



EuropeAid /114385/D/SV/CY

Assessment and administration capacity building  
for the harmonisation with the New Approach directives



# **GUIDE**

**to the implementation of  
DIRECTIVE**

**1999/5/EC**

**on**

**R&TTE**

**RADIO EQUIPMENT AND  
TELECOMMUNICATIONS TERMINAL  
EQUIPMENT  
AND THE MUTUAL RECOGNITION  
OF THEIR CONFORMITY**

This Guide was printed with funds of the EuropeAid /114385/D/SV/CY project:  
“Assessment and administration capacity building for the harmonisation with the New Approach directives”

The views expressed in this publication do not necessarily reflect the views of the European Commission or the Cyprus Ministry of Commerce, Industry and Tourism.

© Cyprus Ministry of Commerce, Industry and Tourism, Nicosia, May 2004

## INTRODUCTION

Directive 1999/5/EC of the European Parliament and of the Council of 9 March 1999 on radio equipment and telecommunications terminal equipment and the mutual recognition of their conformity is one of the latest New Approach directives. It replaces previous directives in respect of the products within its scope, and is intended to apply a lighter degree of regulation to the placing on the market and use of these products, with the intent of meeting the needs of technological change, market development, and changes in network legislation.

There are no longer type approval requirements for apparatus within the scope of this directive, and manufacturers are able to self-certify. Notified bodies are required only for some routes to compliance and for radio transmitters where harmonised standards do not exist or where those standards do not contain radio test suites.

Where radio equipment uses frequencies that are not harmonised throughout the Community, additional requirements must be met before the apparatus may be placed on the market.

Member States are required to allow apparatus to be put into service for its intended purpose where the relevant requirements of the directive have been met. They may restrict the putting into service only for reasons related to effective and appropriate use of the radio spectrum, avoidance of harmful interference, or matters relating to public health. Member States are also required by the directive to ensure that operators of public telecommunications networks do not refuse to connect terminal equipment that complies with the applicable essential requirements of the directive.

The directive does not change national licensing regimes, which continue to provide the authority (where required) to use radio equipment.

A New Approach directive contains essential requirements which must be met before a product within the scope of the directive may be placed on the market and taken into service. It is intended to promote the free movement of goods throughout the European Union by the removal of technical barriers to trade. Compliance with a New Approach directive provides a presumption of conformity. This means that a Member State must presume that the product is compliant with the requirements (if the manufacturer has made a declaration to that effect) unless it has evidence to the contrary. It may not remove a product from the market unless a non-conformity can be demonstrated.

New Approach directives apply in the European Economic Area (EEA) which consists of the Member States of the European Union, plus Iceland, Liechtenstein and Norway.

The directives were written at different times and therefore are not consistent, between themselves, in terminology, marking requirements, the content of the declarations of conformity, the routes to demonstrate conformity and other matters. It is therefore important to consider the requirements of each directive individually.

A directive is an instruction to each Member State to create a law to implement its requirements. Each country implements legislation within its own structures and it follows that the laws are not identical between states. The legal requirements in Cyprus will be those of the national legislation.

The national legislation must cover all aspects of the directive, must nominate or establish market surveillance bodies, and contain the penalties for non-compliance with the requirements.

## ESSENTIAL REQUIREMENTS OF THE DIRECTIVE

A New Approach directive does not contain detailed technical requirements. These are contained within technical standards produced by the European standards bodies, CEN, CENELEC and ETSI. The directive therefore contains requirements in general terms. The technical standards are not themselves compulsory. They provide one means (often the most straightforward) of demonstrating conformity, but it is to the general requirements of the directive that conformity is declared.

The directive also contains administrative requirements, for manufacturers in terms of declarations of conformity and product marking, for operators of networks in respect of the information that they must supply, and for governments in terms of operation of the market and enforcement of the directive's requirements.

Manufacturers are required to ensure that apparatus is placed on the market only if it meets the relevant essential requirements and other relevant provisions of the directive, when it is correctly installed and maintained, and used for its intended purpose. The manufacturer cannot be held responsible for problems caused when it is not installed or maintained correctly by another party, or when it is not used for its intended purpose.

As this directive is intended to reduce the regulatory burden on manufacturers, not all essential requirements apply to all apparatus.

The manufacturer has full responsibility for the design and manufacture of their products, the affixing of the CE marking, and alert symbol where applicable, the declaration of conformity and the documentation. For radio equipment, they also have the responsibility for determining in which countries the apparatus is to be marketed, and for apparatus utilising non-harmonised frequencies, notification to national authorities.

## ESSENTIAL REQUIREMENTS APPLICABLE TO ALL APPARATUS

The essential requirements for all apparatus are as follows:

- the protection of the health and safety of the user and any other person, including the objectives with respect to the safety requirements contained in Directive 73/23/EEC (the Low Voltage Directive) but with no voltage limit applying
- the protection requirements with respect to electromagnetic compatibility contained in Directive 89/336/EEC (the EMC Directive)

## SAFETY REQUIREMENTS

The Low Voltage Directive requires that Member States take all appropriate measures to ensure that electrical equipment may be placed on the market only if, having been constructed in accordance with good engineering practice in safety matters in force in the EU, it does not endanger the safety of persons, domestic animals or property when properly installed and maintained and used in applications for which it was made.

This requires protection against hazards arising from electrical equipment, to ensure:

- that persons and domestic animals are adequately protected against danger of physical injury or other harm which might be caused by electrical contact direct or indirect
- that temperatures, arcs or radiation which would cause a danger, are not produced

- that persons, domestic animals and property are adequately protected against non-electrical dangers caused by the electrical equipment which are revealed by experience
- that the insulation must be suitable for foreseeable conditions
- that the electrical equipment meets the expected mechanical requirements in such a way that persons, domestic animals and property are not endangered
- that the electrical equipment shall be resistant to non-mechanical influences in expected environmental conditions, in such a way that persons, domestic animals and property are not endangered
- that the electrical equipment shall not endanger persons, domestic animals and property in foreseeable conditions of overload

It is important to note that the definition of the essential requirements for safety include the word "health". Although this requirement is applicable to all apparatus, when the directive was being drafted the area of concern for this aspect was in connection with exposure to radio waves. Manufacturers of mobile phones, other portable wireless devices and base stations should take into account the latest thinking on public health, including Recommendation 1999/519/EC of the Council and European Parliament.

## **EMC REQUIREMENTS**

The protection requirements of the EMC Directive are as follows:

Apparatus shall be so constructed that:

- the electromagnetic disturbance it generates does not exceed a level allowing radio and telecommunications equipment and other apparatus to operate as intended
- the apparatus has an adequate level of intrinsic immunity to electromagnetic disturbance to enable it to operate as intended

This may be interpreted (and is so in some national legislation such as that in the UK) as being when the apparatus is properly installed and maintained, and used for the purpose intended.

## **ESSENTIAL REQUIREMENTS FOR ALL RADIO EQUIPMENT**

In addition to the above, radio equipment shall be so constructed that it effectively uses the spectrum allocated to terrestrial/space radio communication and orbital resources, so as to avoid harmful interference.

This aspect covers such parameters as effective radiated power of the fundamental, frequency error, emission bandwidth, adjacent channel power, frequency stability and spurious emissions.

## **OTHER ESSENTIAL REQUIREMENTS**

The Commission has stated that it intends to apply other essential requirements only when shown to be necessary. Most types of equipment will have no requirements other than those above. However, subject to the agreement of a Regulatory Committee, or failing that, agreement of the Council, the Commission may require that one or more of the following be met:

- the apparatus interworks via networks with other apparatus and can be connected to interfaces of the appropriate type throughout the EEA
- it does not harm the network or its functioning, nor misuse network resources thereby causing an unacceptable degradation of service
- it incorporates safeguards to ensure that the personal data and privacy of the user and of the subscriber are protected
- it supports certain features ensuring avoidance of fraud
- it supports certain features ensuring access to emergency services
- it supports certain features in order to facilitate its use by users with a disability

These additional requirements are known as the *Article 3(3)* requirements. For the present, only equipment required to access safety services (maritime, inland waterway and avalanche beacons) will be subject to essential requirements under Article 3(3)e (access to emergency services).

When a decision is made under Article 3(3) it is published in the Official Journal of the European Union. The date when the requirement takes effect will also be given. Where additional requirements are imposed under Article 3(3) for a particular equipment class, any apparatus of that class which was first placed on the market before the date of application may continue to be placed on the market “for a reasonable period”. The date of application of the requirement and the period will be determined by the Commission in consultation with an Advisory Committee. An article in the directive sets out the requirements for this procedure.

Member states are required to ensure that the network operators in their country publish accurate and adequate specifications for the interfaces. For new interfaces, they must be published before the services provided through those interfaces are made available, but clearly this was not possible for long-established interfaces. Operators are required to publish updates as necessary. These specifications must be sufficiently detailed to allow a potential manufacturer to design terminal equipment capable of utilising all services provided through the interface, and to test equipment to the essential requirements.

## **NOTIFICATION**

For radio equipment using frequency bands that are not harmonised throughout the Community, additional requirements apply. The manufacturer, or person responsible for placing the apparatus on the market, is required to notify the national authority for spectrum management in the country concerned of their intention to place the apparatus on its national market, at least four weeks before they so do. The notification must include details of the radio characteristics of the equipment (including frequency bands, channel spacing, type of modulation and rf power) and the identification number of the notified body that has been involved. The definition of “using frequency bands which are not harmonised throughout the Community” has been interpreted by the Commission as excluding receive-only radio devices and those which can transmit only under the control of a network, since they cannot cause interference which this requirement is designed to prevent.

Notification requirements vary from country to country. It is not, therefore, possible to describe the requirements that will apply in Cyprus. The following requirements are taken from the Regulations in force in the UK.

The body to which notification should be given in the UK is the Office of Communications (OFCOM). This body has, at the start of 2004, replaced the Radio Communications Agency as the responsible authority in the UK.

The information to be provided is:

- name and address for the individual submitting the notification, the responsible person (company) and the manufacturer, if different
- equipment identification (type designation)
- purpose and intended use
- frequency band(s) of operation
- type of modulation
- channel spacing
- designation of emission using the International Telecommunications Union (ITU) classification and necessary bandwidth
- transmit rf power or power range
- duty cycle (if applicable)
- channel access protocol (if applicable)
- duplex direction (if applicable)
- antenna type (including where appropriate antenna class and gain)
- reference standard or other specification
- notified Body numbers (if applicable)

Notification is not an approval process, and administrations have no obligation to respond to a notification. A lack of response cannot therefore be taken as indicating that all is satisfactory.

## **SCOPE OF THE DIRECTIVE**

### **SCOPE OF APPLICATION**

The directive applies to apparatus that is either radio equipment or telecommunications terminal equipment, or both (such as a mobile phone handset) except where specifically excluded.

The directive applies to the manufacturer, and in some cases to the manufacturer's authorised representative, as described below. The manufacturer has sole and ultimate responsibility for the conformity of his product, although he may in certain circumstances transfer some responsibility to his authorised representative.

### **EXCLUSIONS**

The following equipment is excluded:

- radio equipment used by radio amateurs, unless the equipment is available commercially
- kits of components to be assembled by radio amateurs and commercial equipment modified by and for the use of radio amateurs

- marine equipment within the scope of Directive 96/98/EC. This deals with Safety of Life at Sea (SOLAS) equipment on vessels above a certain tonnage
- cabling and wiring, but not antennas
- equipment that can receive but not transmit, used solely for the reception of sound and TV broadcasting services
- products, appliances and components for civil aviation, within the meaning of Article 2 of Council Regulation No. 3922/91
- air-traffic management equipment and systems within the meaning of Article 1 of Directive 93/65/EEC
- apparatus used exclusively for activities in connection with public and state security, including defence, and criminal law, but apparatus used additionally for other purposes comes within the scope of the directive

Apparatus which does not (yet) comply with the directive may be displayed at trade fairs, exhibitions and demonstrations, etc. provided that a visible sign clearly indicates that such apparatus may not be marketed or put into service until it has been made to comply.

## **INTERACTIONS WITH OTHER DIRECTIVES**

### **MEDICAL DEVICES AND ACTIVE IMPLANTABLE MEDICAL DEVICES**

Apparatus that incorporates, either as an integral part or an accessory, a medical device within the scope of Directive 93/42/EEC or an active implantable medical device within the scope of Directive 90/385/EEC, is governed by the provisions of the R&TTE Directive but without prejudice to the requirements of those directives. The directives therefore apply in a complementary way and the requirements and procedures of each applicable directive must be met.

### **MOTOR VEHICLES**

Apparatus that is also a component or separate technical unit of a vehicle or a two- or three-wheeled motor vehicle is also governed by the provisions of the R&TTE Directive, similarly without prejudice to the provisions of the other directives.

### **PLACING APPARATUS ON THE MARKET**

The definition of placing on the market is an important one, as this is the point that the directive starts to apply. In some national legislation, the term “supply” is used to describe this point but the terms may be considered to be equivalent. This is the point at which the apparatus passed from the manufacturing stage to the market. It may be represented by a physical handover, or as a change of ownership. The latter is particularly relevant in the case of large systems and installations which may take some time to build and install.

As explained above, apparatus is not placed on the market by being displayed in catalogues, or at trade fairs or exhibitions. However, a notice should be provided to indicate that it is not yet compliant with the directive.

Apparatus is not considered to be placed on the market if it is intended to be exported (or re-exported) to a country outside the Community, if it is transferred from outside the Community to an authorised

representative, or if it is transferred to a manufacturer for further processing. Examples of the latter include modification of the apparatus, integration into another product, or own branding (placing the final “manufacturer’s” name on the product) sometimes called “badge engineering”. This exclusion is valid only if the CE mark has not been applied at that stage.

## **SOME IMPORTANT DEFINITIONS**

### **MANUFACTURER**

The manufacturer is the legal entity (often described as the “person” in legislation) responsible for the design and construction of the apparatus with a view to placing it on the market on his own behalf.

The manufacturer may subcontract some of these functions without losing his status as the manufacturer. For example, he can use ready-made sub-assemblies or components, or may sub-contract the assembly work.

Anyone altering apparatus significantly, and placing it on the market, is also deemed to be a manufacturer for the purpose of the directive.

### **AUTHORISED REPRESENTATIVE**

An authorised representative (as in the R&TTE Directive) may be appointed expressly by a manufacturer to act on behalf of the manufacturer in certain circumstances. If an authorised representative is appointed, he must be based in the EEA. If so appointed, the authorised representative may, at the request of the manufacturer, sign the declaration of conformity and affix the CE mark. If the manufacturer is based outside the EEA, the authorised representative may hold documentation and evidence of conformity in the EEA. If he takes on these responsibilities, he may be subject to enforcement action in a case where apparatus is non-compliant.

### **IMPORTER**

An importer places apparatus (from a manufacturer based outside the EEA) onto the EEA market. The importer should keep the declaration of conformity and supporting evidence, and if he does not, must be able to obtain it from the manufacturer promptly in the case of a request by the enforcement authorities. An importer cannot sign a declaration of conformity, nor affix the CE mark.

### **TELECOMMUNICATIONS TERMINAL EQUIPMENT**

A product enabling communication or a relevant component thereof which is intended to be connected directly or indirectly by any means whatsoever to interfaces of public telecommunications networks. Public networks are those used wholly or partly for the provision of publicly available telecommunications services.

The phrase “enabling communication” sometimes causes confusion in connection with Information Technology equipment. In the UK, DTI guidance suggests that the intention of the R&TTE Directive was to reduce the requirements for equipment that was previously type approved rather than to widen the scope of the types of apparatus that constitute telecommunications terminal equipment. Thus only the

gateway to the public network, for example the modem rather than the whole the whole PC, comes within the scope of this directive.

Similarly, test equipment is not considered to be telecommunications terminal equipment unless it actively sets up and releases calls.

## **RADIO EQUIPMENT**

A product, or relevant component thereof, capable of communication by means of emission and/or reception of radio waves utilising the spectrum allocated to terrestrial/space radio communication.

## **RADIO WAVES**

Electromagnetic waves of frequencies from 9 kHz to 3000 GHz which propagate in space without artificial guide, such as a waveguide.

## **CLASSES OF EQUIPMENT**

The directive requires member states to notify regulated network interfaces to the Commission, in order that their specifications may be published. The Commission has established the equivalence of interfaces and established a series of equipment class identifiers.

The class identifiers have been established, and were published in the Official Journal on 19 April 2000 as Commission Decision 2000/299/EC of 6 April 2000 establishing the initial classification of radio equipment and telecommunications terminal equipment and associated identifiers. This established two classes of equipment.

All that may be placed on the market and put into service without restrictions throughout the Community constitute a class, referred to as "Class 1". No equipment identifier is assigned to this class. Equipment for which restrictions on placing on the market and/or putting into service exist is designated "Class 2".

The Commission has published a list of subclasses on its website at

**[www.europa.eu.int/comm/enterprise/rtte](http://www.europa.eu.int/comm/enterprise/rtte)**

## **CLASS 1**

Class 1 is divided into the following subclasses

### **Terminal equipment attached to fixed networks and non-transmitting radio equipment**

- 1.1 ISDN (ISDN Basic Rate, ISDN Primary Rate, ISDN U, Broadband ISDN ATM)
- 1.2 PSTN (Analogue single line, Analogue multi-line (with/without DDI), equipment attached to Centrex interfaces or Virtual Private Networks)
- 1.3 Leased lines (2w and 4w analogue (base band), 2w and 4w analogue (voice band), Digital, SDH, optical)
- 1.4 Wired data equipment X.21, X.25, Ethernet, token ring, token bus, TCP/IP, frame relay)
- 1.5 Wired interactive broadcast equipment (unswitched vision/sound, switched vision/sound)
- 1.6 Telex (single line equipment, multiple line equipment)
- 1.7 Receive-only radio equipment
- 1.8 Other terminal equipment attached to fixed networks

### **Radio equipment which transmits only under the control of a network**

- 1.9 GSM handsets, including GSM 900, GSM 1800, GSM 1900 (and, when it appears, GSM 450)
- 1.10 TFTS equipment
- 1.11 Land Mobile earth stations in the 1.5/1.6 GHz bands
- 1.12 Land Mobile earth stations operating in the Ku-band
- 1.13 TETRA end-user equipment (non-DMO)
- 1.14 Satellite Personal Communication earth stations operating in the 1.6/2.4 GHz bands
- 1.15 Satellite Personal Communication earth stations operating in the 1.9/2.1 GHz bands
- 1.16 Low data rate Land Mobile earth stations in the 1.5/1.6 GHz bands
- 1.17 Other Radio equipment, which only transmits under the control of a network

### **Radio transmitters, technically harmonised in the Community for which member states do not constrain their putting into service**

- 1.18 DECT equipment

## **CLASS 2**

Class 2 is divided into the following subclasses

- 2.0 Other (equipment, not identified specifically below, that cannot be moved freely and put into service throughout the whole community)
- 2.1 VSATs in the C-band
- 2.2 VSATs in the Ku-band
- 2.3 Satellite News Gathering earth stations in the Ku-band
- 2.4 TETRA Direct Mode of Operation
- 2.5 TETRAPOL
- 2.6 Private Mobile Radio
- 2.7 Short Range Devices
- 2.8 Microwave links
- 2.9 Fixed radio links
- 2.10 Broadcast transmitters
- 2.11 Maritime radio equipment
- 2.12 Infrastructure equipment (e.g. base stations)
- 2.13 Radio equipment, operating in amateur radio bands

## **CONFORMITY ASSESSMENT**

Apparatus meeting the requirements of the relevant harmonised standards whose references have been published in the Official Journal are presumed to be in compliance with the essential requirements. For many products, more than one standard will be required. For example, a piece of radio equipment may have a standard for EMC, one for safety compliance, one for compliance with the requirement for effective use of the radio spectrum, and finally a standard covering some additional essential requirements.

The directive describes four procedures for conformity assessment, one of which must be used to demonstrate compliance with all the relevant essential requirements, subject to an alternative for the EMC and LVD essential requirements. These are described in Annexes II, III, IV and V of the directive.

As an alternative for compliance with the essential requirements in respect of Article 3(1)(a) Safety and 3(1)(b) EMC, the procedures in 73/23/EEC and 89/336/EEC may be used respectively for those aspects, for apparatus within the scope of those directives. The alternative means of demonstrating compliance are contained within those directives.

## **SELECTION OF ROUTES TO COMPLIANCE**

For telecommunications terminal equipment that does not make use of the spectrum allocated to terrestrial/space radio communications, and for the receiving parts of radio equipment, the manufacturer may use the procedures of Annexes II, IV or V.

For radio equipment not within the scope of the above paragraph, the manufacturer may choose from Annexes III, IV or V where relevant harmonised standards have been applied in full, or Annexes IV or V where harmonised standards have not been applied, or have been applied only in part.

The requirements of these annexes are described below.

## **ANNEX II - INTERNAL PRODUCTION CONTROL**

The manufacturer must establish technical documentation that enables the conformity of the product with the essential requirements to be assessed. This must cover the design, manufacture and operation of the product and include:

- a general description of the product
- conceptual design and manufacturing drawings and schemes of components, sub-assemblies, circuits, etc.
- descriptions and explanations necessary for the understanding of the understanding of the above and the operation of the product
- a list of standards applied in full or in part and description of the solutions adopted to meet the essential requirements where they have not been applied in full
- the results of design calculations made, examinations carried out, etc.
- test reports

The manufacturer must take all measures necessary to ensure that the apparatus complies with the documentation and with the requirements of the directive. They, or their authorised representative, must keep a copy of the declaration of conformity with the technical documentation.

## **ANNEX III - INTERNAL PRODUCTION CONTROL PLUS SPECIFIC APPARATUS TESTS**

The requirements of Annex II apply, along with the following.

For each type of apparatus, all essential radio test suites must be carried out by the manufacturer, or on his behalf. The essential test suites may be described in the harmonised standards. Where they are not, they must be identified by a Notified Body chosen by the manufacturer.

## **ANNEX IV - TECHNICAL CONSTRUCTION FILE**

The requirements of Annexes II and III apply, along with the following.

The technical documentation described in Annex II, and the declaration of conformity to the specific radio test suites described in Annex III, form a technical construction file, which must be presented to a Notified Body for review. The file may be presented to more than one body, provided each is informed of the others who have received a copy of the file.

The Notified Body reviews the file, and if not satisfied that it demonstrates that the essential requirements have been met, must inform any other Notified Bodies involved, and may also inform the manufacturer, their authorised representative or the organisation responsible for placing the apparatus on the market. The opinion must be delivered within four weeks of receipt of the file.

On receipt of the opinion, or at the end of the four-week period, the apparatus may be placed on the market.

The manufacturer, their authorised representative or the organisation responsible for placing the apparatus on the market, must keep the file for not less than ten years after last apparatus has been manufactured.

## **ANNEX V - FULL QUALITY ASSURANCE**

The manufacturer must operate an approved quality system for design, manufacture and final product inspection and testing, subject to surveillance by a Notified Body at “reasonable” intervals and, possibly, unexpected visits. The annex contains details of the processes involved. The Notified Body must assess whether the system ensures the conformity of the products, and the manufacturer must undertake to fulfil the requirements of the system.

It is important to note that whatever route is chosen, the manufacturer has the responsibility to ensure that their product complies. Notified Bodies only issue opinions, and have no power to prohibit the placing on the market of any product, even under the TCF route.

## APPLICATION OF HARMONISED STANDARDS

### GENERAL INFORMATION

A standard is described as “harmonised” if it has been produced by one of the European standards bodies and accepted as a relevant standard under one or more directives by the European Commission. The standards bodies are:

CEN	The European Committee for Standardisation
CENELEC	The European Committee for Electrotechnical Standardisation
ETSI	European Telecommunications Standards Institute

These produce standards with the number prefixed by “EN” (European Norm).

The Commission publishes lists of standards that are harmonised under each directive from time to time in its Official Journal of the European Union (commonly referred to as the “Official Journal”). A standard may be used to demonstrate conformity with all or part of the essential requirements of the directive as soon as it is published in the Official Journal. There may be a need to apply more than one standard to cover all the EMC requirements. For example there may be one standard for emission and one for immunity.

In general, European standards have a transition period whereby the superseded standard may continue to be used for a period of time (the transition period) before it is withdrawn. The date of withdrawal of the superseded standard is given in the foreword of the superseding edition. For harmonised standards listed in the Official Journal, the Commission decides a date on which the superseded standard ceases to provide a presumption of conformity with the directive, and this is included in the details provided in the list in the Official Journal. In general, the date of cessation of presumption of conformity is the same as the date of withdrawal, but there are some exceptions.

Once the date of cessation of presumption of conformity has been reached, the superseded standard may no longer be used under the standards route. Since the directive applies to individual products, new production after that date must comply with the requirements of the new edition. The transition period, from listing in the Official Journal to withdrawal of the superseded version is generally three years, to allow manufacturers to comply with new or changed requirements.

### SPECIFIC INFORMATION ON EMC STANDARDS

There are three types of EMC standard: product family, generic, and basic.

- product family standards describe limits, and sometimes test methods for the demonstration of conformity. Other product family standards refer to basic standards for the test methods.
- generic standards apply in cases where a product family standard is not applicable, and contain limits with references to basic standards for the test methods.
- basic standards describe test methods but do not contain specific requirements or limits.

The list in the Official Journal contains product family and generic standards only. This is because basic standards cannot themselves provide a presumption of conformity because they do not contain specific requirements.

The reference to a basic standard from a product family or generic standard may be by means of a dated reference (to a specific edition of the basic standard) or by an undated reference. In the case of the former, the specified edition of the basic standard is always used. In the latter, the latest edition of the basic standard is used, except that if the previous edition (the superseded version) of the basic standard may be used up to its date of withdrawal.

These standards have a hierarchy of application. Product standards take precedence over generic standards. The latter are only employed if a more specific standard does not exist for the product concerned. Product standards themselves have a hierarchy in that some are more specific than others. In selecting product standards, therefore, the manufacturer should choose a product-specific standard over a product family standard if the former covers the apparatus concerned.

In selecting the appropriate standards, care should be taken to check the scopes of the standards concerned. The scope is often wider than the title of the standard would suggest.

If generic standards apply, they should be chosen based on the intended environment for the apparatus. There are two possible environments:

- residential, commercial and light industrial
- industrial

The residential, commercial and light industrial emission standard has more restrictive emission limits than the industrial emission standard because of the greater chance of radio receivers in proximity. The industrial generic has higher immunity requirements (greater levels of disturbances that the apparatus must withstand) when compared with the residential, commercial and light industrial immunity standard.

## **DECLARATION OF CONFORMITY**

Whichever route to compliance is chosen, when the manufacturer is satisfied that the apparatus meets the requirements of the directive, he draws up a declaration of conformity. The directive requires that the manufacturer holds this declaration “at the disposal of the competent authority for ten years following the placing of the apparatus on the market”. “Competent authorities” are the regulatory bodies in each Member State. “At the disposal of” means that the declaration has to be retained for possible inspection by those responsible for enforcement of the directive. The directive and the declaration of conformity apply to each individual product. The ten-year requirement to retain the declaration of conformity therefore begins when the last product has been placed on the market.

The declaration of conformity is drawn up by the manufacturer, or if he so chooses, his authorised representative. The manufacturer does not have to be based in the EEA, and the declaration is valid wherever it is drawn up.

If the manufacturer is not based in the EEA and does not appoint an authorised representative within the EEA, the obligation to keep the declaration of conformity falls on the person who places the apparatus on the EEA market. Such persons will need (for their own benefit) to ensure that they hold this document.

The declaration of conformity must contain the following elements:

- the name and address of the manufacturer, and his authorised representative if applicable

- a description of the apparatus to which it refers
- reference to the specification(s) under which conformity is declared, or a reference to the Technical Construction File which demonstrates conformity, or both if applicable
- a statement that the apparatus complies with the requirements of the directive
- identification of the signatory empowered to bind the manufacturer (or his authorised representative based in the EEA, if applicable)
- a signature

The declaration of conformity must be written in one of the official languages of the EEA.

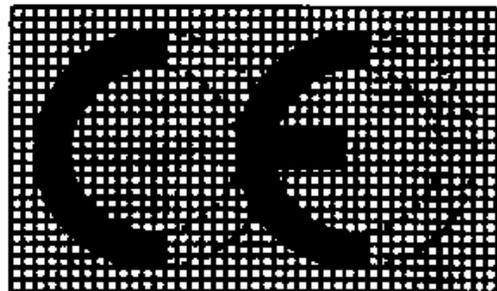
If the apparatus is also covered by other directives then one declaration of conformity is sufficient provided all the information required by each directive is included. Equally, one declaration of conformity may be produced for each directive.

A copy of the declaration of conformity must accompany every product.

## MARKING

### CE MARKING

All apparatus covered by the directive must bear the CE mark. The mark indicates that the apparatus meets the requirements of all applicable directives, and has the form:



The grid in the diagram on the right is to show the relative dimensions and is not part of the marking. The “CE” may be any size providing the proportions are maintained but must not be shorter than 5 mm in height.

The CE mark must be applied to the apparatus, or if that is not possible, in descending order of priority to the packaging, instructions for use, or guarantee certificate. It is appropriate, but not mandatory, to apply the CE mark to the packaging as well as the apparatus. This allows the mark to be seen without opening the packaging, and will facilitate the free movement of goods.

The mark must be affixed visibly, legibly and indelibly.

No other markings or inscriptions may be affixed that are likely to mislead third parties as to the significance of the CE mark.

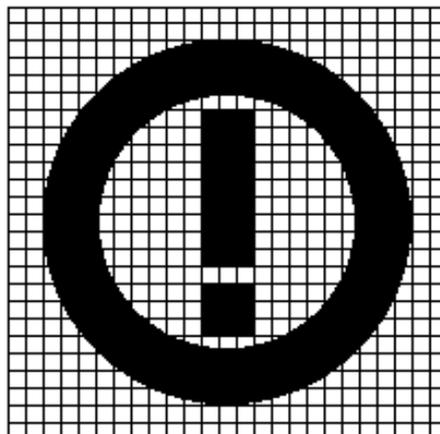
## ADDITIONAL MARKING

In addition to the CE mark, the apparatus must carry the following information, prominently displayed:

- for telecommunications terminal equipment, identification of the interfaces of public telecommunications networks to which it is intended to be connected.
- for radio equipment, the equipment class identifier must be included where an identifier has been assigned. The user is also required to be alerted to potential restrictions on use or requirements for authorisation of use in certain member states.

Class 2 products must be identified by the so-called “alert” symbol, shown below. It consists of an exclamation mark inside a circle, and signifies that the frequency band that the apparatus employs is not harmonised throughout the Community and/or that potential restrictions on the use of the apparatus exist in one or more member states. It is placed on the product in addition to the CE marking. If the alert symbol is required, it must have the same height as the initials “CE”.

Again, the grid is shown to show the relative dimensions and is not part of the mark.



Where the procedures of Annex III, IV or V have been used, the marking must be accompanied by the identification number of the Notified Body that has been employed in the process. It should be noted, however, that where a harmonised standard specifies the test suites to be employed, a Notified Body is not required. The Commission has accepted that in such cases it is not possible for the manufacturer to include such a reference in the marking.

All apparatus must be identified by the manufacturer by means of type, batch and/or serial numbers, and by the name of the manufacturer or the organisation responsible for placing the apparatus on the market.

## INFORMATION REQUIREMENTS

The manufacturer, or the person responsible for placing the apparatus on the market, must provide information for the user on the intended use of the apparatus, together with the declaration of conformity to the essential requirements.

For radio equipment, this information must also include geographical restrictions on use (by country or area) which must be identified on the packaging and in the instructions for use, and the equipment class identifier, and where appropriate that the apparatus uses frequency bands which are not harmonised throughout the Community, and therefore that authorisation for use in certain member states may be required.

For telecommunications terminal equipment, there must be sufficient information to identify the interfaces of public networks to which it is intended to be connected.

## ENFORCEMENT

Enforcement is a national responsibility. No specific techniques for enforcement, or penalties, are given in the directive. Each Member State uses the organisations and institutions that it has already in place to carry out these duties. Within a Member State it is often the case that different authorities are responsible for different directives, or even in some cases for different aspects or product ranges within the same directive. In some Member states, the enforcement is a national responsibility whereas in others, it is carried out at local level.

It will therefore be necessary to consult the Cyprus legislation to understand the local requirements and penalties.

## PENALTIES

A review of the legislation around Europe shows that the following penalties are available. They are shown in increasing severity, and may be applied in combination (for example, a ban on sales may be imposed along with a fine). The level of penalty varies from country to country.

- warnings
- ban on sales
- product recall (a requirement for the manufacturer to correct faulty goods or provide a refund)
- forfeiture and destruction of products
- administrative fine
- prosecution and fine
- prison

However, the real penalty on a manufacturer is often the consequences of the enforcement action, which can include:

- loss of revenue
- cost of product recall
- cost of refunds, reworking products or supplying replacements

- loss of reputation and future orders
- cost of legal fees
- fines

## **COORDINATION ACROSS EUROPE**

Member State administrations meet at so-called administrative cooperation meetings where senior level regulators and enforcement bodies discuss matters of policy.

Cooperation at the working level is by informal communications and via a body called PROSAFE. This is an organisation set up by European enforcement officers, and stands for **Product Safety** Enforcement Forum of Europe. This organisation provides a means of communication to raise awareness of activities in each Member State, and coordination of enforcement activity. Sometimes, joint enforcement projects are undertaken.

## **RESPONSIBILITIES OF OPERATORS OF PUBLIC TELECOMMUNICATIONS NETWORKS**

Operators of public telecommunications networks must publish and make readily available adequate technical specifications of all interfaces offered, to include:

- sufficient details to permit the design of telecommunications terminal equipment which can utilise all services provided through that interface
- changes in such specifications, including network characteristics which are found to affect correct operation of telecommunications terminal equipment
- information to allow manufacturers to carry out tests to the essential requirements for telecommunications terminal equipment

This information is published by the operators themselves. Radio interfaces that are subject to regulation by member states are regulated by the national authorities, and details of these will be found on their websites.

Operators of public telecommunications networks cannot prohibit on the technical grounds the connection of apparatus that meets the essential requirements, to appropriate interfaces. They are however allowed to disconnect apparatus or withdraw it from service if apparatus causes interference, harm or serious damage to a network or its functioning, even though the apparatus is declared to be compliant with the directive. In addition, in cases of emergency, they may disconnect apparatus if protection of the network so requires, provided that the user is offered an alternative solution without delay and without cost to the user.

The purpose of the interface specifications is to allow the design of terminal equipment which functions satisfactorily. Although the functional aspects are not covered by the essential requirements of the R&TTE Directive, the responsibility for ensuring correct functional interworking rests with the manufacturer of the terminal equipment (assuming the interface specification is correct). It would be prudent, therefore, for the manufacturer to analyse operators' interface specifications, including where applicable those of indirect access operators, before designing apparatus.

The Telecommunication Conformity Assessment and Market Surveillance Committee (TCAM) which advises the Commission, has endorsed the view that notifications in respect of radio interfaces will be limited to the following:

- radio service or services within the band in question, including the status of these services in the context of international radio regulations
- the licensing regime
- the reference standard or other specification assumed to be fulfilled in frequency planning and defining the equipment type
- channel spacing and designation of emission, if not defined in the standard or other specification
- maximum transmit power limit, if not defined in the standard or other specification
- duty cycle or channel access protocol if not defined in the standard or other specification
- duplex direction if applicable
- possible need for an operator's certificate
- any planned or foreseen changes in the above
- space for remarks

Suppliers who encounter more onerous requirements should take this up with the operator concerned, or if they do not wish to do this, advise the Commission.

ETSI has published guidelines for some interfaces:

ETSI EG 201 838	Guidelines for describing radio access interfaces
ETSI TR 101 730	Guidelines for describing analogue line interfaces
ETSI TR 101 731	Guidelines for describing digital line interfaces
ETSI TR 101 845	RF interfaces applied by Fixed Service Systems including Fixed Wireless Access (FWA)
ETSI TR 101 857	Guidelines for describing CATV network interfaces used to provide telecommunications services

## **SUMMARY OF THE RESPONSIBILITIES OF A MANUFACTURER**

In summary, the manufacturer has the responsibility to:

- understand the performance of the apparatus
- perform an analysis to determine the need for compliance
- design and construct (or to have designed and constructed) apparatus which meets the requirements of the directive
- carry out, or have carried out, the conformity assessment
- issue a declaration of conformity for the apparatus, which is signed and dated

- place the CE mark on each apparatus
- create and supply instructions for use and the other information required
- retain documentation for ten years after the last apparatus is sold

The manufacturer may appoint an authorised representative to act on his behalf for some of these responsibilities. Possible responsibilities are to:

- arrange the testing of the apparatus
- deal with the approval bodies
- draw up and sign the declaration of conformity
- hold the documentation

In the areas agreed contractually between the manufacturer and the authorised representative, the authorised representative takes over the responsibilities of the manufacturer.

## REFERENCES

Directive 1999/5/EC of the European Parliament and of the Council of 9 March 1999 on radio equipment and telecommunications terminal equipment and the mutual recognition of their conformity.

Commission Decision 2000/299/EC of 6 April 2000 establishing the initial classification of radio equipment and telecommunications terminal equipment and associated identifiers.

Recommendation 1999/519/EC of the Council and European Parliament.

Council Directive of 3 May 1989 on the approximation of the laws of the Member States relating to electromagnetic compatibility (89/336/EEC) as amended.

Electromagnetic compatibility EMC Guide to the application of Directive 89/336/EC - European Commission DG III - Industry, 1997.

Council Directive of 19 February 1973 on the harmonisation of the laws of Member States relating to electrical equipment designed for use within certain limits (73/23/EEC).

Council Decision 93/465/EEC of 22 July 1993 concerning the modules for the various phases of the conformity assessment procedures and the rules for affixing and use of the EC conformity marking, which are intended to be used in the technical harmonisation directives.

## LINKS TO INFORMATION

### R&TTE DIRECTIVE

The text of the R&TTE Directive:

**<http://europa.eu.int/comm/enterprise/rtte/dir99-5.htm>**

List of harmonised standards applicable under the R&TTE Directive:

**<http://europa.eu.int/comm/enterprise/rtte/harstand.htm>**

Decisions of the European Commission in respect of the R&TTE Directive:

**<http://europa.eu.int/comm/enterprise/rtte/decision/present.htm>**

List of Notified Bodies under the R&TTE Directive:

**<http://europa.eu.int/comm/enterprise/rtte/nb.htm>**

### LOW VOLTAGE DIRECTIVE

The text of the Low Voltage Directive, as amended:

**[http://europa.eu.int/comm/enterprise/electr\\_equipment/lv/direct/text.htm](http://europa.eu.int/comm/enterprise/electr_equipment/lv/direct/text.htm)**

Commission Guidelines on the implementation of the Low Voltage Directive:

**[http://europa.eu.int/comm/enterprise/electr\\_equipment/lv/guides/index.htm](http://europa.eu.int/comm/enterprise/electr_equipment/lv/guides/index.htm)**

List of harmonised standards applicable under the Low Voltage Directive:

**<http://europa.eu.int/comm/enterprise/newapproach/standardization/harmstds/reflist/lvd.htm>**

I

List of Notified Bodies under the Low Voltage Directive:

**[http://europa.eu.int/comm/enterprise/electr\\_equipment/lv/nblist.htm](http://europa.eu.int/comm/enterprise/electr_equipment/lv/nblist.htm)**

## **EMC DIRECTIVE**

The text of the EMC Directive, as amended:

**[http://europa.eu.int/comm/enterprise/electr\\_equipment/emc/directiv/text.htm](http://europa.eu.int/comm/enterprise/electr_equipment/emc/directiv/text.htm)**

List of harmonised standards applicable under the standards route for demonstration of conformity with the EMC Directive:

**<http://europa.eu.int/comm/enterprise/newapproach/standardization/harmstds/reflist/emc.html>**

Commission Guidelines to the implementation of the EMC Directive:

**[http://europa.eu.int/comm/enterprise/electr\\_equipment/emc/guides/index.htm](http://europa.eu.int/comm/enterprise/electr_equipment/emc/guides/index.htm)**

List of Competent Bodies under the EMC Directive:

**[http://europa.eu.int/comm/enterprise/electr\\_equipment/emc/cblist.htm](http://europa.eu.int/comm/enterprise/electr_equipment/emc/cblist.htm)**

List of Notified Bodies under the EMC Directive:

**<http://europa.eu.int/comm/enterprise/newapproach/legislation/nb/en89-336-eec.pdf>**

## **FURTHER INFORMATION**

### **STANDARDS**

Further information on standards and guidance information can be obtained from the Standards Body of Cyprus:

#### **CYS**

Cyprus Organisation for the Promotion of Quality  
At the Ministry of Commerce, Industry and Tourism  
13-15, Andreas Araouzos Street  
1421 Nicosia

### **USEFUL LINKS**

Further information and links to all relevant European websites are available at

**[www.cys.mcit.gov.cy](http://www.cys.mcit.gov.cy)**

under the button named:

**NEW APPROACH**

## CYPRUS COMPETENT AUTHORITY

In Cyprus the Ministry of Communication and Works is responsible for enforcement of the R&TTE related regulation. Further details on enforcement and penalties are available at Cyprus Contact point at the

Ministry of Communications and Works  
Department Electronic Communication

**Contact:**

Polycarpus Argyrou  
pargyrou@mcw.gov.cy

and

Ministry of Communications and Works  
Regulator Telecommunicat

**Contact:**

Antonis Antoniadis  
antonis.antoniades@octpr.org.cy

## RELATES CYPRUS REGULATION

General requirements and stipulation are layed down in the Cyprus Framework Law 30(1)2002 (published 05.04.2002) and its amendment Framework Law (Amend.) 29(1)2003 (published 28.03.2003).

The Framework Law represents the legal basis for the Cyprus Regulations addressing respective Directives.

The Cyprus Regulation addressing the R&TTE directive is **Part IV** of the **Radio Communication Law N.146(I)/2002** published 26.7.2002 and the Radio Communications (Radio Equipment) Regulations of 2003 - **78/2003** published 31.01.2003 as far as radio equipment is concerned.