Communication Specialists Limited

GSM196 Mobile Phone Detector

- ☐ Detects both 2G & 3G mobile phones
- ☐ LED bargraph signal level indication
- ☐ Automatic display brightness control
- ☐ Advanced digital filtering for signal isolation
- ☐ Unique signal analysis for accurate detection
- ☐ Multiple range settings
- ☐ Cadenced vibration alert for ease of use

Product

With GSM phones getting ever smaller, they are increasingly being used in areas where they are forbidden. This technology is also becoming the preferred medium for bugs and other surveillance devices.

To combat these problems, we have developed the multi-purpose GSM196 mobile phone detector.

Advanced band-selection filtering coupled to our unique signal-detection algorithms and easy-to-use displays gives unprecedented sensitivity and selectivity for this type of equipment.

The GSM196 can detect both 2G (GSM900 & GSM1800) and 3G (WCDMA / UMTS 2100) mobile phones. For situations where greater accuracy is required and / or specific monitoring is required in areas containing multiple phones, a specially designed directional antenna system can be used with the 196.

Features

☐ **Sensitivity and detection ranges**
You can set the GSM196's range and sensitivity to match the application. The High range allows entire cell blocks to be swept, while the Low range helps locate the target mobile more accurately. An internal switch allow selection of either the two Handheld modes or the Static mode. Each mode has two sensitivity ranges which the user can select using the single control button. (See the table opposite.)

Specifications

Frequency bands
The GSM196 is specifically engineered to monitor hanc transmit frequencies only
☐ EGSM900 (880 – 915MHz) & GSM1800 (1710 – 178 MHz)
☐ W-CDMA / UMTS 2100 (1920 – 1980 MHz)

Detection method
Pulse Envelope Demodulation with our unique Digital Signal Processing algorithms help to prevent false alarms while differentiating between strong, weak, and interfering signals. SAW filters help reject any interference from nearby base-stations.

LED Indications
The 9-segment **Level** bargraph shows the approximate range to a signal's source. The segments are colour coded for ease of use in low light areas and are only active in the Handheld modes.
The **Type** LEDs allow the user to distinguish between **N**etwork, **2G** and **3G** calls, either current (fast flashing) or past (slow flashes). These are active in all modes. N + 2G indicates a 2G network signal detected whereas 2G on its own indicates a call. The same is applicable for 3G signals.
The **Range** indicators show whether the unit is on, and whether the **High** or **Low** range setting is in use. These are active in all modes.

Control Button
- While the unit is turned off, a single press will **turn it on**. In **Handheld** mode, the entire Level display will now flash for a couple of seconds while the vibrator buzzes in HV mode.
In **Static** mode, the vibrator is muted, and only LED 5 (centre LED) will flash.
- To change the **Range** setting at any time, press and hold the button down for at least a second. First

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☐ **Indications**
In the Handheld mode, the presence and strength of detected GSM phone signals are shown by the **Level** bargraph display. (The Level display is inhibited in the static mode.)

The **Type** indicators flash rapidly to show whether the currently detected signal is a Network, 2G or 3G call. Once the signal has ceased, these LEDs flash slowly until the control button is pressed. Whenever the GSM196 is operating, either the High or Low Range LED will be lit. Use the control button to step between ranges.

☐ **Using the GSM196**
The **Handheld** mode allows the user to walk around checking for threats. There are two modes, HV enables the cadenced vibrator and HO causes the unit to function silently. In this mode the brightness of the LEDs is automatically controlled with intensity being reduced under low ambiant light levels.

On the High range, detection range will as much as 300m (in free space, for mobiles on full power). The Low range is used to pinpoint a phone's location if a phone is transmitting on high power and the building materials allow easy passage of the signals to adjacent areas.

The **Static** ("mousetrap") mode is used to detect the presence of mobiles for subsequent location. The Range switch allows the sensitivity to be set in advance according to the building's construction (thicker walls mean more shielding of signals). In the Static mode the auto power off feature is disabled allowing the 196 to be used for extended periods of monitoring specific areas / cells.

the current Range LED will flash, then the other, and so on. Release the button to select the range which is being indicated. Repeat as required.
- If the **vibrator** is activate (HV mode), it can be temporarily silenced by a single press. The next alarm will automatically re-enable it.
- To **turn the unit off**, press and hold the switch. The GSM196 will cycle through its range-setting sequence; after two complete cycles, the device will switch off.

Internal switch: mode and sensitivity settings
A small slide switch inside the battery compartment lets you select the operating mode.

Internal Switch position	Range=Low	Range=High
HV –Handheld + Vibrator	50m	300m
S - Static surveillance	13m	5m
HO –Handheld – No Vibrator	50m	300m

Note: all ranges are quoted for GSM1800 Network transmissions (1 watt).

Battery life
Handheld: typically 50 - 100 hours, allowing for average use of the vibrator.
Static: typically 180 hours.
Automatic powers off after 12 hours (handheld mode only).
The **Low battery** LED indicates that the cells should be replaced.

Physical
Case 105 x 58 x 18mm (length x width x depth), excluding belt clip. ABS to UL 94-HB; IP45.
Weight 80 grams (including batteries).
Battery 2 x 'AAA' cells – alkaline or rechargeable NiMH.

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