L-Band Transmitter
CBT-610
Product Summary
The CBT-610 transmitter is a car-based, L-band RF transmitter for telemetry data. Data is transmitted as an approx 2MHz wide signal in the L-band. Three different frequency ranges are available, 1310-1490MHz, 1450-1650MHz and 1510-1710MHz. The unit has 48MB internal memory to support probability based re-transmission strategies.

Telemetry data is primarily transferred to the CBT-610 unit from the on-car host unit via HDLC or ARCNET. Payload RF telemetry data rates of up to 2Mbps are supported. Retransmitted data handshaking for improved lap coverage is not required at many circuits, but may be provided using a small companion UHF modem (the CBX-450).

Application
- High data rate continuous telemetry transmitter.

Electrical
- Supply Voltage 11.5 to 16.0V DC (full RF performance)
- Reverse polarity input protection provided on the supply
- Supply Current operating
  - 3.5A typical @ 13.8V on high power setting
  - 1.6A typical @ 13.8V on low power setting
- Supply Current quiescent (RF shutdown) mode <1A
- Frequency range specified in ordercode details (L-band, 2MHz steps)
- Minimum channel spacing 4MHz (6MHz recommended)
- RF output power 50mW to 1W adjustable

Outputs
- One RF output (L-band)
  Typical error corrected payload data rate of 2Mbps

Communications
- Two HDLC interfaces, full duplex with two-way synchronous clocks, up to 8Mbps (can be software configured as one HDLC and one ARCNET, up to 10Mbps)
- One CAN bus interface, up to 1Mbps as standard
- One RS232 interface, up to 57.6kbps

Diagnostics
- Two internal diagnostic temperature sensors
- Two internal RF power sensors (forward and reverse)

Connection Definition
- Chassis connector AS2 12-35PN
- RF connector 50ohm SMA socket
- For pinout information please consult our Technical Consultancy Department

Mechanical
- Case material magnesium alloy, chromate converted and painted with black epoxy polyester paint
- Weight approximately 508g
- Vibration isolation is recommended

Recommended Service Interval
- One year

Environmental
- Splash resistant to standard motorsport fluids
- Lid is sealed to the case, all through-case fixings sealed with silicone sealant, sealed motorsport connectors
- Maximum humidity 100%
- Minimum operating temperature 0°C
- Internal temperature not to exceed 70°C as measured on the temperature diagnostic, if necessary forced air cooling should be applied
- Storage temperature -10 to 85°C
- Vibration 100 to 1000Hz, all axes, 24hrs
<table>
<thead>
<tr>
<th>Description</th>
<th>Frequency</th>
<th>Ordercode</th>
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</thead>
<tbody>
<tr>
<td>CBT-610</td>
<td>Standard 1450-1650MHz</td>
<td>0 030 051 008 001</td>
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<tr>
<td>CBT-610</td>
<td>Low 1310-1490MHz</td>
<td>0 030 051 008 005</td>
</tr>
<tr>
<td>CBT-610</td>
<td>High 1510-1710MHz</td>
<td>0 030 051 008 003</td>
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