Wireless Control Module (WCM)

Applications
- Covert Surveillance
- Bodyworn
- General Wireless RS-232
- Companion to VMT for Covert Operations
- Remote Monitoring & Control

Key System Features
- Provides Remote
  - DC PWR Control
  - Battery/PWR Monitoring
  - RS-232 Communications
  - Temperature Monitoring
- Hard to Detect!
  - Listen before TX
  - Stays quite until commanded to respond
  - Low emissions
- Very small
- Low Power Consumption

Specifications subject to change without prior notice
Typical values shown unless min or max is specified
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The Wireless Control Module (WCM) is a tiny transceiver that is designed to be mounted close to a covert transmitter. It wirelessly communicates with one of two local command devices in the 900 MHz non-licensed frequency band. First option, the Wireless Remote Control Unit (WRCU), a small DC operated module that allows User-level control and status monitoring of the system thru its simple user interface and dual 16 character LCD display. Second option, the USB Wireless Control Module (UWCM) is a USB card that can plug into any IBM PC and running GMS’ application software that allows User-level operations or Administrative-level operations. This includes system configuration operations to establish set-up groups (pass-word protected) or perform the same control and monitoring functions as the WRCU. The later is normally used for field operatives/users.

The system’s command devices include simple control panels that allow the selection of up to 16 Set-Up Groups/Configurations, Mic or Line Level Audio, Encryption Enable/Disable and selection of 4 RF power levels. Status indicators are provided battery level monitoring and for the presence of input Audio, Video and RF output.
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The Video transmission side of a typical system (shown above) consists of a covert transmitter like the VMT and the Wireless Control Module (WCM) at the camera location (covert enclosure or body worn). The battery or power source is connected to the WCM. The WCM contains a programmable switch that can provide power to the covert transmitter when commanded to do so over the wireless control link. The WCM can wirelessly control the DC power to the covert transmitter, monitor the battery’s status, monitor temperature of itself and the transmitter and completely control all functions within the covert transmitter via a RS-232 interface.

This transceiver is designed to have very low RF emissions and does not transmit unless commanded to by the command module. This makes it ideal for covert operations.

Either of the Two command devices (Wireless Remote Control Unit (WRCU) or the USB Wireless Control Module (UWCM)) can be used by the operator.

Specifications:

RF Related
- Operating Frequency: 902-928 MHz (ISM band)
- Frequency Tuning Resolution: 184.570 kHz
- # of RF channels: 140
- Modulation type: Frequency Hopping w/ Gaussian Frequency Shift Keying (GFSK)
- Forward Error Correction
- RF Channel Data Rate: 500 Kbps
- Programmable output power from -30 dBm to +10 dBm

Switched DC Power to External Devices
- Number of DC Outputs: 1
- DC PWR switching limit: Continuous load current of 2.3 A

Sensing Internal
- DC Voltage (Used for Battery Monitoring)
- Internal Temperature

Serial Communications
- USB: Qty: 1 (Max data rate 12 Mbps)
- RS-232C: Qty: 2
- Serial Port Baud rate Settings
  - 2400
  - 4800
  - 9600
  - 14400
  - 19200

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Serial Communications cont.

28800
38400
57600
76800
115200
230400

Connectors
J101 RF Connector: SSMC
J100 I/O Connector: 21 position SHLV style JST SM21B-SHLVS-G-TB (mates with SHLVP-21V-S-1 using contacts SSHL-003GA1-P0.2)

Pin out signal DEF for multipin connector

User Signals

<table>
<thead>
<tr>
<th>JST Plug</th>
<th>Signal</th>
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<tbody>
<tr>
<td>1</td>
<td>-VBAT</td>
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<tr>
<td>2</td>
<td>-VBAT</td>
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<tr>
<td>3</td>
<td>+VBAT</td>
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<td>GND</td>
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<tr>
<td>21</td>
<td>Switched +VBAT</td>
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Voltage: +7 to 32 V DC
Current: 45 mA
Temperature: -10 C to 70 C Degrees
Humidity: 0 to 95% non-condensing
Size: 1.17" x 0.91" x 0.23"/ 2.97 cm x 2.3 cm x 0.58 cm
Weight: 0.0125 oz/ 0.035 g
Display: 2 line, 16 characters per line, with backlight