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Burrus, IV

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(54) **CABLE OR MODULE IDENTIFICATION APPARATUS AND METHOD**

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(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 539 days.

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(52) **U.S. Cl.** **455/559**; 320/106; 307/125
(58) **Field of Search** 455/418, 420, 455/550.1, 559, 572–573; 307/112, 125; 320/106–110, 112, 125; 324/66

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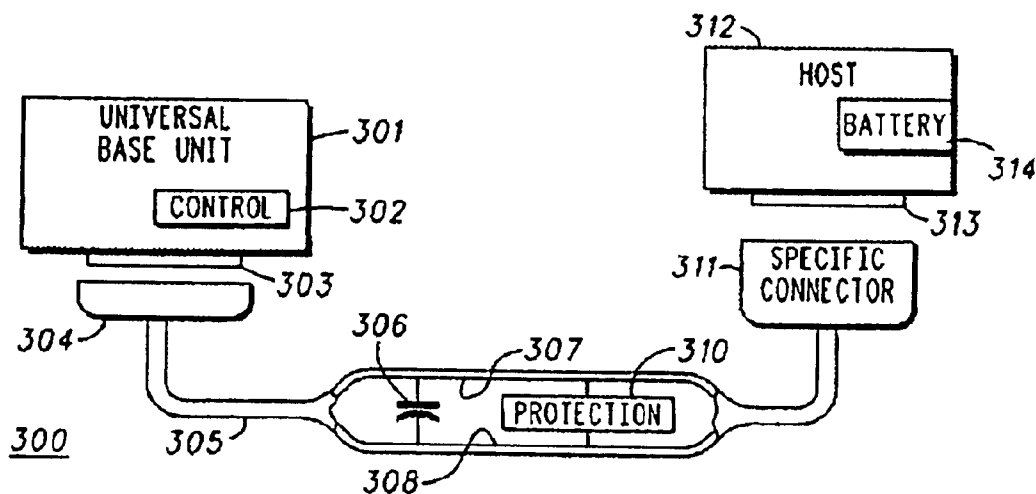|				
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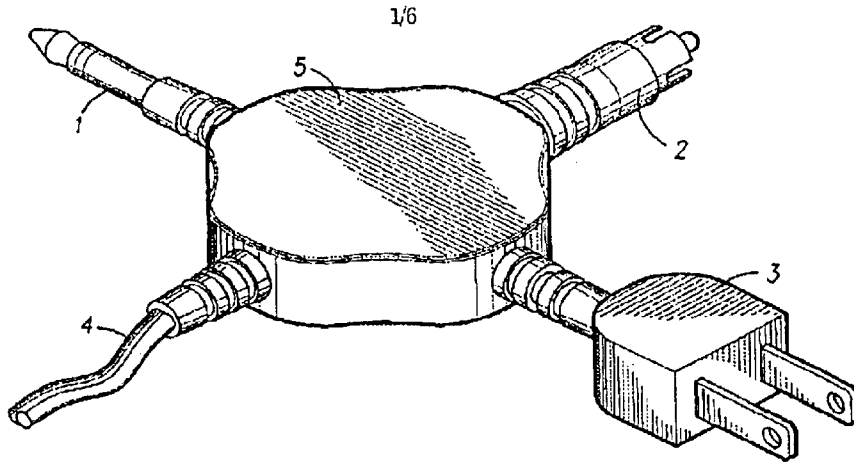* cited by examiner

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(57) **ABSTRACT**

This invention includes a universal base unit having a plurality of cables, each corresponding to a unique electronic host device. The cable includes a capacitor having a value corresponding to a particular electronic host device. The capacitor is coupled in series with a resistor to ground in the universal base unit. The cable further includes a unique mating connector for coupling to the electronic host device. The universal base unit identifies the cable by actuating a step function across the capacitor-resistor network, causing an exponentially decaying waveform. A microprocessor in the host device then measures the width of the waveform to determine the identity of the cable or host device. The system allows a user to carry a single power supply or universal base unit with multiple cables as opposed to having to transport a different accessory for each electronic device.
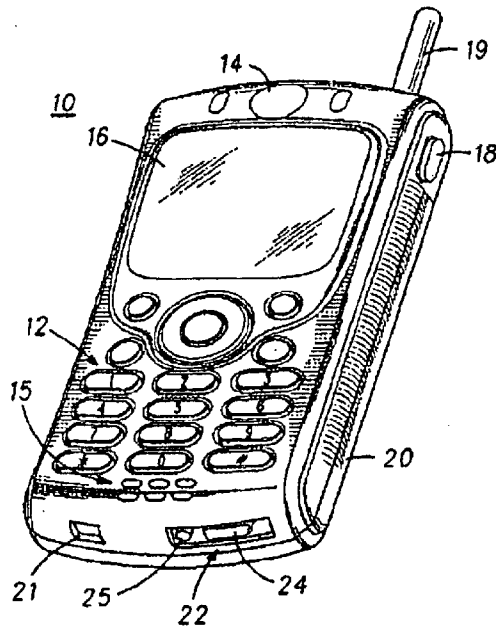
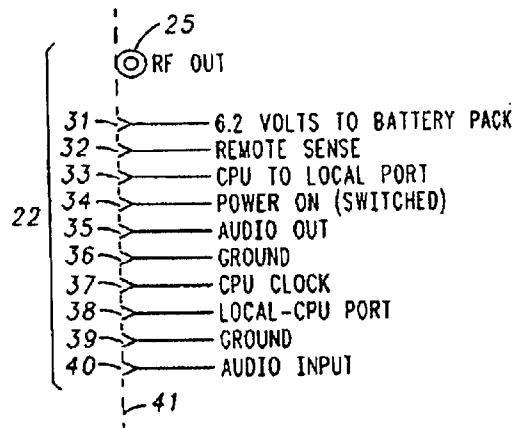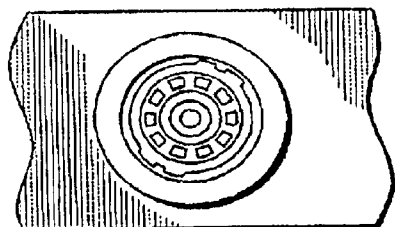**9 Claims, 6 Drawing Sheets**

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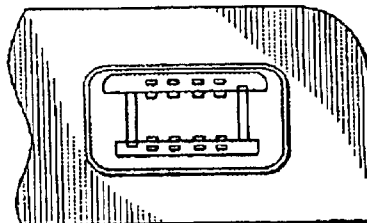

-PRIOR ART-

FIG. 1

-PRIOR ART-

FIG. 2

FIG. 4

-PRIOR ART-

RF OUT — 25

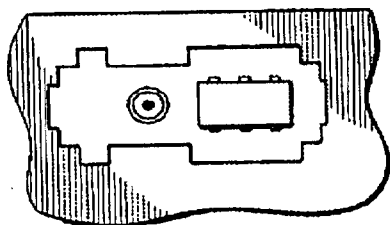|	
31	6.2 VOLTS TO BATTERY PACK
32	REMOTE SENSE
33	CPU TO LOCAL PORT
34	POWER ON (SWITCHED)
35	AUDIO OUT
36	GROUND
37	CPU CLOCK
38	LOCAL-CPU PORT
39	GROUND
40	AUDIO INPUT

22

41
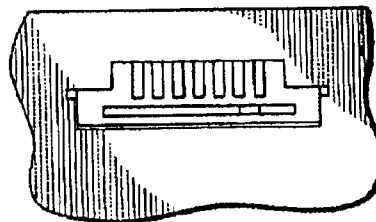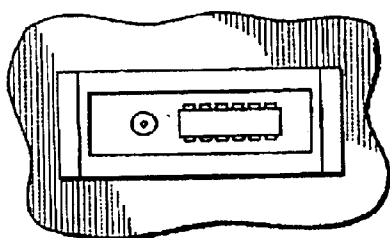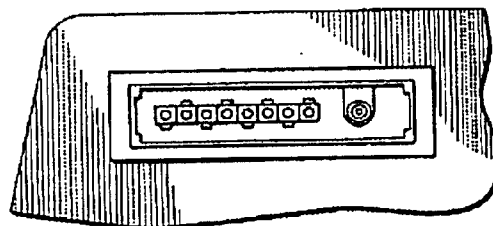
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FIG. 3A

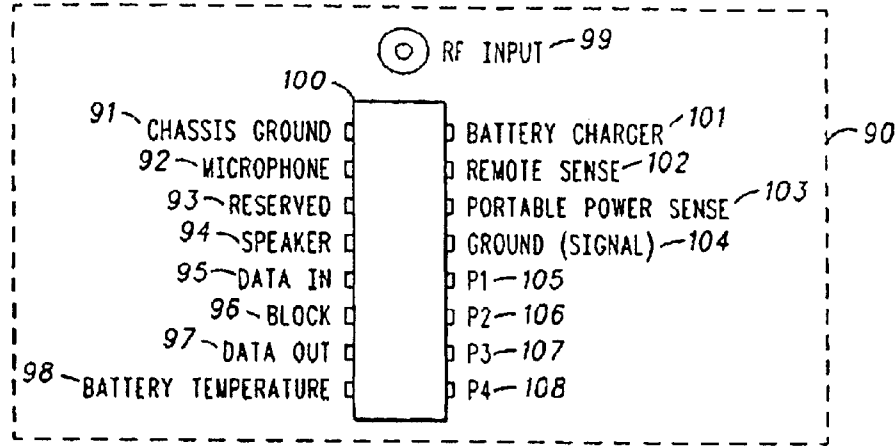-PRIOR ART-

FIG. 3B

-PRIOR ART-

FIG. 3C

-PRIOR ART-

FIG. 3D

-PRIOR ART-

FIG. 3E

-PRIOR ART-

FIG. 3F

RF INPUT — 99

100

91 — CHASSIS GROUND

92 — MICROPHONE

93 — RESERVED

94 — SPEAKER

95 — DATA IN

96 — BLOCK

97 — DATA OUT

98 — BATTERY TEMPERATURE

BATTERY CHARGER — 101

REMOTE SENSE — 102

PORTABLE POWER SENSE — 103

GROUND (SIGNAL) — 104

P1 — 105

P2 — 106

P3 — 107

P4 — 108

90

-PRIOR ART-

FIG. 5

12 — KEYPAD

POWER SWITCH — 18

19 RF ANTENNA

42

RADIO BOARD

CONTROLLER BOARD

14

15A

15B

20 — BATTERY PACK

LCD MODULE

22 — INPUT/OUTPUT CONNECTOR

44

16

-PRIOR ART-

FIG. 6

45

90

46

48

FIG. 7

-PRIOR ART-

FIG. 8A

-PRIOR ART-

FIG. 8C

-PRIOR ART-

FIG. 8B
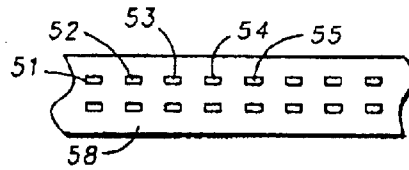
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FIG. 8D

-PRIOR ART-

FIG. 9
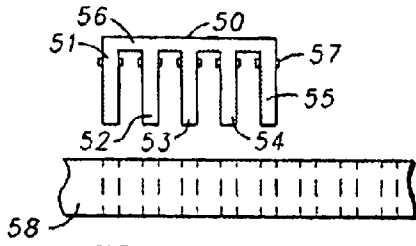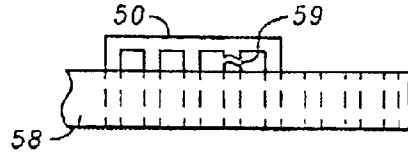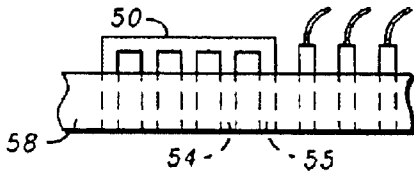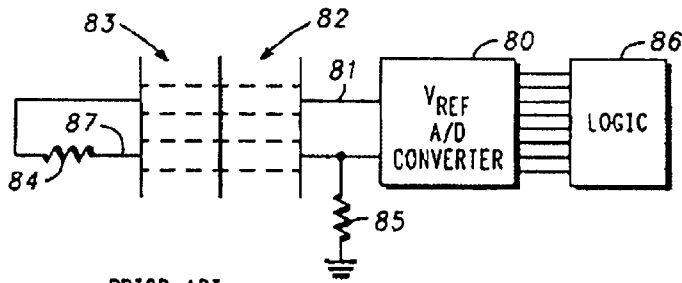
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