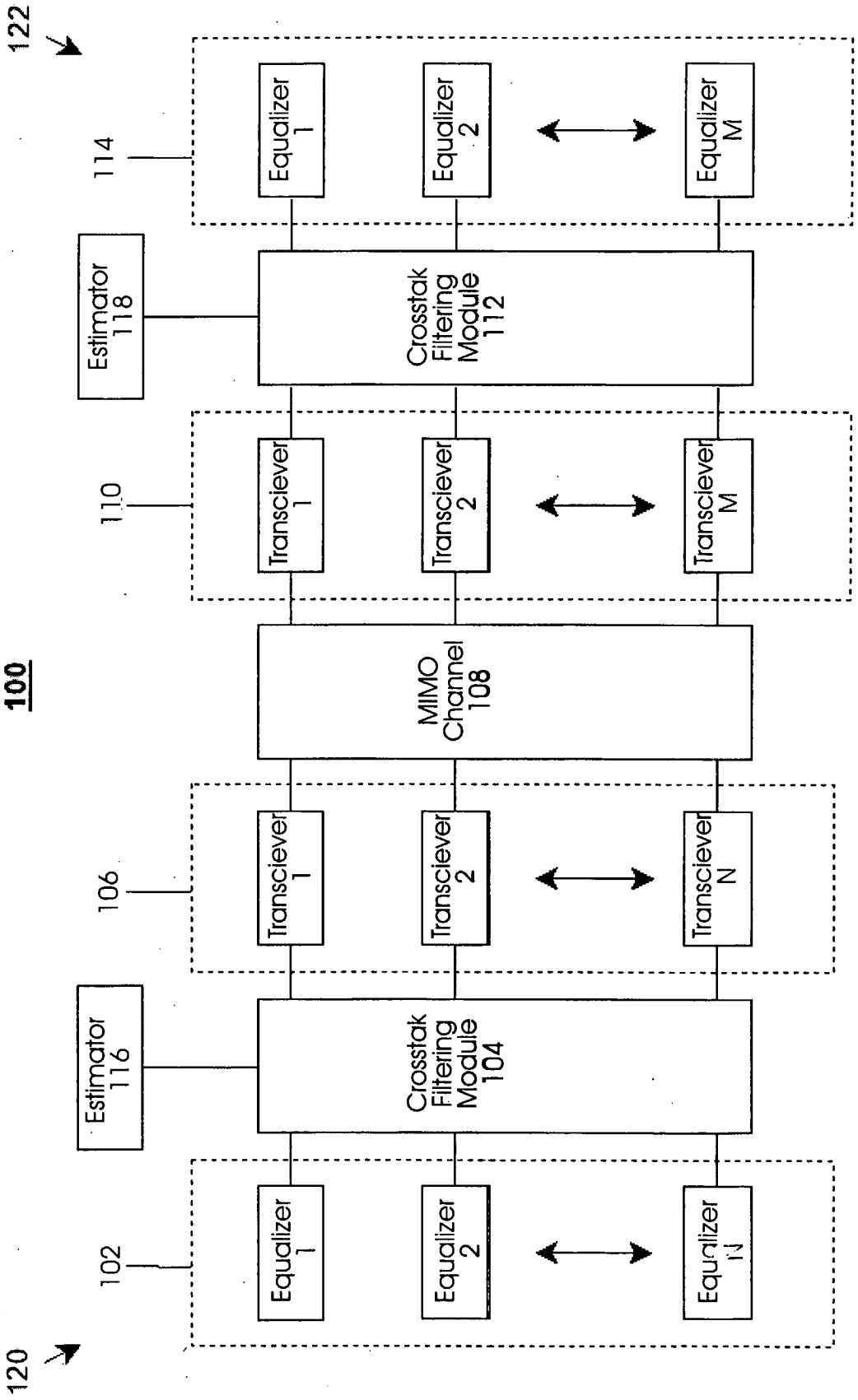

100
120
122
102
Equalizer 1
Equalizer 2
Equalizer N
Estimator 116
Crosstalk Filtering Module 104
106
Transciever 1
Transciever 2
Transciever N
MIMO Channel 108
110
Transciever 1
Transciever 2
Transciever M
Estimator 118
Crosstalk Filtering Module 112
114
Equalizer 1
Equalizer 2
Equalizer M

FIG. 1

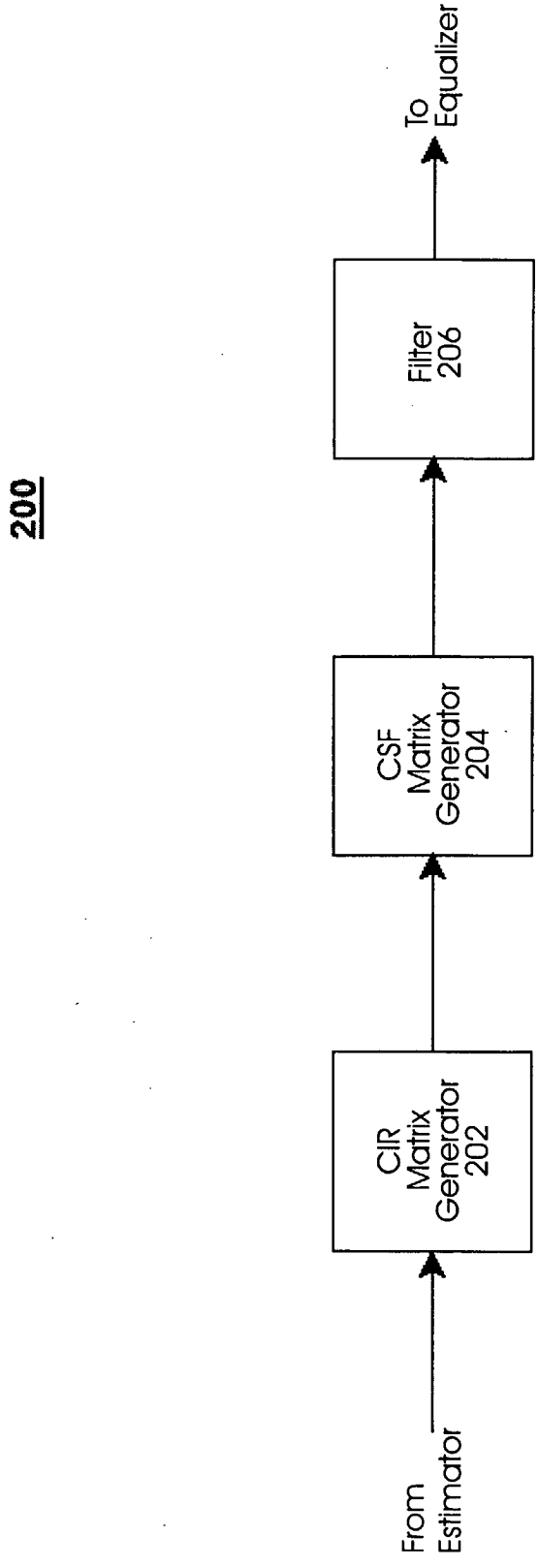

200
From Estimator
CIR Matrix Generator 202
CSF Matrix Generator 204
Filter 206
To Equalizer

FIG. 2

300

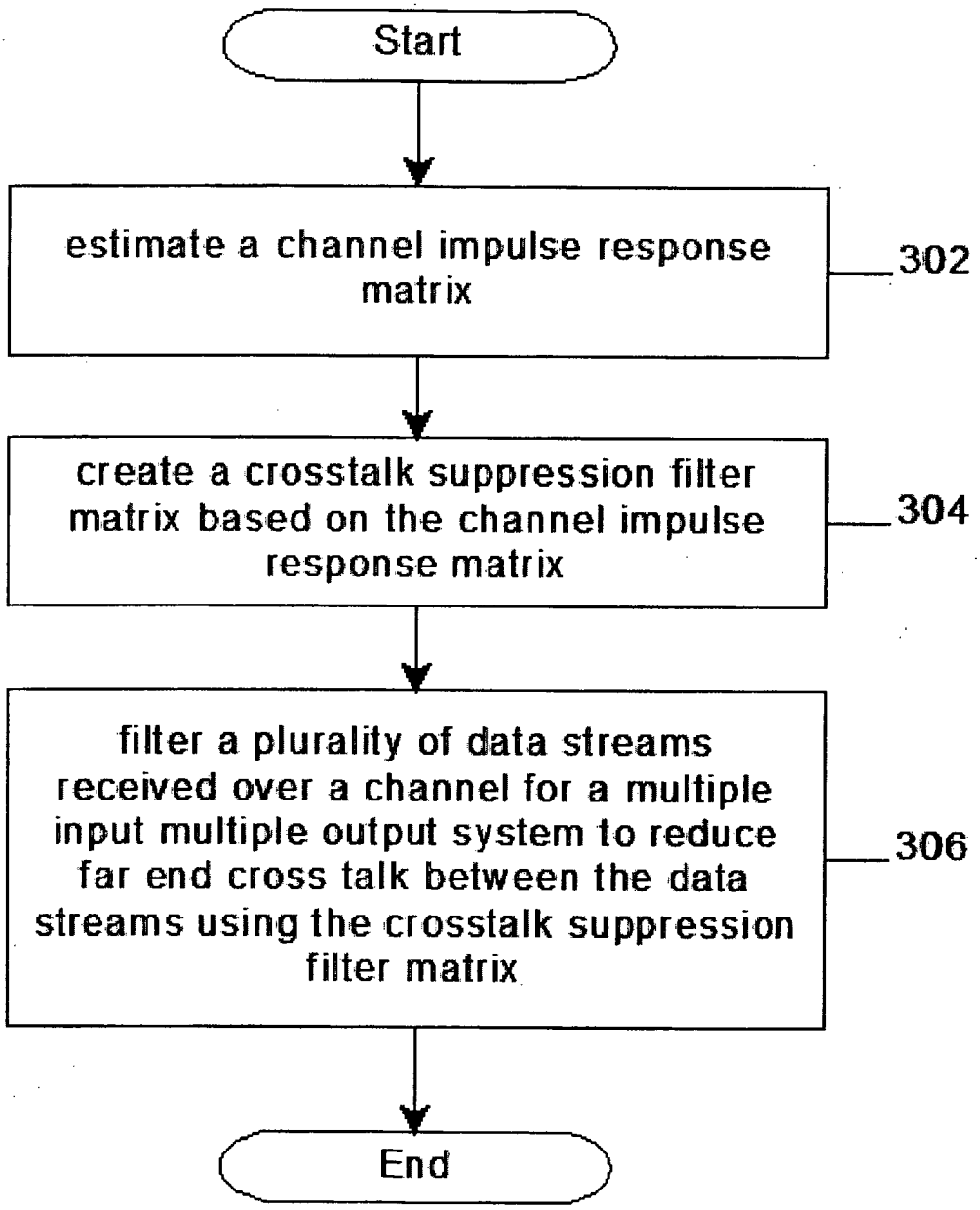

Start
estimate a channel impulse response matrix
302
create a crosstalk suppression filter matrix based on the channel impulse response matrix
304
filter a plurality of data streams received over a channel for a multiple input multiple output system to reduce far end cross talk between the data streams using the crosstalk suppression filter matrix
306
End

FIG. 3

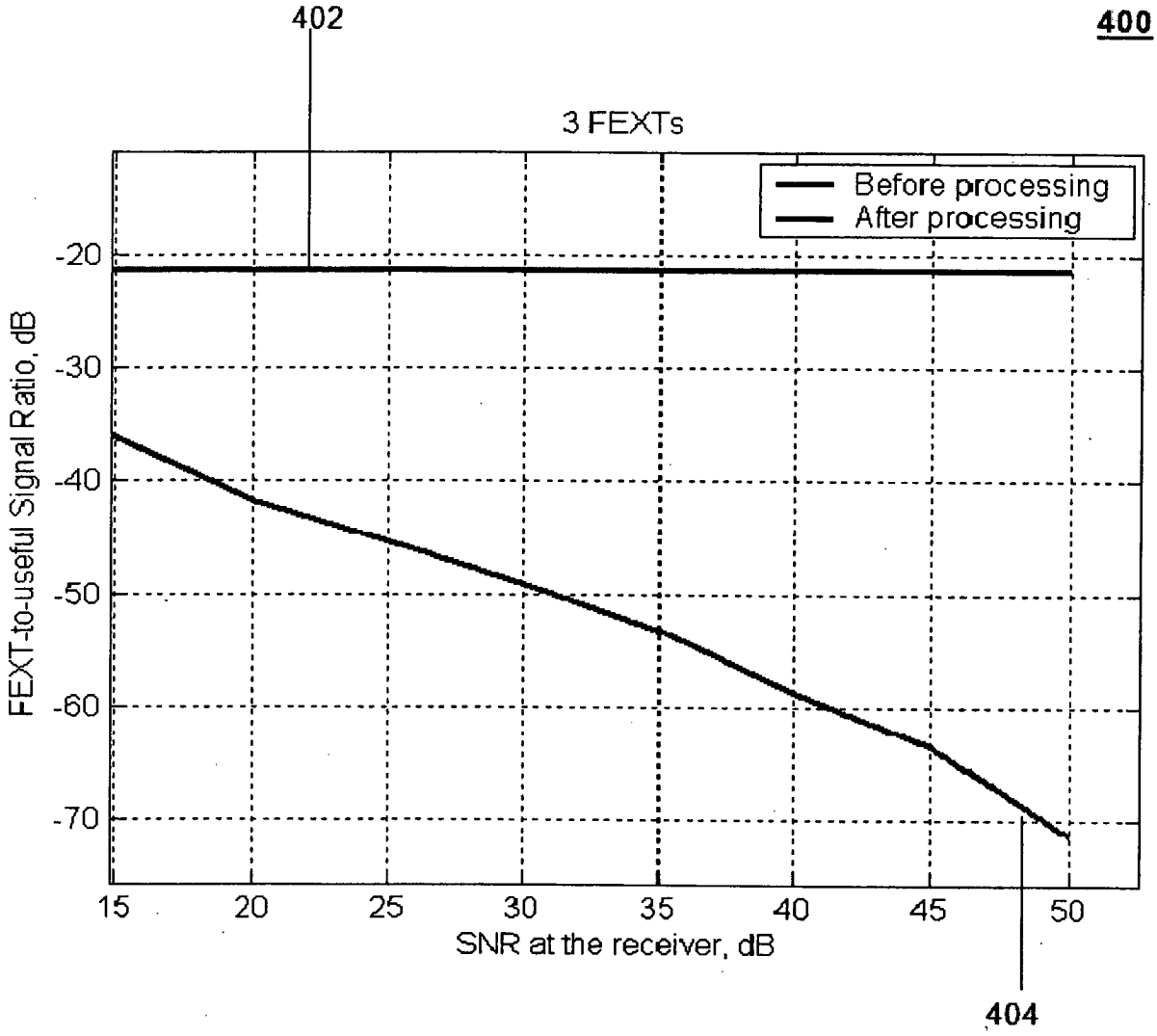

402
400
3 FEXTs
Before processing
After processing
-20
-30
-40
-50
-60
-70
FEXT-to-useful Signal Ratio, dB
15
20
25
30
35
40
45
50
SNR at the receiver, dB
404

FIG. 4

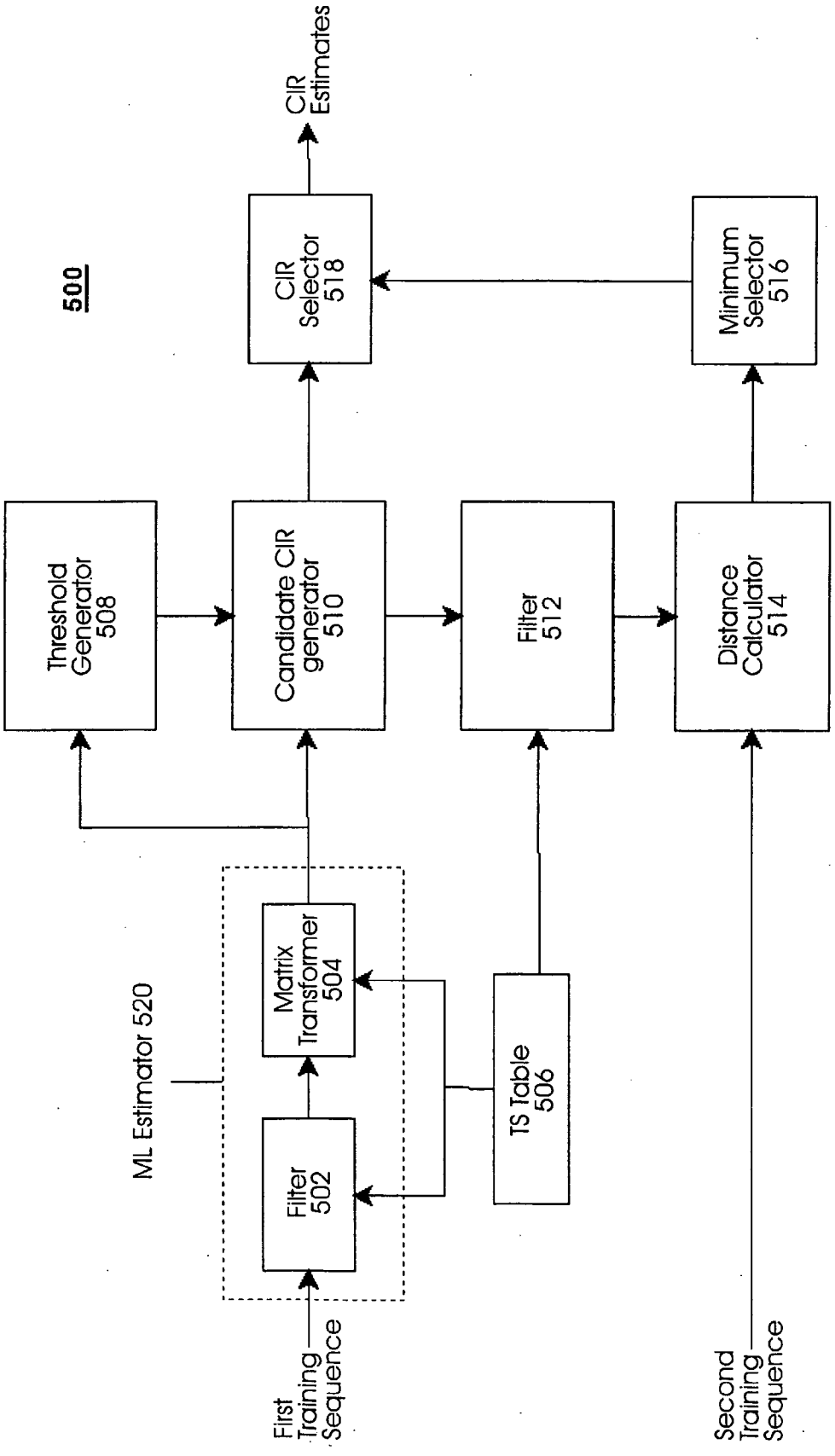

500
CIR Estimates
CIR Selector 518
Minimum Selector 516
Threshold Generator 508
Candidate CIR generator 510
Filter 512
Distance Calculator 514
ML Estimator 520
Matrix Transformer 504
Filter 502
TS Table 506
First Training Sequence
Second Training Sequence

FIG. 5

600

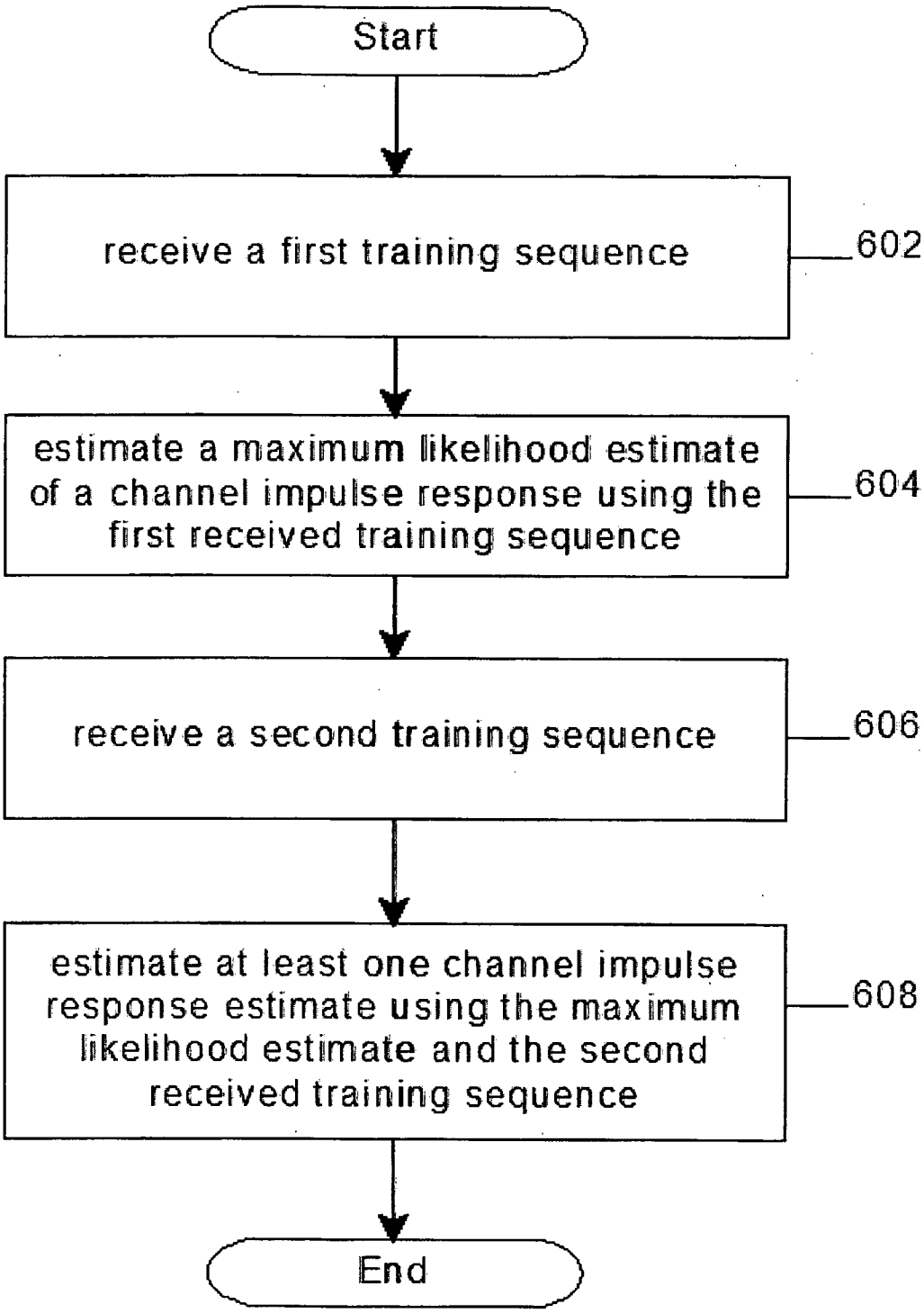

Start
receive a first training sequence
602
estimate a maximum likelihood estimate of a channel impulse response using the first received training sequence
604
receive a second training sequence
606
estimate at least one channel impulse response estimate using the maximum likelihood estimate and the second received training sequence
608
End

FIG. 6

700

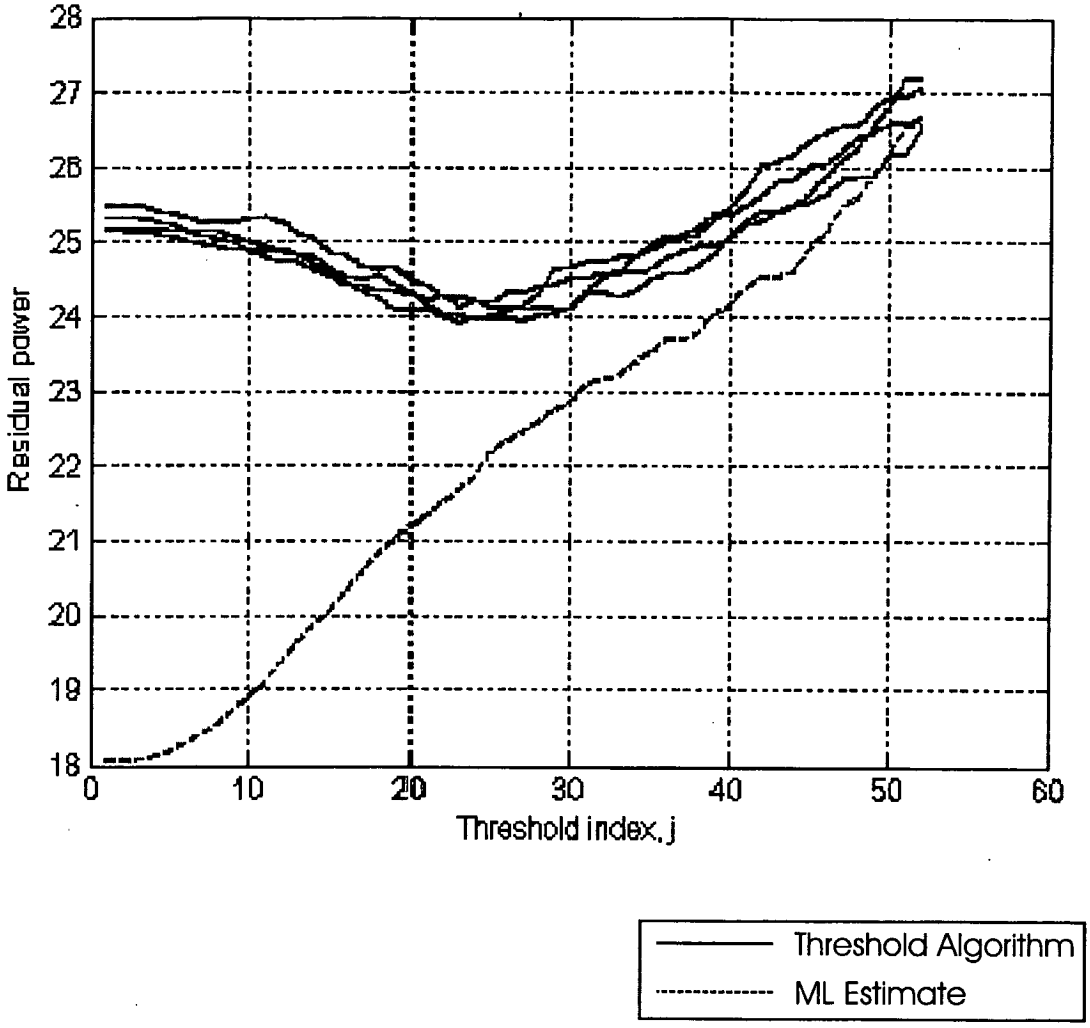

28
27
26
25
24
23
22
21
20
19
18
Residual power
0
10
20
30
40
50
60
Threshold index, j
Threshold Algorithm
ML Estimate

FIG. 7

800

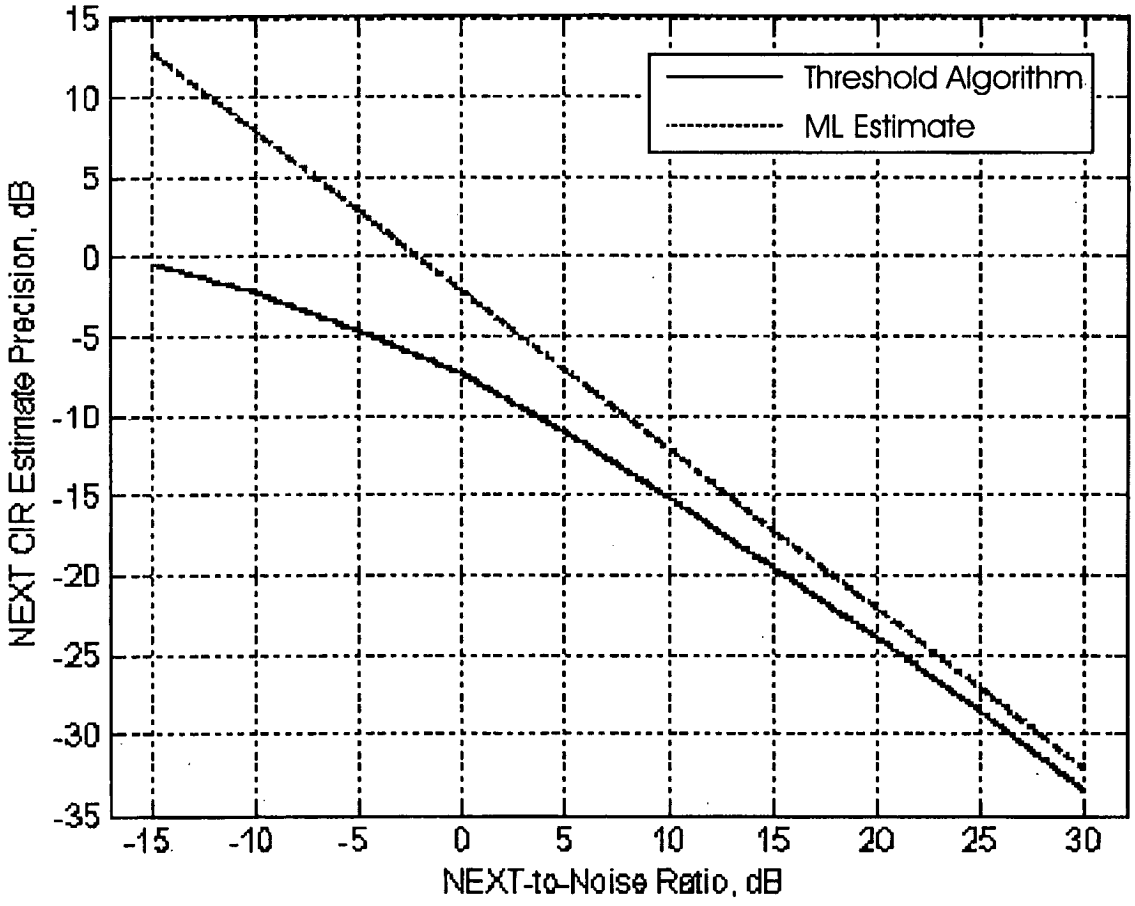

Threshold Algorithm
ML Estimate
NEXT CIR Estimate Precision, dB
NEXT-to-Noise Ratio, dB
15
10
5
0
-5
-10
-15
-20
-25
-30
-35
-15
-10
-5
0
5
10
15
20
25
30

FIG. 8

900

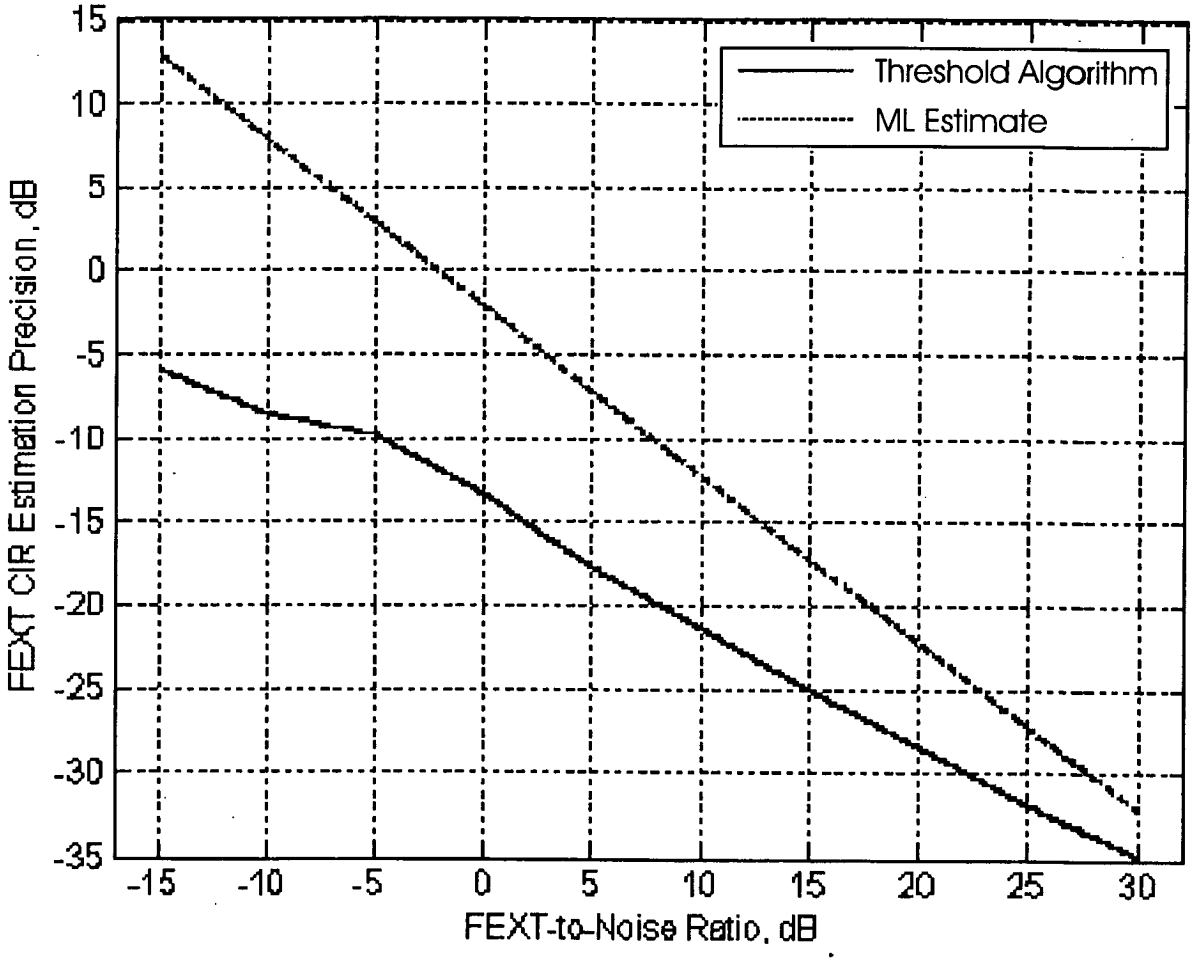

Threshold Algorithm
ML Estimate
FEXT CIR Estimation Precision, dB
FEXT-to-Noise Ratio, dB
15
10
5
0
-5
-10
-15
-20
-25
-30
-35
-15
-10
-5
0
5
10
15
20
25
30

FIG. 9