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# The EU Code of Conduct on Efficiency of External Power Supplies

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# Background



- The external power supplies and chargers (hereinafter defined “external power supplies”) have in common that they mostly do not have an on-off switch and consume electricity in a no-load situation.
- This Code of Conduct has been prepared by the European Commission, following the discussions and decisions of the ad-hoc working group composed by independent experts, Member States representatives and representatives of industry. It has been endorsed by the Council following the Commission Communication COM(1999)120.



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# The Possible Options



- A **Directive for Minimum Efficiency Requirements** as we have for ballasts could be the most desirable solution;
- **Mandatory labelling** would be difficult as power supplies are not visible at point of sale
- **Energy Star** could be a solution (no indication yet from US EPA); EU can take the lead for power supplies used in IT equipment;
- The **Code of Conduct** for External Power Supplies;



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# The Possible Options



The advantages of using the **Code of Conduct** for External Power Supplies:

- It is signed by most of IT and Mobile Telephones OEM and some important PS manufacturers;
- It can be agreed in short time;
- It can be used as basis for international consensus;



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# The Possible Options



Disadvantages of using the **Code of Conduct** for External Power Supplies:

- It is of voluntary nature;
- It cover only external power supplies;
- difficult to monitor it;



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# Code of Conduct Scope



Scope of this Code of Conduct are external power supplies for electronic and electrical appliances, including among others AC adapters, battery chargers for mobile phones, domestic appliances, power tools and IT equipment, in the input power range **0.3W to 75W**. In most cases these power supplies are specified by the appliance manufacturer; production can be at the appliance manufacturer or at a dedicated manufacturer.



# The Code of Conduct's Aim

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- To minimise no-load losses of external power supplies in the input power range **0.3W to 75W**.



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# The Code of Conduct Commitment



- Design power supplies or component so as to minimise energy consumption in the off-mode. Those companies who are not responsible for the production of power supplies shall include the concept of minimisation of no load energy consumption in their purchasing procedures of power supplies.
- Achieve the following no-load power consumption targets within the time schedule for at least **60% for Phase 1**, **70% for Phase 2** and **80% for Phase 3**, either for the model range using external power supplies or for the models of external power supplies that are introduced on the market after the indicated date (new model only)





# Code of Conduct Targets



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The targets for external power supplies are as follows:

	phase 1: 1.1.2001	phase 2: 1.1.2003	phase3: 1.1.2005
$\geq 0.3 \text{ W}$ and $< 15 \text{ W}$	1.0 W	0.75 W	0.30 W
$\geq 15 \text{ W}$ and $< 50 \text{ W}$	1.0 W	0.75 W	0.50 W
$\geq 50 \text{ W}$ and $< 75 \text{ W}$	1.0 W	0.75 W	0.75 W



# Participating Companies



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The following companies have signed the Code of Conduct:

- **Alcatel** (mobile telephones).
- **Motorola** (mobile telephones).
- **Panasonic** (mobile telephones)
- **Sony** (mobile telephones)
- **Nokia** (mobile telephones)
- **Salcomp Oy** (AC adapter and battery chargers for mobile telephone and IT equipment)
- **Elpac Electronic Inc** (AC adapter)
- **Ault Inc** (power supplies)
- **Astec** (power supplies)



# Participating Companies



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The following companies have signed the Code of Conduct:

- **Canon** (mobile IT equipment)
- **Apple** ((mobile power products)
- **Bias Power Technology** (power supplies)
- **IBM** (mobile power products)
- **NEC Computer International B.V.**( mobile computers)
- **HP** (mobile computers)
- **Compaq** (mobile computers)
- **Epson** (scanners, digital camera and interface cards, printers for point of sales systems)
- **Easybrick**



# Participating Companies



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While the Code of Conduct has a good coverage for Mobile telephone and IT equipment, the coverage for other products such as:

- DECT telephones and answering machines:
- portable consumer electronics (e.g. radio):
- kitchen tools;

is very weak

Moreover the majority of Ext. PSUs manufacturers have not signed the Code of Conduct.



# Code of Conduct Monitoring



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- Signatories report on a yearly basis in a confidential manner to the European Commission how many models using external power supplies or models of external power supplies out of the total number of models a manufacturer produces reach the target in that year. For each model using external power supply or external power supply the associated no-load power consumption shall be reported. The reporting shall be completed by the end of February of the following year.



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# The Proposed Amendments



Proposal for amendment to the **Code of Conduct** for External Power Supplies to include **active mode** and **increase the power range ( up to 150 W)**:

- by 1.1.2004 first level of active mode efficiency (during the last meeting consensus was to set 60% efficiency at 100% load);
- by 1.1.2006 second more stringent level (up to 80% efficiency at 100% load).;



# Proposed levels at 100% load



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- Below 1.5 30%
- 1.5 - 2.5 40%
- 2.5 - 4.5 50%
- 4.5 - 6.0 60%
- 6.0 - 10.0 70%
- 10.0 - 20.0 75%
- above 20 80%

to be met by 1.1.2005



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# Proposed levels at for no load for above 75 W input power up to 150W



- Up to 1.0 W  
to be met by 1.1.2005