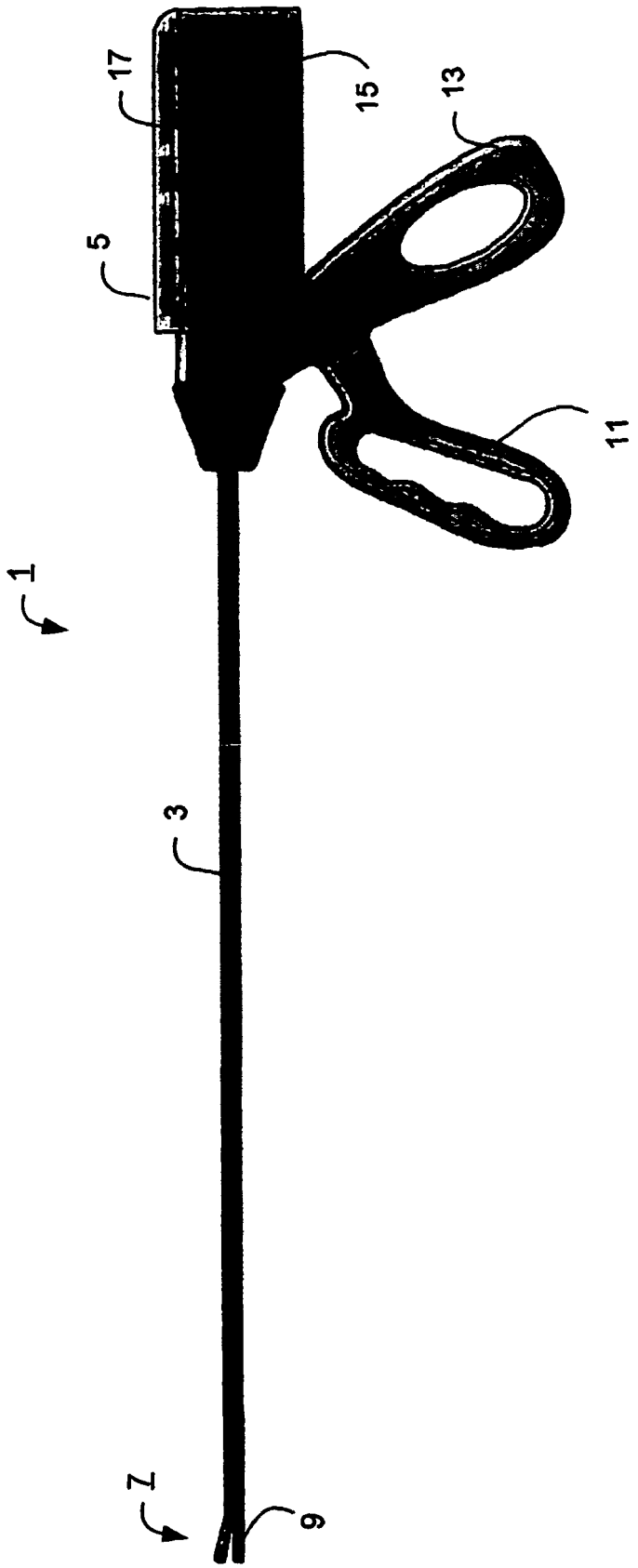


FIGURE 1

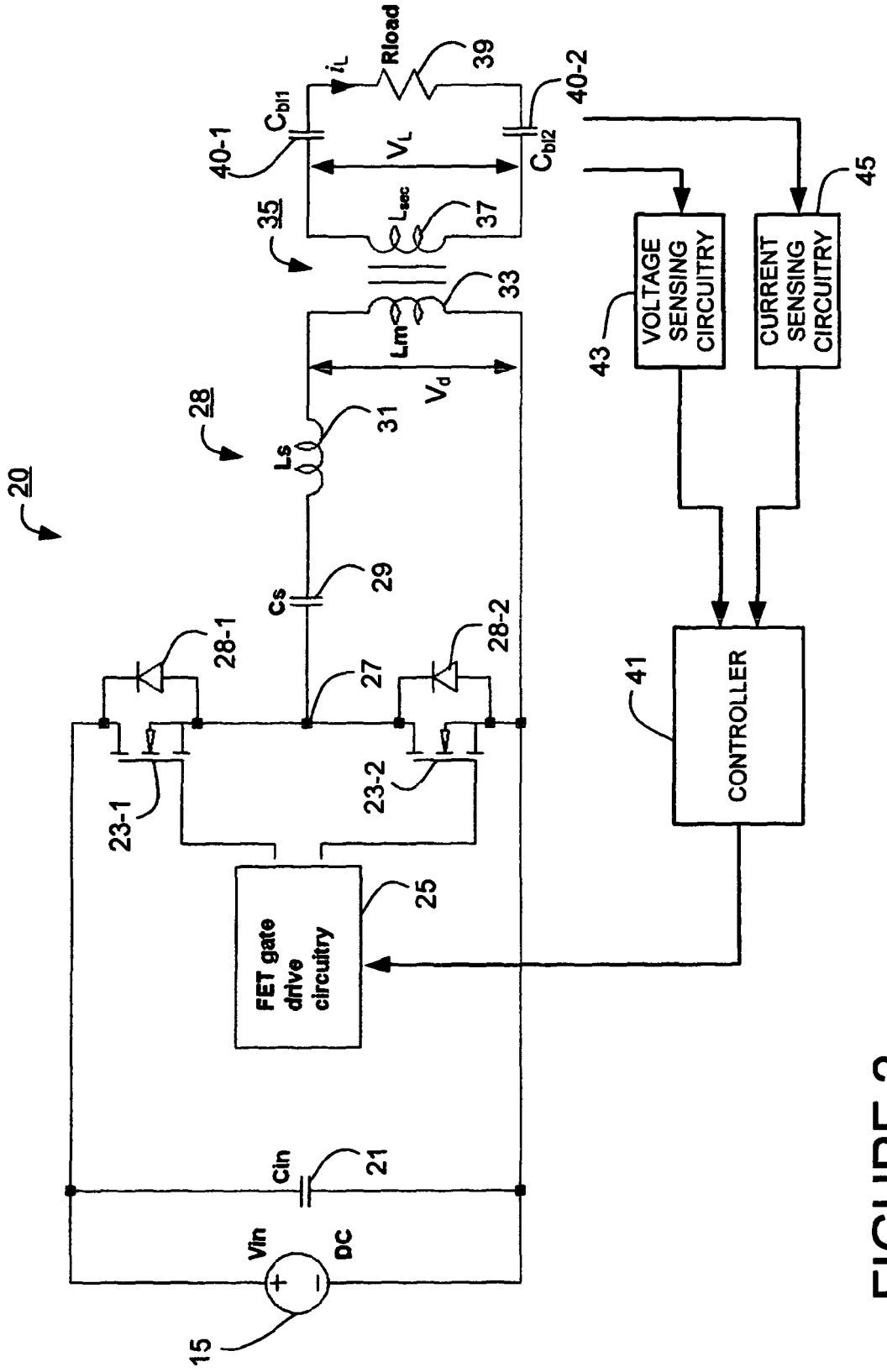

20
28
35
40-1
40-2
45
43
41
39
37
33
31
29
27
28-1
28-2
23-1
23-2
25
21
15
Rload
i_L
C_{bl1}
C_{bl2}
V_L
L_{sec}
L_m
V_d
L_s
C_s
C_{in}
V_{in}
DC
VOLTAGE SENSING CIRCUITRY
CURRENT SENSING CIRCUITRY
CONTROLLER
FET gate drive circuitry

FIGURE 2

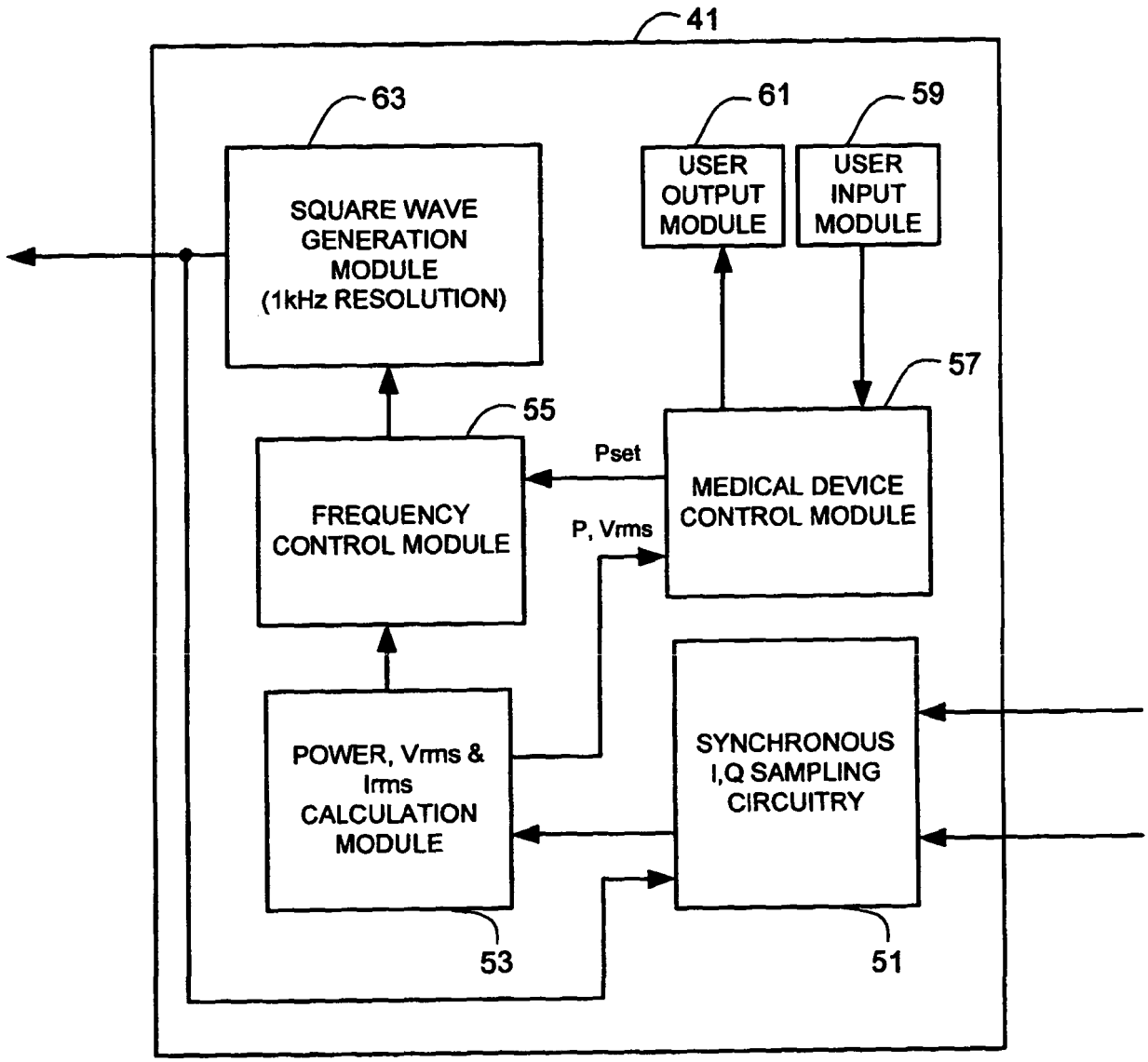

41
63
61
59
SQUARE WAVE GENERATION MODULE (1kHz RESOLUTION)
USER OUTPUT MODULE
USER INPUT MODULE
57
55
Pset
FREQUENCY CONTROL MODULE
MEDICAL DEVICE CONTROL MODULE
P, Vrms
POWER, Vrms & Irms CALCULATION MODULE
SYNCHRONOUS I,Q SAMPLING CIRCUITRY
53
51

FIGURE 3

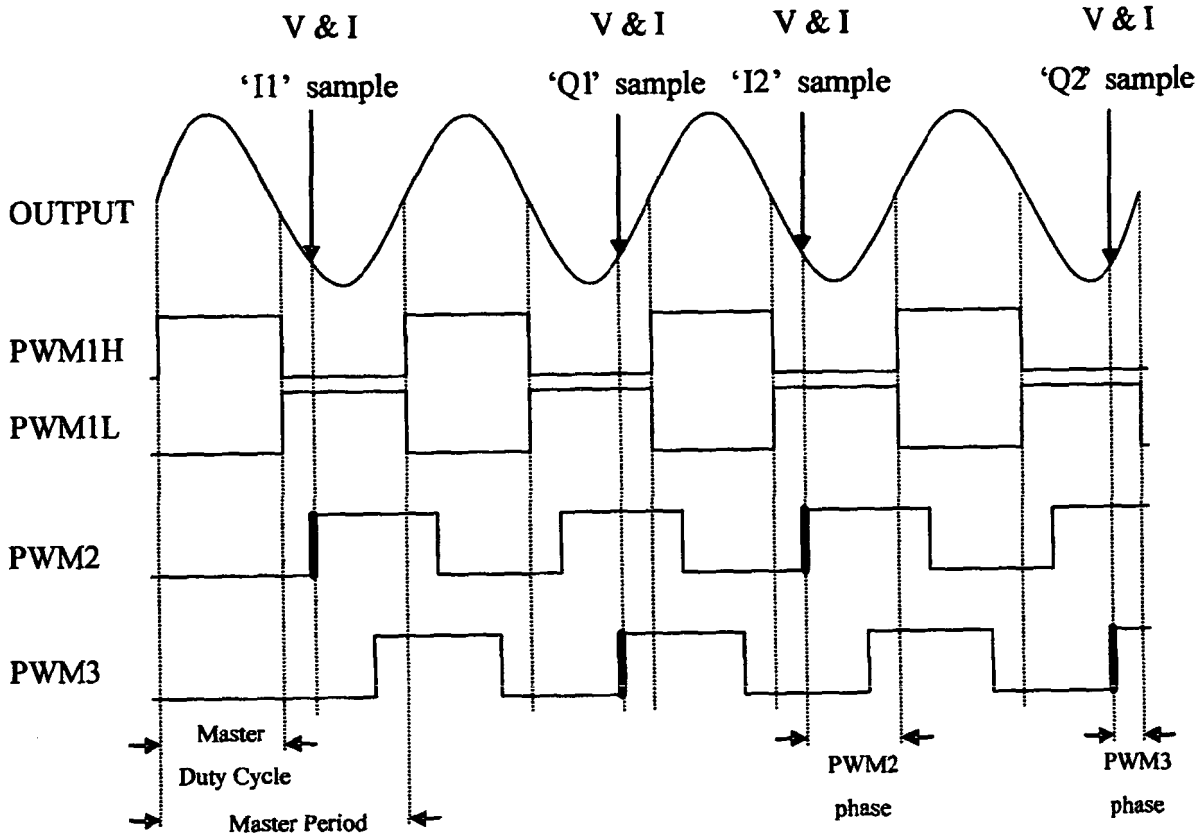

V & I
'I1' sample
V & I
'Q1' sample
V & I
'I2' sample
V & I
'Q2' sample
OUTPUT
PWM1H
PWM1L
PWM2
PWM3
Master
Duty Cycle
Master Period
PWM2
phase
PWM3
phase

FIGURE 4

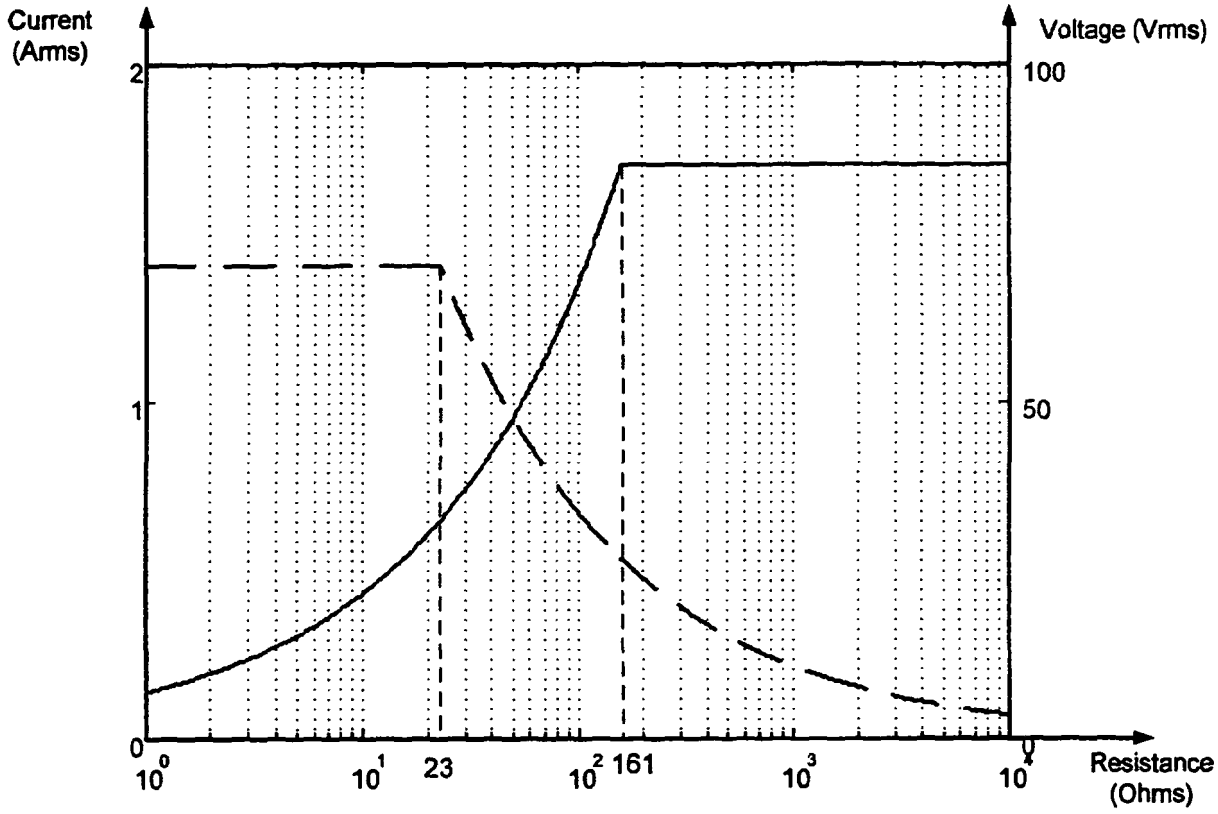


FIGURE 5a

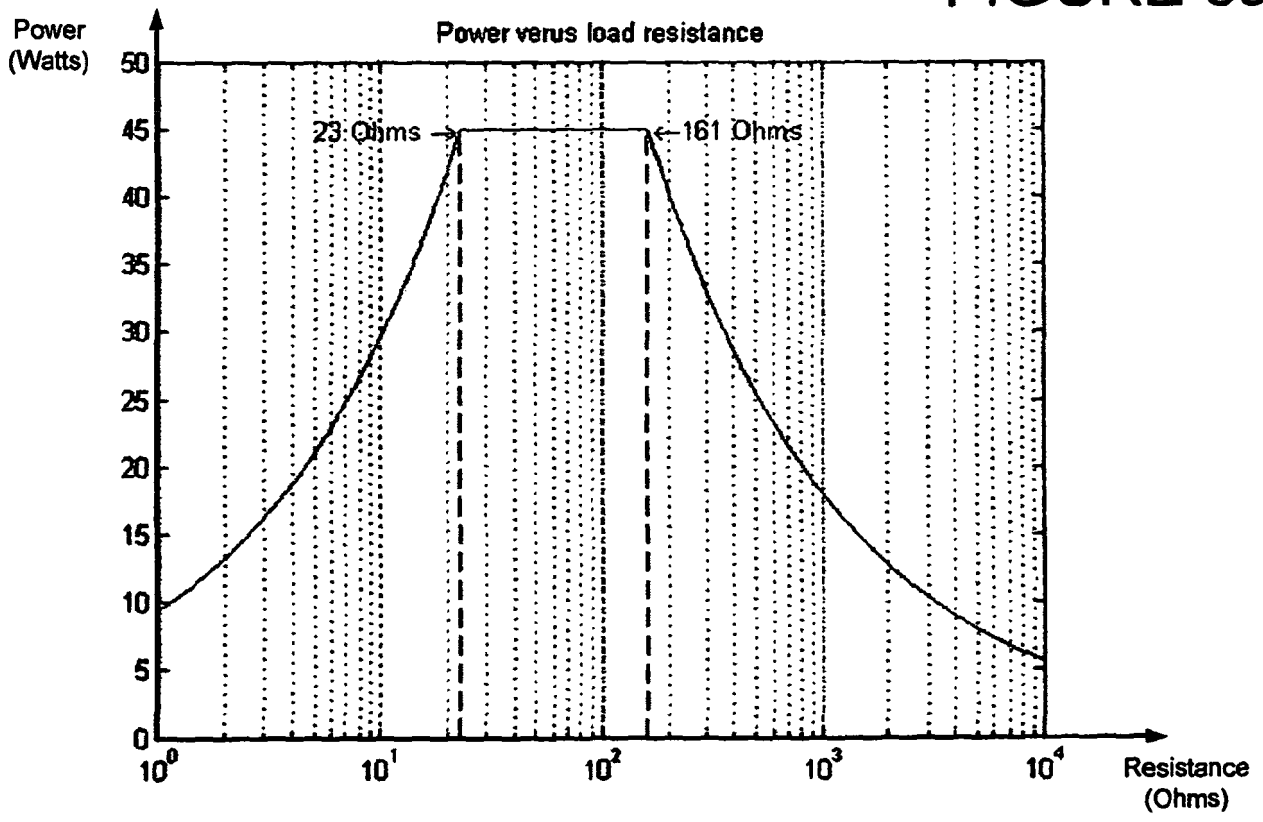


FIGURE 5b

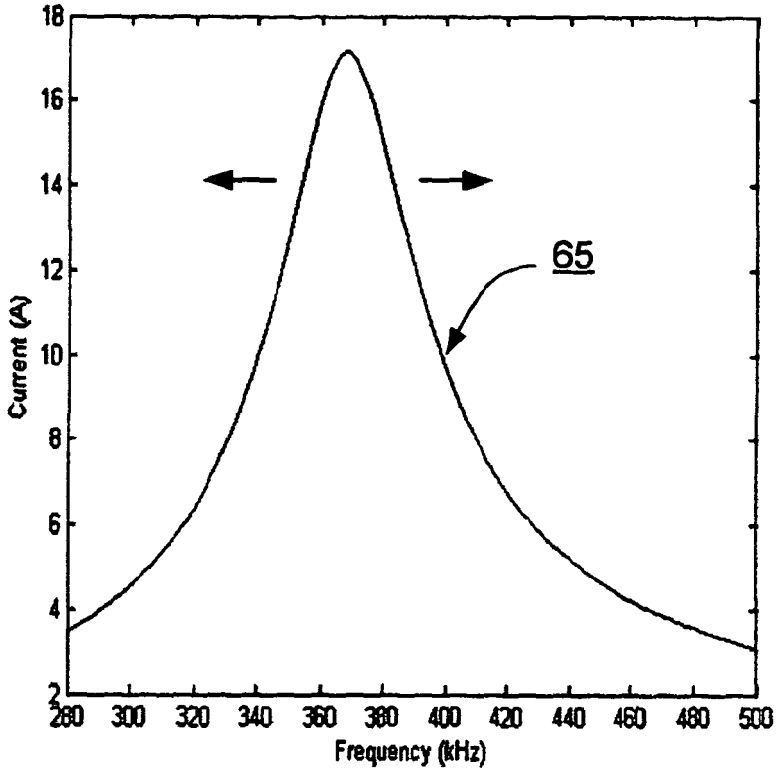


FIGURE 6

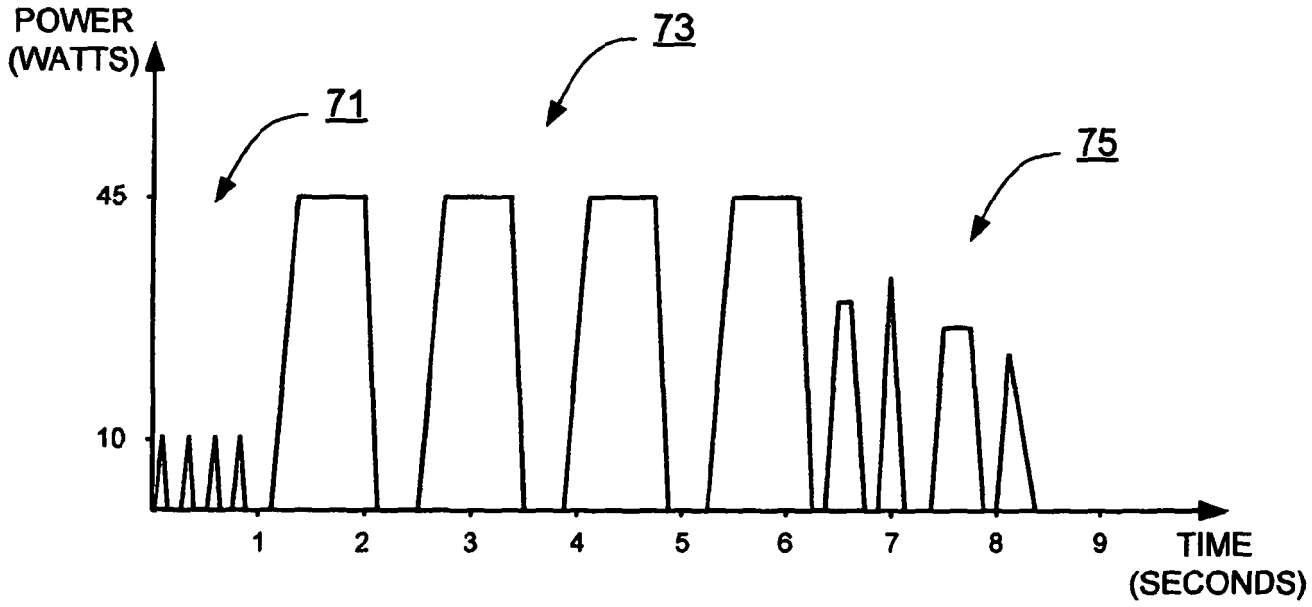


FIGURE 8

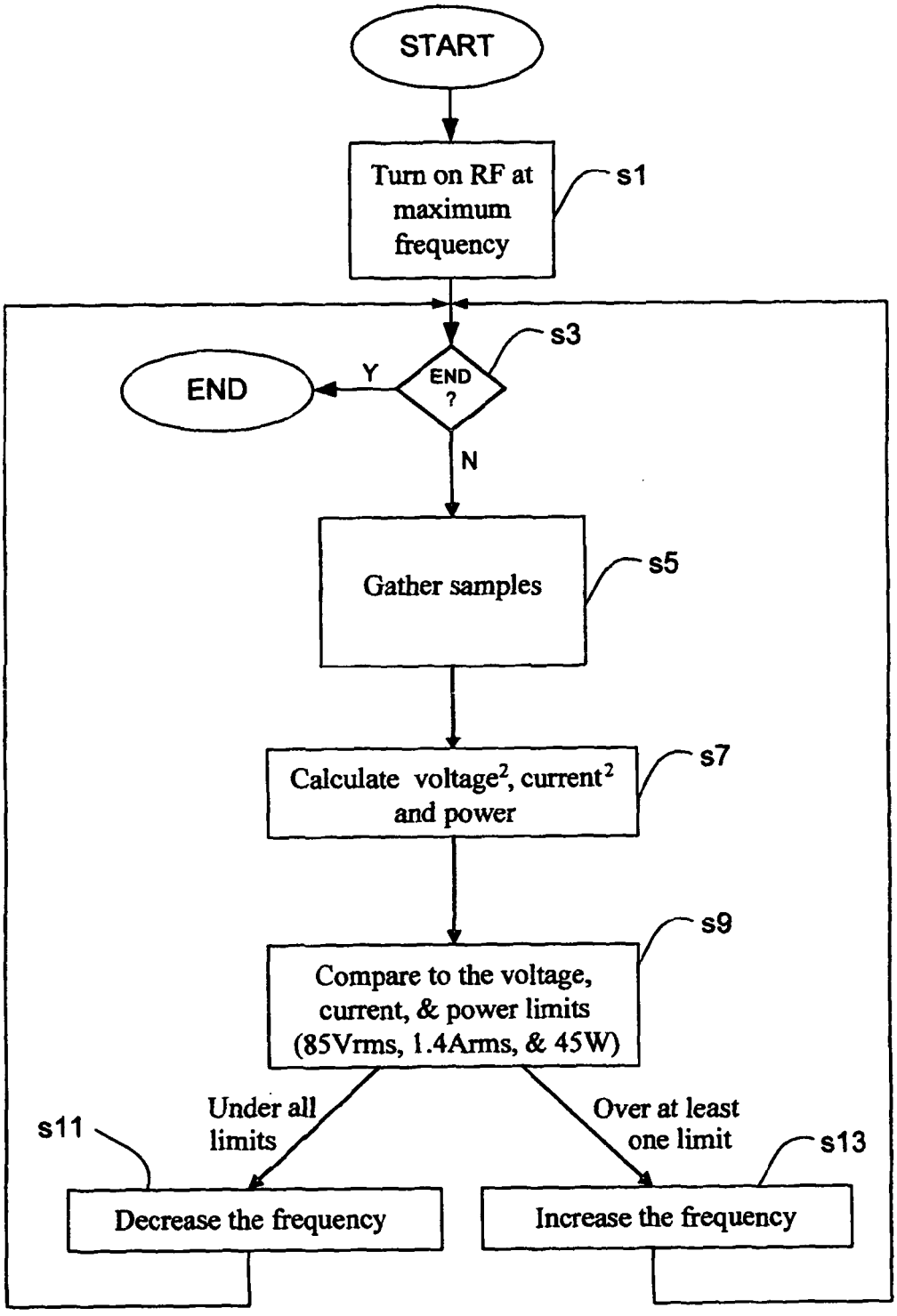

START
Turn on RF at maximum frequency
s1
s3
END ?
Y
END
N
Gather samples
s5
Calculate voltage², current² and power
s7
Compare to the voltage, current, & power limits (85Vrms, 1.4Arms, & 45W)
s9
Under all limits
Over at least one limit
s11
s13
Decrease the frequency
Increase the frequency

FIGURE 7

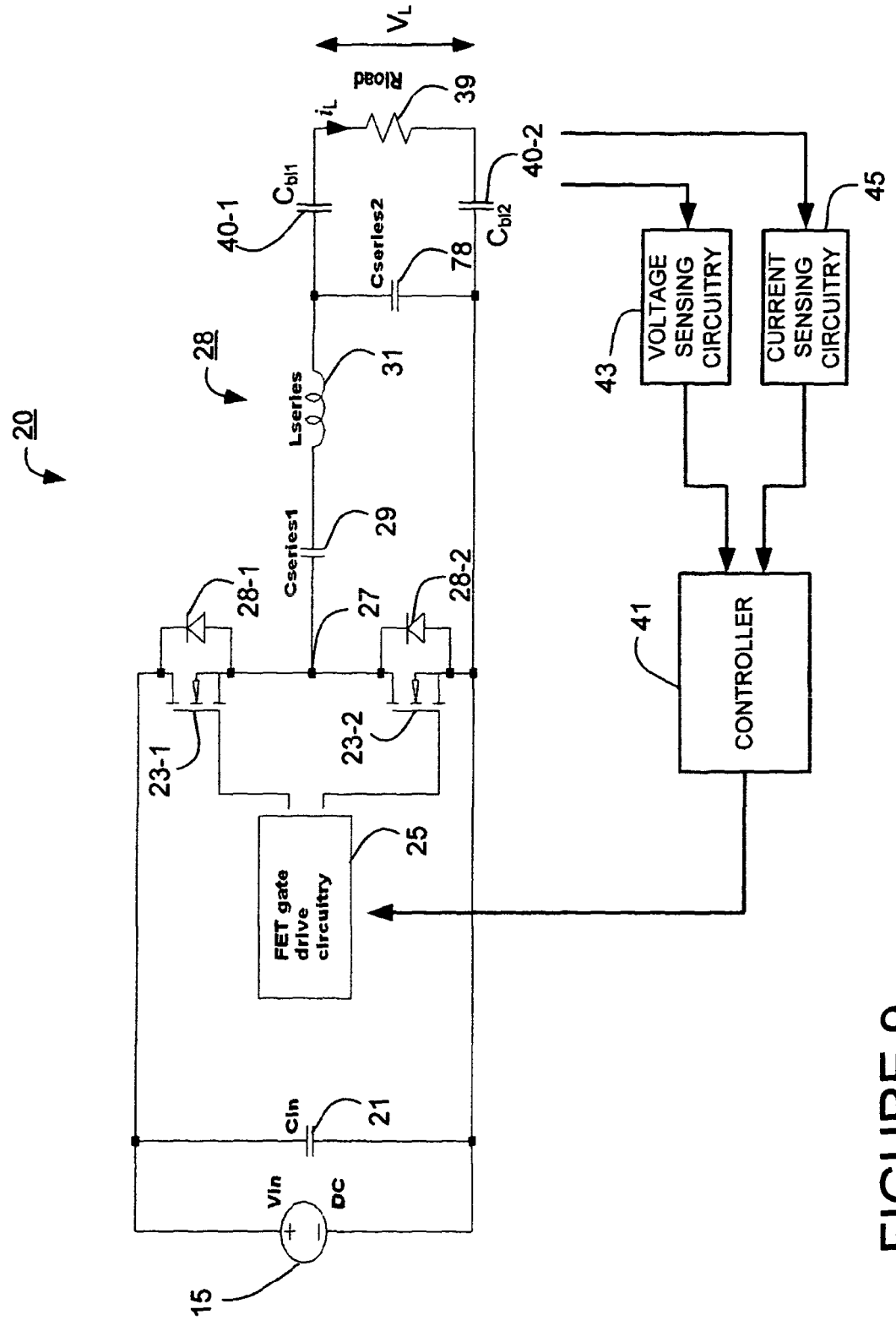

20
28
V_L
Rload
39
i_L
40-1
C_{bl1}
Cseries2
78
C_{bl2}
40-2
Lseries
31
Cseries1
29
28-1
28-2
27
23-1
23-2
25
FET gate drive circuitry
Cin
21
Vin DC
15
VOLTAGE SENSING CIRCUITRY
43
CURRENT SENSING CIRCUITRY
45
CONTROLLER
41

FIGURE 9

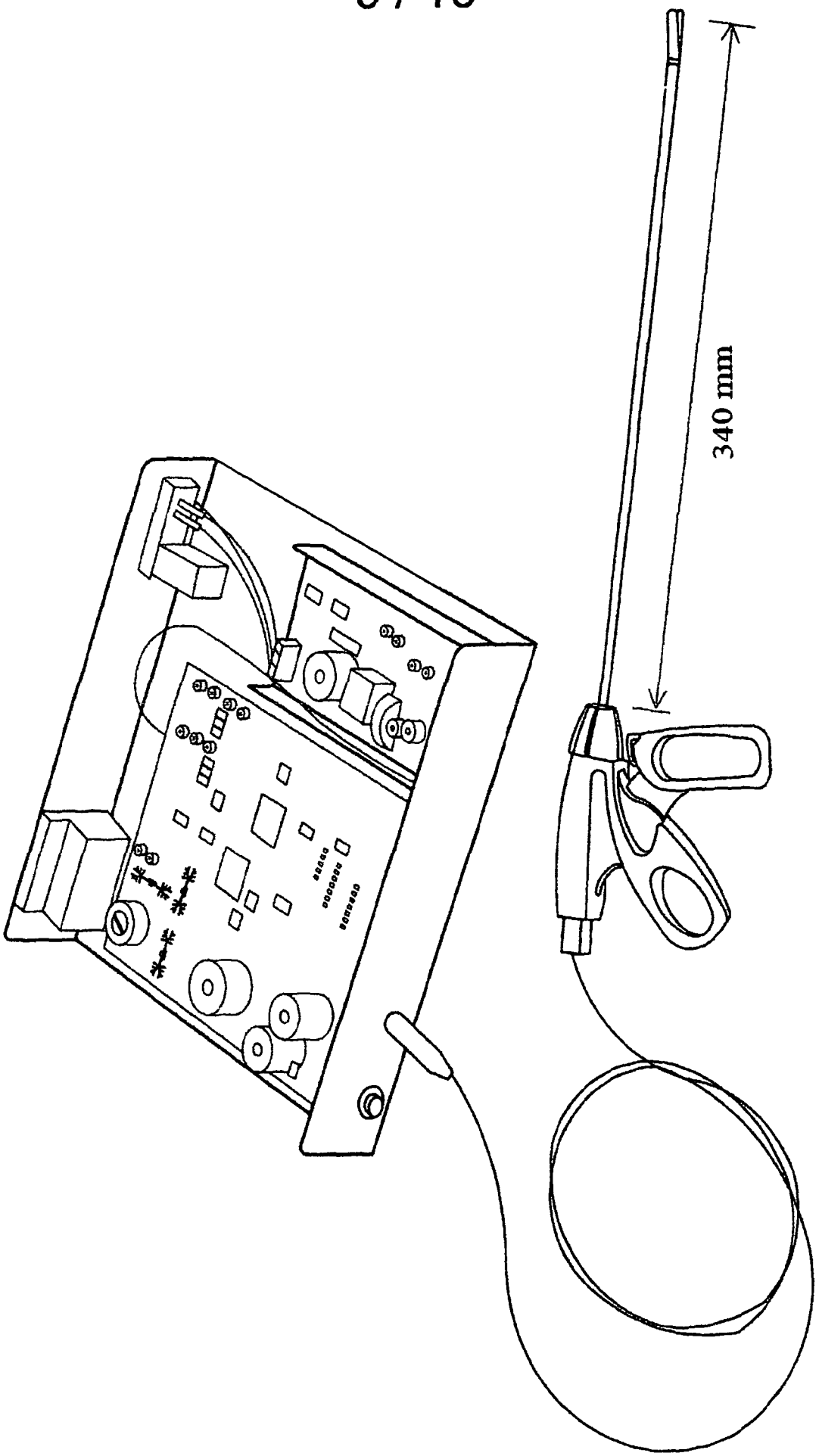


FIGURE 10

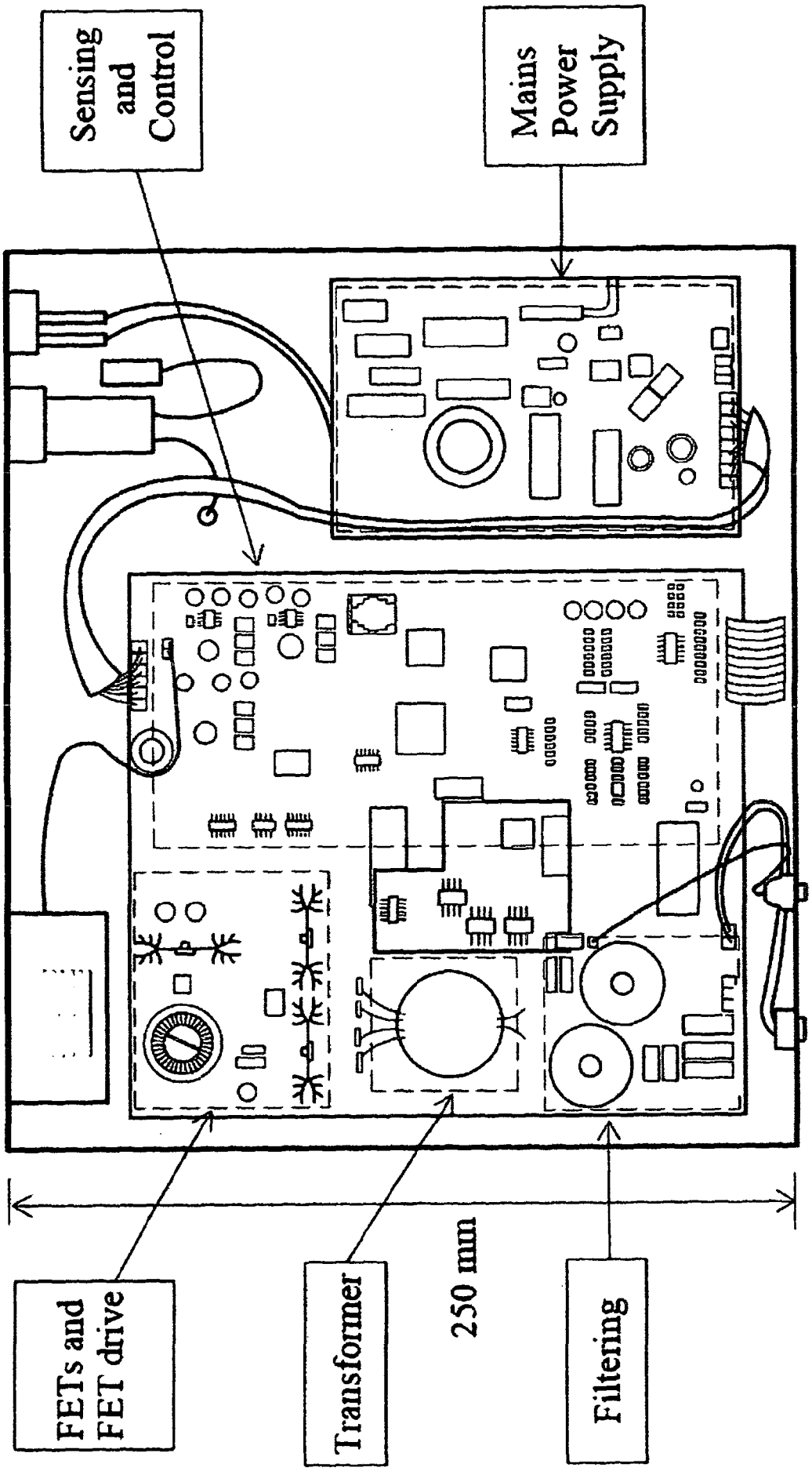

Sensing and Control
Mains Power Supply
300 mm
250 mm
FETs and FET drive
Transformer
Filtering

FIGURE 11