



2 to 30MHz Automatic Antenna Tuning Units 4002 and 4006

AT A GLANCE

2 to 30MHz

125W PEP

MIL-STD-810F
Vibration, waterproof (IP68) and dust

Suits all unloaded HF vehicular whip antennas

Suitable for in-vehicle or external installation

Memory tune in <130ms

Tunes to new frequency in an average time of less than 1 second

Unlimited memory channels

ALE compatible

Frequency-hopping compatible

NVIS whip option



Typical installation

The **Lencom**® 4002 and 4006 are designed specifically for vehicular whip antennas, and are rapid, highly efficient, reliable tuners.

The 4002 is optimised to tune a 1.6m whip from 2.5-30MHz with a VSWR typically of 1.5:1 or better. An optional 800mm riser enables operation from 2 to 30MHz.

The 4006 is identical, but can also tune whips up to 10m in length.

The unique tuning algorithm provides a memory-tune location for all frequencies.

The memory tuning time of <130mS makes them ideal tuners for networks using ALE and/or frequency hopping, with tuning times for new frequencies average less than 1 second.

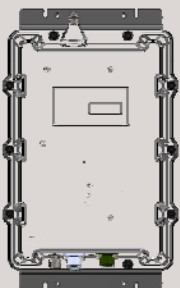
They are extremely rugged, and meet MIL-STD 810F for waterproofing (IP68), shock, vibration and dust ingress.

Available antennas are shown on Page 3.

Figures 4 and 5 are standard commercial bases.

Figure 6 is designed for heavy-duty and military use.

Figure 7 shows the 9m long wire antenna kit for the 4006, which improves efficiency of all antennas if fitted in lieu of the standard whips, when stationary.



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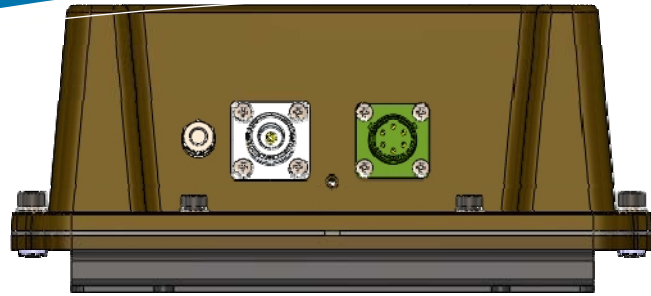
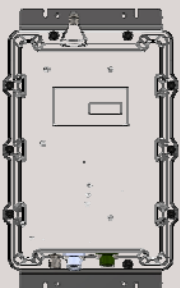


Figure 1. Connector end of tuner. From the left, the connectors are earth, RF and control.

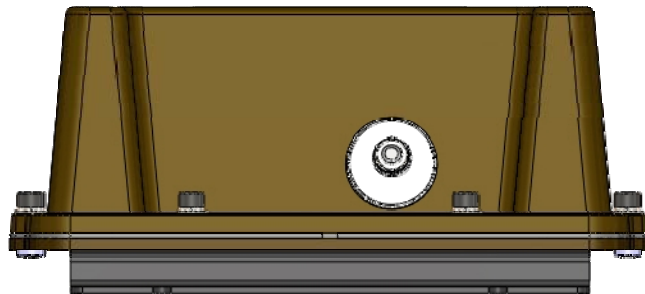


Figure 2. HV end of tuner.



Figure 3. Top view of tuner.

Specifications subject to change without notice

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Fig 4. Flange mount base

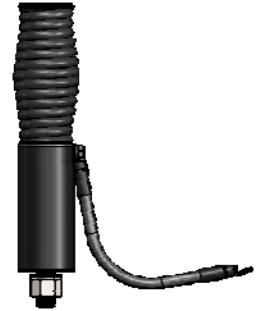


Fig 5. Single hole mount base



Fig 6. NATO Base



Fig 7. 9m Long wire antenna kit for 4006

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The following plots are of VSWR measurements taken of the actual vehicle installation shown on the front page. This is considered the optimum placement for an HF mobile antenna.

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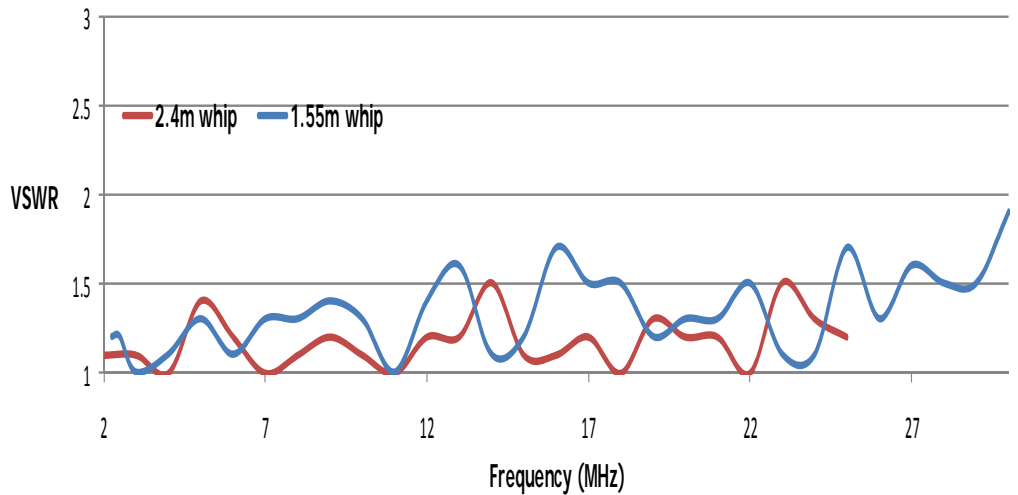
Tunes to new frequency in an average time of less than 1 second

Unlimited memory channels

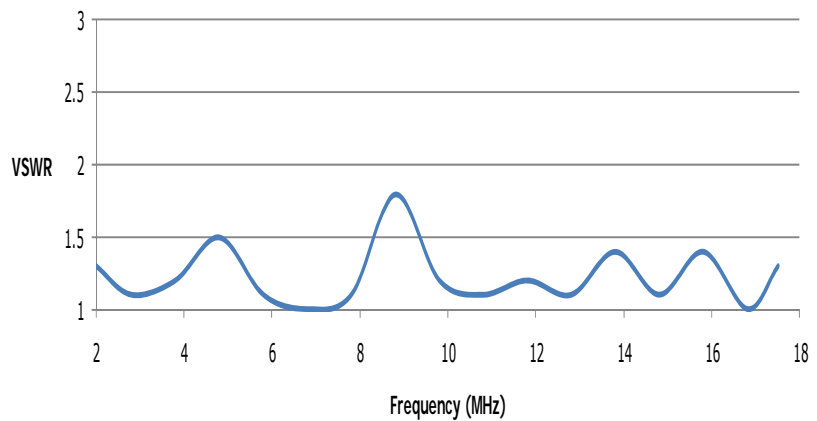
ALE compatible

Frequency-hopping compatible

NVIS whip option



NVIS whip package



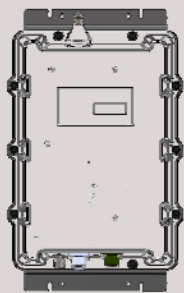
Near Vertical Incidence Skywave (NVIS) operation has a general upper limit of 15MHz, and the NVIS whip package is designed accordingly.

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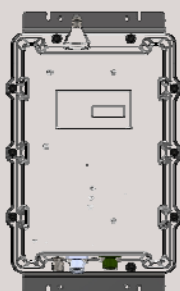
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Specifications

Electrical

| | | |
|-------------------|---------------|---|
| Frequency range | 4002 | 1.65m whip, 2.5-30MHz 2.4m whip, 2-30MHz |
| | 4006 | 1.65 to 10m whip, 2-30MHz |
| Power rating | | 125W PEP |
| Power consumption | Tuned | Typically 400mA |
| | Tuning | <800mA |
| Input Impedance | | 50Ω |
| VSWR | | Typically 1.5:1 |
| Tuning speed | New frequency | Average < 1 second |
| | Memory tuning | <130mS |
| Memory channels | | Unlimited - unique non-linear memory allocation |
| Efficiency | | 15 to 95%, whip-length dependant |

Mechanical

| | | |
|---------------------|--|--|
| Temperature Rating | | -30 to +60° C |
| DC operating range | | 10 to 16VDC |
| Protection | | Open circuit antenna Short circuit antenna Over temperature High VSWR Voltage transients |
| EMC | | Compliant |
| Shock and vibration | | MIL-STD-810F (Dust, vibration, water ingress to IP68) Case pressure-equalisation device fitted |
| Dimensions | | 300mm L x 210m W (including connectors) x 95mm H |
| Weight | | 2.4kg |
| Control cable | | Codan 3040/9350 |
| Connectors | | RF: N socket Control: 6 pin bayonet (Mil-spec) |
| Case construction | | Bespoke diecast aluminium alloy |
| Colour | | White or military green |

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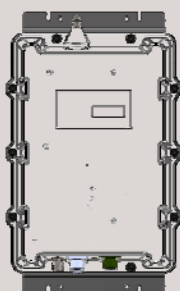
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Ordering Information

| Part No. | Description |
|-------------|--|
| 02-4002-201 | 4002, White |
| 02-4002-301 | 4002, Olive Drab |
| 02-4006-201 | 4006, White |
| 02-4006-301 | 4006, Olive Drab |
| | |
| 02-4024-001 | Flange mount base |
| 02-4022-001 | Single hole mount base |
| 02-4019-002 | Spring |
| 02-4016-001 | 1.55m fibreglass whip |
| 02-4020-001 | 1.65m stainless steel whip |
| 02-4017-001 | 800mm riser |
| | |
| 01-1008-001 | NVIS option for 1.65m whip packages |
| 02-4018-001 | NVIS option for 1.65m + 800mm riser packages |
| | |
| 02-4010-001 | 3m whip antenna, NATO base |
| 02-2181-001 | 9m long wire antenna kit for 02-4010-001 |
| 01-1009 | Whip extension for 02-4010-001 |
| | |
| 60-2174-001 | Side-mount bracket option for all packages |
| 46-1010-001 | N Plug to UHF Socket Adapter |
| 07-1001-001 | 6m RF cable, PL259 one end, N plug other end |

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