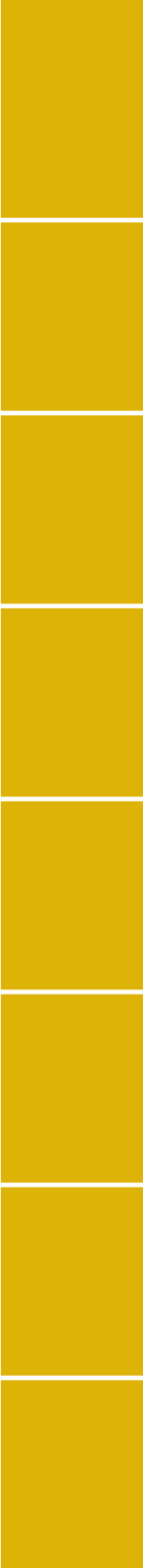


# Tools and Technical Items

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8.1 Batteries and chargers

8.2 Torches

8.3 Tools and tool kits

8.4 Test equipment

# Batteries and chargers

## 8.1

Order code

### Alkaline Batteries (non-rechargeable)

8.1.1

|  |        |
|--|--------|
| Battery alkaline long-life 'AAA' size 1.5V (MN2400/LR03) ..... | ET268P |
| Battery alkaline long-life 'AA' size 1.5V (MN1500/LR6) .....   | ET267P |
| Battery alkaline long-life 'C' size 1.5V (MN1400/LR14) .....   | ET266P |
| Battery alkaline long-life 'D' size 1.5V (MN1300/LR20) .....   | ET265P |
| Battery alkaline long-life 'PP3' size 9V (MN1604/6LF22) .....  | ET264P |

### Rechargeable Ni-cad or NiMH Batteries

8.1.2

Nickel Cadmium (Ni-cad) batteries are now being superseded by Nickel Metal Hydride (NiMH) batteries, which offer improved performance.

|  |        |
|--|--------|
| Battery rechargeable 'AA' size 1.2V .....  | ET271P |
| Battery rechargeable 'C' size 1.2V .....   | ET270P |
| Battery rechargeable 'D' size 1.2V .....   | ET269P |
| Battery rechargeable 'PP3' size 8.4V ..... | ET272P |

### Battery chargers

8.1.3

**Battery charger, 230V AC** ..... ET203P  
 For rechargeable Nickel Cadmium (Ni-Cad) and Nickel Metal Hydride (NiMH) batteries. Charges up to 4 'AAA', 'AA', 'C' or 'D' size or 2 PP3 size batteries.

**Battery charger, universal** ..... ET261L  
 Suitable for charging standard zinc-carbon, alkaline, Ni-Cad or NiMH batteries. Charges up to 4 'AAA', 'AA', 'C' or 'D' size batteries.

**Battery charger, 230V AC** ..... ET27201L  
 Suitable for charging 1 PP3, 4 'AAA' or 'AA' size Nickel Cadmium (Ni-Cad) and Nickel Metal Hydride (NiMH) batteries, (UK style plug).

**Battery charger, solar powered** ..... EZ214P  
 For charging Nickel Cadmium (Ni-Cad) batteries. Charges 4 'AAA', 'AA', 'C' or 'D' size batteries.

### Battery-to-mains converter

8.1.4

**Power converter, converts 12V DC to 230V AC** ..... ER09201L  
 Enables 230V AC equipment rated up to 200W max. to be used with 12V car battery. Battery clips and on/off switch included. Should be used in conjunction with residual current device ER09202L. Note that this item cannot be used 'in reverse' to charge the battery when a mains supply is present.

**High-power battery-to-mains converter** .....  
 Prices available on request, please specify your requirements.

Order code

**8.1.5 Voltage stabilisation and protection**

|  |          |
|--|----------|
| Voltage protection unit, plug-in model 230V AC, 13A. . . . .   | EY080P   |
| Will automatically disconnect mains supply if it varies outside 190 - 260V, and reconnect after 3 minute delay. With UK-style 13A mains socket; spare 13A plug included. |          |
| Voltage Stabiliser, automatic 2.5kVA, 10A . . . . .  | EY090L   |
| Input voltage 220 - 240V AC, 50Hz. When ordering please specify your local supply voltage and frequency.   |          |
| Residual current device, protects against electric shock. . . . .  | ER09202L |
| With 13A UK-type square pin plug & socket.   |          |

**8.2 Torches**

Order code

|   |        |
|---|--------|
| Torch Maglite pocket type with clip and Krypton bulb . . . . .                        | EA027P |
| Takes 2 batteries LR03/'AAA' size (ET268P).<br>Spare bulb is located in the tail cap. |        |
| Torch rubber large with 2 'D' size batteries (ET265P) . . . . .                       | EQ027L |

**8.3 Tools and tool kits**

Order code

**8.3.1 Tool kits**

|  |        |
|--|--------|
| Tool kit for Service Engineers, economy . . . . .  | EY670L |
| Contains over 50 items, including soldering iron, digital multimeter (basic model), pcb drill, screwdrivers, pliers, cutters, adjustable spanner etc. Provides the electrical and electronics engineer with the majority of tools they require. In aluminium carrying case. Full contents list available on request.                                     |        |
| Tool kit for Service Engineers, high-quality . . . . .   | EY680L |
| Contains 100 high quality tools, including soldering iron, pocket digital multimeter, screwdrivers, pliers, cutters, wire strippers, metric and BA spanner sets, adjustable spanner etc. Provides the electrical and electronics engineer with the majority of tools they require. In heavy duty carrying case. Full contents list available on request. |        |

Order code

**Tools and service aids****8.3.2**

|  |        |
|--|--------|
| <b>Anti-static workstation kit</b> . . . . .   | EY696L |
| For use when servicing electronic equipment containing static-sensitive devices.<br>Comprises anti-static work mat, size 60 x 60cm, which folds to become carrying case; wrist strap; coiled connection cables; special UK-type 13A mains plug with earth bonding studs. |        |
| <b>Fuse kit</b> . . . . .  | EY698L |
| Contains 20mm, 1.25" and 1" (mains plug) fuses quick blow and anti-surge in 18 values (10 of each) in the range 1A - 15A. Housed in compartmented storage box.   |        |
| <b>'O' ring tool kit</b> . . . . .   | EY697L |
| To facilitate the easy removal and replacement of 'O' rings, gaskets, seals etc. Comprises 7 tools in plastic wallet.  |        |
| <b>Screwdriver set, contains 12 high-quality screwdrivers</b> . . . . .  | EY690L |
| In storage carrying case. Contains 6 flat-blade, 3 posidrive/ supadrive and 3 Philips screwdrivers.  |        |
| <b>Soldering iron, 25W, basic economy type</b> . . . . .   | EY695L |
| 230V AC operation, with stand.   |        |

**Test equipment****8.4**

Order code

**General-purpose equipment****8.4.1**

|   |          |
|---|----------|
| <b>Counter/timer, frequency range 5Hz - 1.3GHz</b> . . . . .  | EY00310L |
| 230V AC operation, 8-digit display. Frequency, period, count, frequency ratio and pulse width measurement functions. Also available with RS-232 interface at additional cost.   |          |
| <b>Function Generator, 0.002Hz - 2MHz</b> . . . . .   | EY00350L |
| 230V AC operation. Sine, square and triangular waveforms, with variable DC offset, variable symmetry and external sweep input. 7 frequency ranges and 3 outputs: TTL, 600ohm and 50ohm, with adjustable amplitude (20mV - 20V pk-pk). Supplied with operators manual. |          |
| <b>Multimeter, analogue, low-cost</b> . . . . .   | EY00210L |
| Measures DC and AC voltage, DC current and resistance.<br>Supplied with test leads and carrying holster.  |          |
| <b>Multimeter, analogue, heavy duty</b> . . . . .   | EY00220L |
| Measures DC and AC voltage, DC and AC current and resistance; also has continuity and diode test functions. Supplied with test leads and battery.   |          |

Order code

**8.4.1 General-purpose equipment continued**

|  |          |
|--|----------|
| <p><b>Multimeter, digital, low-cost, 3.5 digit display</b> . . . . .</p> <p>Measures DC voltage, DC current and resistance; also has continuity test, diode test, transistor test and battery test functions. Supplied with test leads and battery.</p>  | EY00230L |
| <p><b>Multimeter, digital, Fluke model 175</b> . . . . .</p> <p>Versatile model with 3.75 digit (4000-count) and analogue bargraph display. True-RMS AC measurements. Can measure DC and AC voltage, DC and AC current, resistance, capacitance and frequency; also has diode and continuity test functions. Supplied with test leads and robust yellow carrying holster/stand. Fitted with PP3 9V alkaline battery (2000 hours life).</p> | EY00240L |
| <p><b>Multimeter, digital, bench type</b> . . . . .</p> <p>230V AC operation. True RMS AC measurements, with large 4.75 digit (40,000-count) LED display. High accuracy (0.08%); resolution 10<math>\mu</math>V/ 0.1<math>\mu</math>A /10mohms. Measures DC and AC voltage, DC and AC current, resistance and frequency; also has diode and continuity test functions. With RS-232 interface. Supplied with test leads.</p>                | EY00250L |
| <p><b>Oscilloscope, dual-channel, non-storage 20MHz</b> . . . . .</p> <p>Supplied with operators manual and two 1:1/10:1 probes.</p>   | EY00101L |
| <p><b>Oscilloscope HM507, dual-channel, digital storage type 50MHz</b> . . . . .</p> <p>Operates from 100 - 240V AC, 50/60Hz. Supplied with operators manual and two 1:1/10:1 probes.</p>  | EY00111L |
| <p><b>Power Supply, bench type, triple-output, compact low-cost model</b> . . . . .</p> <p>230V AC. Output 1: 0 - 30V DC, adjustable current (2.5A max.); output 2: 5V DC, 500mA max.; output 3: 12V DC, 500mA max. With analogue voltage and current meters and overload and short-circuit protection.</p>  | EY00415L |
| <p><b>Power Supply, bench type, high-quality</b> . . . . .</p> <p>230V AC. Output 0 - 32V DC, 2A max. Constant voltage or constant current operation. With digital voltage and current meters, remote sense facility and overload and short circuit protection.</p>  | EY00420L |

Order code

**Medical test equipment****8.4.2**

|   |          |
|---|----------|
| <b>Defibrillator analyser</b> . . . . .   | EY00715L |
| Measures output energy, synchronisation time and peak voltage and current.<br>With RS-232 and printer ports.  |          |
| <b>ECG simulator, basic model, battery operated</b> . . . . .   | EY00720L |
| 12 - lead output, adjustable amplitude, heart rate 40 - 120 b.p.m.<br>Connection for 4mm plugs or press-stud type leads.<br>Requires PP3 type battery (ET272P).   |          |
| <b>Electrical safety tester for medical equipment, manual</b> . . . . .   | EY00501L |
| For use with 230V AC, 50/60Hz supplies. Measures line voltage, earth leakage current,<br>earth continuity, enclosure leakage currents, patient leakage and auxiliary currents.<br>Includes padded case. 110V version available on request.  |          |
| <b>Electrical safety tester for medical equipment, automatic.</b> . . . . .   | EY005L   |
| Operates from 95 - 260V AC, 50/60Hz. Allows the user to perform a complete<br>medical electrical safety test to current standards. Includes built-in sine, square,<br>pulse and triangle-wave generator and normal/ arrhythmia ECG waveform simulator.<br>With RS-232 and printer ports. When ordering please specify your local supply voltage<br>and frequency and mains plug type. |          |
| <b>Electrosurgical analyser, for testing diathermy/electrosurgical units</b> . . . . .  | EY00725L |
| Measures output power and tests safety features.  |          |
| <b>Non-invasive blood pressure monitor tester</b> . . . . .   | EY00730L |
| Tests all NIBP monitor parameters: systolic/diastolic pressure and heart rate,<br>and also tests for leakage and over-pressure safety release.  |          |
| <b>Pressure/vacuum meter, digital, hand-held.</b> . . . . .   | EY00710L |
| Measures pressure and vacuum in mmHg, cmH <sub>2</sub> O, inches H <sub>2</sub> O<br>and psi. Powered by 9V alkaline battery (supplied).  |          |
| <b>Ultrasound therapy unit output test balance, economy model</b> . . . . .   | EY00735L |
| Measures output power in the range 0 - 20W. Battery<br>or mains operated (via external adaptor). Complete with carrying case.   |          |
| <b>Ultrasound therapy unit precision test balance</b> . . . . .   | EY00740L |
| Measures output power in the range 0 - 20W. Battery<br>or mains operated (via external adaptor). Complete with carrying case.   |          |