National Standards Authority of Ireland

TECHNICAL GUIDE

I.S. EN CEN/TS 14567:2004

ICS 03.240

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POSTAL SERVICES - AUTOMATED PROCESSING OF MAIL ITEMS - ADDRESS BLOCK LOCATOR

This Irish Standard was published under the authority of the National Standards Authority of Ireland and comes into effect on:

April 27, 2004

Price Code M

Údarás um Chaighdeáin Náisiúnta na hÉireann

TECHNICAL SPECIFICATION

SPÉCIFICATION TECHNIQUE

TECHNISCHE SPEZIFIKATION

CEN/TS 14567

January 2004

ICS 03.240

English version

Postal services - Automated processing of mail items - Address block locator

Services postaux - Traitement automatique des envois postaux - Localisateur d'adresse postale

Postalische Dienstleistungen - Automatische Verarbeitung von Sendungen - Erkennung des Adressblocks

This Technical Specification (CEN/TS) was approved by CEN on 3 February 2003 for provisional application.

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Ref. No. CEN/TS 14567:2004: E

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Foreword

This document (CEN/TS 14567:2004) has been prepared by Technical Committee CEN/TC 331, "Postal services", the secretariat of which is held by NEN.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association.

Annexes A and B are informative.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to announce this CEN Technical Specification: Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

Introduction

The reliability, speed and cost of mail processing and delivery are the most important aspects of the Quality of Service which is requested by postal service users. Postal operators' performance in these respects is highly dependent upon the level of automation achieved in the mail sorting process.

The automatic reading of addresses is one of the techniques which help to speed up and reduce the costs of mail sorting. The first step in address reading is the determination of the location of the address block. Address block location is the process by which an address reading machine automatically locates one or more potential address blocks within the electronic image of a postal item before trying to read them.

The reliability and ease of address block location directly affects the performance and cost of address reading systems. However, address block location may be difficult, especially when addresses are not placed in a pre-specified location and / or when they are printed on, or surrounded by, noisy backgrounds. Noise may be made of text, pictures, logos, drawings, textures, and all sorts of patterns that can be mistaken for the relevant address block. This difficulty is particularly obvious for plastic-wrapped items for which the address is printed on a label which is affixed on a background (see Figure 1).

To overcome the difficulty posed by noisy backgrounds, address reading machines need to be able to filter out non address material in electronic images of postal items. Cost/performance trade-offs generally lead to address reading machines which are not able to reliably locate addresses in all situations.

Noise is also detrimental to video-coding operations because it takes longer for human operators to find the address is in a cluttered display (ball-trap effect) than it would take for an address appearing over a homogeneous background. Modern video-coding systems may therefore also be equipped with address block location modules in order to facilitate the task of human operators and to fit more than one address onto a single display.

Multi-Line Optical Character Recognition (MLOCR) and video-coding systems are designed to locate address blocks through their typical features, such as their location relative to the borders of the postal item, their alignment and the number and syntax of lines. However, these features are not sufficient to achieve reliable location of address blocks on all items.

One possible approach to resolution of this problem is to impose constraints on the physical placement of addresses on postal items and on the appearance of the non-address zones of the item. However, this approach is limited in practice because mailers require a considerable degree of freedom in the location of addresses and on the visual appearance of postal items.

Address Block Locators (ABLs) provide an alternative solution. An address block locator is a specific feature or mark, added to an item, which can be easily and reliably detected by image processing software and which is unlikely to occur on an item, other than in association with an address block. Since an ABL can be easily detected, placing one in the vicinity of an address block makes it possible to locate the block whatever its position and background. The use of ABLs, particularly on items with a busy background, may improve automation system performance, thereby allowing constraints on address presentation and position to be relaxed.

The European Committee for Standardization (CEN) draws attention to the fact that it is claimed that compliance with this document may involve the use of a patent concerning ABL. CEN takes no position concerning the evidence, validity and scope of this patent right. The French Post Office states that the ABL standard is in part covered by a patent called «Marque de repérage et procédé de localisation d'une information par ajout de cette marque», laid down in France the 10/03/1995 for LA POSTE, number 9502827, published the 13/09/1996, number 2 731 535 and delivered the 25/04/1997.

The French Post Office commits itself to grant any user of the ABL standard, a license for using this patent in the countries where the patent has been laid down. To date, the French Post Office has the right to grant a license in France only. This license will be negotiated in reasonable conditions.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights other than those identified above. CEN shall not be held responsible for identifying any or all such patent rights.