



MiniScale[®]

User guide and technical specification

MiniScale

User guide

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Preface

This user guide (hereafter referred to as the guide) is designed to provide an overview of MiniScale (hereafter referred to as the product) and it gives guidelines and advice on how a customer might derive the maximum benefit from the product. It assumes a general knowledge of geographic information. If you find an error or omission in this guide, or otherwise wish to make a comment or suggestion as to how we can improve it, please contact us at the address shown below or complete the product and service performance report form at [annexe A](#) and return it to us.

Contact details

Our Customer Service Centre will be pleased to deal with your enquiries:

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Back-up provision of the product

You are advised to copy the supplied data to a back-up medium.

Using this guide

The documentation is supplied in portable document format (PDF) only. Free Adobe® Acrobat Reader® software, which displays the guide, incorporates search and zoom facilities and allows you to navigate within. Hyperlinks are used to navigate between associated parts of the guide and to relevant Internet resources by clicking on the blue hyperlinks and the table of contents.

If you are unfamiliar with any words or terms used and require clarification please refer to the [glossary](#) at the end of the document.

Chapter 1 Introduction

Ordnance Survey's MiniScale is a small-scale product designed for use within desktop graphic applications, providing geographic context for the whole of Great Britain. MiniScale shows the major boundaries, lines of communication, settlements and physical features of Great Britain. MiniScale is a vector graphic created using desktop publishing software so it can be customised and converted into a wide variety of graphic formats. Alternatively, the raster version can also be used within a geographical information system (GIS) as a backdrop.

MiniScale is aimed at any customer that requires a high-quality, visually appealing map for their documents and publications, whether a magazine, brochure or web pages.

An extract of MiniScale, with default layers and styles, is shown below.

Applications

Typical ways in which MiniScale could be used include:

- Location maps for websites or promotional material, showing head offices or distribution of assets across Great Britain.



- High-level route planning along the major roads and railways.
- As an overview or entry screen map within an Intranet or Internet web mapping service.
- The smaller scale of MiniScale also lends itself to applications that need to show information at a regional or county/unitary level, where a larger-scale map would be too detailed or cluttered.

System requirements

Computer hardware

This product may be used on a wide range of hardware platforms (provided sufficient memory and storage facilities are available), varying from desktop PCs using appropriate software or CAD to mainframe computers with specialised translators and applications.

Computer software

MiniScale is supplied as inert data and does not include software for data manipulation. To exploit fully the potential of MiniScale, it is necessary to use appropriate application software.

Supply and formats

The data is supplied on CD and is updated and released annually in January. It is supplied as the whole of Great Britain with Orkney and the Shetland Islands shown in their correct position. Some European coastline is supplied to give context.

MiniScale is supplied in the following formats (file sizes are approximate).

- Adobe Illustrator® CS3 or higher, file size 25 Mb
- Editable Encapsulated Post Script (EPS), file size 70 Mb
- Tiff LZW compression, file size 20–40 Mb

The Illustrator file contains the layers and styles required to customise the product. This file also contains additional layers, such as sea depths, height colouring and other information that doesn't appear on the default style for MiniScale. Some of the ways that MiniScale can be customised is shown in the raster examples provided.

The Illustrator file requires the font 'Source Sans Pro'. This is a free open source font created by Adobe. Available from Adobe and SourceForge; <http://sourceforge.net/projects/sourcesans.adobe/>



MiniScale with height layers see [legend](#).



MiniScale with shaded relief (tiff images available from supplementary file supplied).

More information on formats is available in the technical specification.

Chapter 2 High-level product overview

Scale

1:1 000 000 (1 mm = 1 km)

MiniScale is designed to be used at viewing scales between 1:700 000 and 1:2 000 000.

Coverage

Great Britain

Source of MiniScale

MiniScale is derived from the 1:250 000 scale topographical digital database.

Features

Features	Layer description	Style and content notes
Boundaries	National names	For example, England, Wales, Scotland
	County or unitary names	For example, Dorset, Hampshire and so on
	National boundaries	Dark grey line
	County or unitary boundaries	Light grey line
Settlements	Urban primary names	Primary destination towns with a large urban extent
	Other urban names	Other towns with a large urban extent
	Primary town names	Primary destination towns
	Other town names	Selected towns and villages useful to MiniScale
	Urban area fill	Depicts extent of large urban areas
	Alternative urban symbol	Used to replace urban area fills if required
	Primary town symbol	Large yellow dot
	Other town symbol	Small yellow dot
Communications	Motorway numbers	Numbered where space permits
	Primary A road numbers	Numbered where space permits
	Other A road numbers	Numbered where space permits
	Motorway junction numbers	Access (full or limited) is distinguished by colour
	Service areas	24 hour services
	Motorways	Solid blue line with white centreline
	Primary A roads	Green line (dense urban areas may show only a selection)
	Primary dual-carriageway	Significant lengths shown with yellow centre line
	Other A roads	Pink line (dense urban areas may show only a selection)
	Roads under construction	Only significant projects shown
	Airports	Symbol (with or without customs). Named when different to associated town, for example, Heathrow
	Domestic ferry routes	Time of crossing shown where space permits
	Railway lines	Passenger routes only (main and other). Solid black line

Features	Layer description	Style and content notes
Physical	Geographic feature names	Selected names, for example, Land's End, Pennines, Isle of Skye
	Major mountain peaks	Selected, for example, Ben Nevis
	Water feature names	Selected names, for example, Bristol Channel, Loch Lomond
	Scenic areas and Areas of Outstanding Natural Beauty (AONBs)	Green fill and named, for example, Cotswolds, South Downs
	Forest Parks and National Parks	Green fill and named, for example, Dartmoor, New Forest
	Lakes and lochs	Selection of major ones only
	Rivers	Selection of major ones only: Thames, Severn, Trent, Dee and so on.
	Coastline	High water mark only
	Background (land) tint	Broken into shapes that match the boundaries
	Background (sea) tint	Light blue fill
Other	National Grid	100 km grid and reference letters
Extras Provided as separate files to fit MiniScale	Longitude and latitude lines	Great Britain
	Height tints	75, 200, 400, 600, 800 metres
	Sea depths	60, 120, 300, 600 metres
	Legend and scale bar	Inset box
	Shaded Relief	254 dpi, 1:1 000 000 scale
	<i>NOTE: Some layer combinations may not be compatible. Relief tiles in separate file</i>	

Currency

MiniScale data is derived from the latest available version of Ordnance Survey's 1:250 000 database. The MiniScale dataset is refreshed annually.

Resolution

The master graphic (postscript) files are also provided as raster images at a resolution of ten (10) dots per mm (dpmm) – or 254 dots per inch (dpi) and a pixel is one hundred (100) metres on the ground. This resolution maintains the necessary clarity of text.

Georeferencing

To be able to view each tile in the correct geographic relation to the National Grid and to each other, the tiles must be georeferenced. GIS typically provide georeferencing as part of their functionality, but for each set of tiles it is necessary to provide the information on how the tiles should be ordered.

Ordnance Survey provides this information in a set of georeferencing files, also known as world files. A complete set for MiniScale is available to download free of charge from the MiniScale [product page](#) on the Ordnance Survey website; these are also supplied with the product written to CD.

There are several different types of world file. Prior to downloading one of the sets, customers are advised to check with their system suppliers to find out which type their system supports.

The conventions behind the files' creation can be found in [chapter 1](#) of the technical specification. By using the conventions outlined there, this means that other datasets using the same conventions can be imported into the same GIS to add value to the raster map. So, for example, overlaying a routing or logistics network over the map or displaying a customer's demographic information.

The georeferencing files should be saved in the same directory as the files of the map tiles themselves.

For this product a single TFW and TAB file is available to geographically position the data.

Data compression

TIFF data volumes are influenced by the level of data compression.

Approximate storage volumes: 16–80 Mb using LZW compression.

Image compression

When an image is compressed, duplicated data that has no value is removed or saved in a shorter form, reducing a file's size. For example, if large areas of water are the same tone, only the value for one pixel needs to be saved, together with the locations of the other pixels with the same colour. When the image is edited or displayed, the compression process is reversed. When raster is compressed, not only are the data volumes reduced but the user can download, display, edit and transfer images more quickly.

There are two forms of compression: *lossless* and *lossy*.

Lossless compression

As its name suggests, lossless compression does not lose information within an image. A lossless compression retains the original quality of an image when it is uncompressed. This process doesn't provide much compression, so file sizes remain large. Lossless compression is used mainly where detail is important, such as when planning to make large prints.

Lossy compression

This process degrades images to some degree, meaning that the decompressed image is not quite the same as the original. The more an image is compressed, the more degraded it becomes. In many situations, such as posting images on the Internet or printing small- to medium-sized prints, the image degradation is not so obvious. If a lossy compressed image is over enlarged the degradation will become apparent.

TIFF

TIFF is one of the most commonly used *lossless* image formats. TIFF is primarily designed for raster data interchange and is supported by numerous image-processing applications. This permits much more efficient access to very large files that have been compressed.

Revision

The MiniScale master dataset is updated and released annually in January.

Annexe A Product and service performance report form

Ordnance Survey welcomes feedback from its customers about MiniScale.

If you would like to share your thoughts with us, please print a copy of this form and when completed post or fax it to the address below.

Your name:

Organisation:

Address:

.....

.....

Postcode:

Phone:

Fax:

Email:

Quotation or order reference:

Please record your comments or feedback in the space below. We will acknowledge receipt of your form within three (3) working days and provide you with a full reply or a status report within 21 working days.

If you are posting this form, please send it to:

MiniScale Product Manager, Ordnance Survey, Adanac Drive, SOUTHAMPTON, SO16 0AS.

If you wish to return it by fax, please dial +44 (0)23 80450 990494.

Any personal information that you supply with this report form will be used by Ordnance Survey only in the improvement of its products and services. It will not be made available to third parties.

MiniScale

Technical specification

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Introduction

Purpose of this specification and disclaimer

This is the technical specification (hereafter referred to as the specification) applicable to the MiniScale (hereafter referred to as the product).

We may change the information in this specification at any time.

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Chapter 1 Technical

Software requirements

MiniScale requires Illustrator CS3 or higher running on a PC or Apple® Macintosh® platform. Other EPS-compatible software can also be used by importing the EPS files. Ordnance Survey does not specify hardware requirements as it is dependent on the software and applications within which the data will be used. Customers should contact their system or software supplier for advice.

Specification	MiniScale
Data source	MiniScale is a redrawn and simplified product designed to meet the needs of the desktop graphics industry. Historically it is based on a variety of Ordnance Survey digital datasets; however the graphic output is now updated from the 1:250 000 vector data base.
Availability	Great Britain
Scales	1:1 000 000 (1 mm = 1 km) MiniScale is designed to be used at viewing scales between 1:700 000 and 1:2 000 000
Physical size (at scale above)	Great Britain = 700 mm wide by 1 300 mm high (with Shetland Islands in position). Orkney and Shetland can be inset to reduce the height to about 1 000 mm.
Resolution	Postscript = resolution of output device. Raster = 254 dots per inch
Supply media	Download or CD
Data type	Desktop vector graphic (Illustrator and EPS vectors), CMYK colour space
Colour	Raster LZW data is RGB colour

Data structure and size	Postscript vector		Raster	
	Transfer format/s	Storage volumes are approximate	Transfer format/s	Storage volumes are approximate
	Editable EPS	Editable 70 Mb	TIFF LZW compressed 254 dpi	TIFF 20–40 Mb (Choice of four example styles)
	Illustrator CS3	Illustrator 25 Mb		
Layers and styles	Yes, see features layers and styles		TIFF LZW– none	

Update interval	Great Britain data revised annually
Coordinate reference system	British National Grid (OSGB36)

Fonts

The Illustrator file requires the font 'Source Sans Pro'. This is a free open source font created by Adobe. Available from Adobe and SourceForge; <http://sourceforge.net/projects/sourcesans.adobe/>

Colours

The default colours for MiniScale vectors are four-colour process (CMYK).

MiniScale raster examples supplied as TIFF LZW (RGB).

National Grid

A 100 km grid is provided as a separate layer. This is set as an invisible layer by default. The 100 km grid is constructed from individual squares to enable them to be used easily for clipping and so on. A further non-printing layer holds the 100 km letter references to ease identification of the squares. For Illustrator users the rulers have been set to match the zero point for National Grid. When the file is used at 1:1 000 000 scale, and providing the rulers or page position has not been moved, the measurements can be used as National Grid coordinates (preferences must be set to millimetres).

For example: the tip of Flamborough Head has an Illustrator coordinate of x = 525.85 mm and y = 470.51 mm, which corresponds to a National Grid reference of 5258 4705 (or TA 258 705). In Illustrator the y value will be a minus value.

National Grid coordinates for the raster versions

The raster files have been provided for geographical information system (GIS) users who might otherwise be unable to use the Illustrator or EPS files. The origin (lower-left corner) of the GB file is 0, 0 km and it finishes at 700 km east and 1 300 km north of the National Grid origin. This equates, at 254 dpi, to 7 000 pixels wide by 13 000 pixels high (100 km = 1 000 pixels).

Georeferencing file

Georeferencing files allow tiles of map data to be located in their correct geographic position when loaded into a GIS. This is achieved by loading in files alongside the data files that contain the National Grid corner coordinates for each tile. This is especially useful if more than one tile of data is being loaded at once, as it allows for a true geographic depiction of the data.

When raster data is supplied to customers, it is not georeferenced in any way. This means that tiles will not be set up in geographic relationship to each other when loaded into a GIS.

Included on the CD is a TIFF World File (TFW), which can be used to georeference raster data in ESRI® ArcView® and ArcInfo®, together with a TAB file for use with MapInfo®. These Georeferencing files can also be downloaded from the MiniScale web pages in the technical pages.

For this product a single TFW and TAB file is available to geographically position the data.

Using add-on files/merging earlier files

The shaded relief tiles are provided in a second Illustrator file. The document size and position of this relief file matches that of the main MiniScale Illustrator file. Use the 'paste in front' command to copy the relief into the right position on the MiniScale map. Position the relief layer for desired effect. Use the 'multiply' setting to make detail underneath show through. If the document size and position have been changed then use the 100 km squares to fit the relief tiles to.


















Features, layers and styles

Features	Layer description	Style and content notes
Boundaries	National names	<i>For example, England, Wales, Scotland</i>
	County or unitary names	<i>For example, Dorset, Hampshire and so on</i>
	National boundaries	<i>Purple line</i>
	County or unitary boundaries	<i>Light grey line</i>
Settlements	Urban primary names	<i>Primary destination towns with a large urban extent</i>
	Other urban names	<i>Other towns with a large urban extent</i>
	Primary town names	<i>Primary destination towns</i>
	Other town names	<i>Selected towns useful to MiniScale</i>
	Urban area fill	<i>Depicts extent of large urban areas</i>
	Alternative urban symbol	<i>Used to replace urban area fills if required</i>
	Primary town symbol	<i>Large yellow dot</i>
	Other town symbol	<i>Small yellow dot</i>
Communications	Motorway numbers	<i>Numbered where space permits</i>
	Primary A road numbers	<i>Numbered where space permits</i>
	Other A road numbers	<i>Numbered where space permits</i>
	Motorway junction numbers	<i>Access (full or limited) is distinguished by colour</i>
	Service areas	<i>24 hour services on motorways and primary roads only</i>

Features	Layer description	Style and content notes
	Motorways	<i>Solid blue line with white centreline</i>
	Primary A roads	<i>Green line (significant lengths of dual carriageway shown with yellow centreline)</i>
	Other A roads	<i>Pink line</i>
	Roads under construction	<i>Only significant projects shown</i>
	Airports	<i>Symbol (with or without customs). Some, for example, Heathrow, are named</i>
	Domestic ferry routes	<i>Time of crossing shown where space permits</i>
	Railway lines	<i>Passenger routes only. Solid black line</i>
Physical	Geographic feature names	<i>Selected names, for example, Land's End, Pennines, Isle of Skye</i>
	Water feature names	<i>Selected names, for example, Bristol Channel, Loch Lomond</i>
	Scenic areas and Areas of Outstanding Natural Beauty (AONBs)	<i>Green fill and named, for example, Cotswolds, South Downs</i>
	Forest Parks and National Parks	<i>Green fill and named, for example, Tay, Dartmoor</i>
	Lakes and lochs	<i>Selection of major ones only</i>
	Rivers	<i>Selection of major ones only; Thames, Severn, Trent, Dee and so on.</i>
	Coastline	<i>High water mark only</i>
	Background (land) tint	<i>Broken into shapes that match the boundaries</i>
	Background (sea) tint	<i>Light blue fill</i>
Other	National Grid	<i>100 km grid and reference letters</i>
Extras	Longitude and latitude lines	<i>Great Britain</i>
Some layer combinations may not be compatible	Layer tints	<i>75, 200, 400, 600, 800 metres</i>
	Sea depths	<i>60, 120, 300, 600 metres</i>
	Legend and scale bar	<i>Inset box</i>
	Shaded relief	<i>254 dpi 1:1 000 000 scale (in separate Illustrator file)</i>

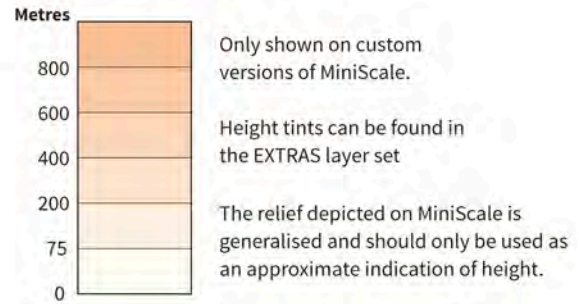
Legend

General Features

-  Motorway, service area
-  Junction, limited access
-  Primary route, dual carriageway with junction
-  Other main road
-  Passenger railway
-  County/Unitary boundary
-  National boundary
-  Domestic ferry route
-  Ship with crossing time in hours
-  Catamaran with crossing time in hours
-  Seasonal ferry route
-  Airport with scheduled flights, with/without Customs
-  Airport with non-scheduled flights, with Customs
-  Heliport
-  Urban area
-  Primary town
-  Other town

-  National Park
-  Forest Parks and National Forest
-  Areas of Outstanding Natural Beauty, Scenic areas (Scotland)
-  Lake or Loch
-  Major rivers

Relief



Chapter 2 Managing MiniScale files

MiniScale has been created as a vector data graphic map favourable for use within desktop graphic applications. MiniScale's use within GIS will be limited to backdrop mapping when using the TIFF only.

MiniScale is supplied on one CD-ROM as a single data file in a variety of industry-standard formats. The data is held in layers, with styled objects for easy customisation of map images. These can be easily converted to web images using appropriate software (not supplied).

File formats

MiniScale is maintained using Adobe Illustrator software. All the capabilities of editing and styling MiniScale may not be available in other applications.

Raster versions are also provided at 254 dpi. The TIFFs are LZW compressed and in RGB colours. New raster files can be created, styled and layered as required by using the Illustrator data.

Image file directory (TIFF)

The image file directory for TIFF will contain the following entries:

Tag 254 (NewSubfileType)

An indication of the kind of data contained in this sub-file, for example, value = 0

Tag 256 (ImageWidth)

The number of columns in the image, the number of pixels per row, for example, value = 7000

Tag 257 (ImageLength)

The number of rows of pixels in the image, for example, value = 13000

Tag 258 (BitsPerSample)

Number of bits per component, for example, value = 8

Tag 259 (Compression)

Compression scheme used on the image data, for example, value = 5 (LZW)

Tag 262 (Photo.Interpretation)

The colour space of the image data, for example, value = 2 (RGB Palette).

Tag 273 (StripOffsets)

For each strip, the byte offset of that strip, for example, 1st 4 values = 28168 65970 103868 141504

Tag 274 (Orientation)

value = 1

Tag 277 (SamplesPerPixel)

value = 3

Tag 278 (RowsPerStrip)

The number of rows in each strip, for example, value = 12

Tag 279 (StripByteCounts)

For each strip, the number of bytes in that strip after compression, for example, 1st 4 values = 37801 37898 37635 37702

Tag 282 (XResolution)

The number of pixels per resolution unit in the image width, for example, value = 254/1

Tag 283 (YResolution)

The number of pixels per resolution unit in the image length, for example, value = 254/1

Tag 284 (PlanarConfiguration)

value = 1

Tag 296 (ResolutionUnit)

Units used for resolution, for example, value = 2 (Inch)

Tag 305 (Software)

value = Adobe Photoshop CS5 Macintosh

Tag 306 (DateTime)

Date and time of image creation, for example, value = 2006:06:30 12:38:41

Tag 317 (Predictor)

value = 2

Tag 700 (Unknown)

1st 4 values = 60 63 120 112

Tag 33723 (Unknown)

1st 4 values = 28 1 90 0

Tag 34377 (Unknown)

1st 4 values = 56 66 73 77

Tag 34665 (Unknown)

value = 35853820

Tag 34675 (Unknown)

1st 4 values = 0 0 2 48

NOTE: The values given above are relevant to MiniScale data.

TIFF

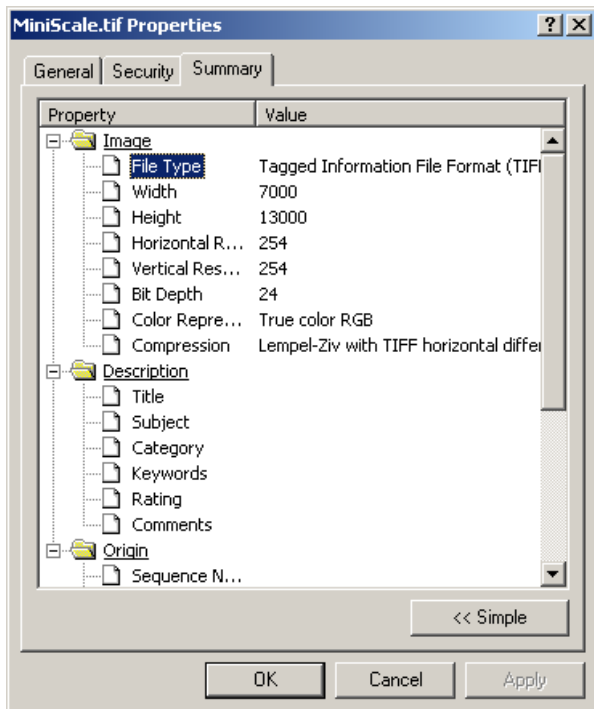
MiniScale colour image directory (TIFF)

	Tag number	TIFF 8-bit LZW compressed
File Byte Order :		II (Little-endian)
Magic Number :		42
Number of fields in IFD :		23
NewSubfileType	254	0
Image Width	256	7000
ImageLength	257	13000
BitsPerSample	258	8

Compression	259	5 (LZW)
Photo.Interpretation	262	2 (RGB Palette)
StripOffsets	273	1st 4 values = 52406 53352 54298 55246
Orientation	274	1
SamplesPerPixel	277	3
RowsPerStrip	278	12
StripByteCounts	279	1st 4 values = 945 945 947 947
XResolution	282	254/1
YResolution	283	254/1
PlanarConfiguration	284	1
ResolutionUnit	296	2 (Inch)
Software	305	Adobe Photoshop CS5 Macintosh
DateTime	306	2008:09:20 11:20:04
Predictor	317	2
Unknown	700	1st 4 values = 60 63 120 112
Unknown	33723	1st 4 values = 28 1 90 0
Unknown	34377	1st 4 values = 56 66 73 77
Unknown	34665	35853820
Unknown	34675	1st 4 values = 0 0 2 48

The tag values listed in the above table are a selection relevant to MiniScale Relief 1 Intel® TIFF LZW raster data.

It should be noted that customers can access tag information from a raster file image by right clicking on a TIFF data image and looking at properties, and then left clicking on summary.



Ireland and Channel Islands

Parts of the French and Irish coastlines have been included to help give context to the position of Great Britain. Although reasonably accurate, they use different map projections to GB and fall outside the National Grid. Their position and scale are therefore approximate. This also applies to the Channel Islands.

Boundaries

National, county and unitary authority boundaries are shown. County and unitary boundaries are depicted by the same style. Boundaries within the London Authority area are shown on a separate optional extras layer. The boundaries are held as a 'grouped' object in Illustrator. This is to allow the whole boundary layer to overlay the map with transparency.

Depiction of roads and towns

MiniScale shows three classes of roads: motorway, primary A road and other A road.

The primary (green) roads are the recommended through routes that complement the motorway system. Where there are significant lengths of dual carriageway, they have been shown with a dual carriageway style. The primary roads link primary route destination towns, which appear on green road signs. In congested urban areas some roads have been omitted for clarity.

MiniScale settlements are shown in three levels: those with large urban extent (with separate layers for primary and non-primary names), primary route destination towns (large dot), and other towns useful to the map (small dot). Urban names have been given a range of point sizes and weights to visually differentiate them. No statistical relevance, such as size or population, should be inferred from this. Primary route destination names are all the same regardless of their physical size: thus the hamlet of Scotch Corner appears the same as a major town like Andover.

Welsh spellings

At the scale used for MiniScale it is impractical to show all the Welsh names with dual spellings (English and Welsh). However, the Illustrator file contains an extra layer of Welsh names that can be used to replace the English ones. This requires manual intervention, since the Welsh names are in the same position as the English names.

Shaded relief file

Raster examples of MiniScale with shaded relief are provided to show what can be achieved with the Illustrator files. The relief file is embedded with individual 100 km shaded relief images fitted to the National Grid. These can be added to the main MiniScale map by using Illustrator's 'Paste in front' option. Use the 'multiply' setting to control the transparency and strength of the shaded relief.

Annexe A Glossary

accuracy

The closeness of the results of observations, computations or estimates to the true values or the values accepted as being true. Accuracy relates to the exactness of the result, and is the exactness of the operation by which the result is obtained.

boundary

A boundary is the limit of a predefined and established area whose limit is determined by one or more lines, for example, county area boundary and DLUA boundary.

byte

A unit of computer storage of binary data usually comprising 8 bits, equivalent to a character. Hence megabyte (Mb) and gigabyte (Gb).

CAD

Computer-aided design

character

A distinctive mark; an inscribed letter; one of a set of writing symbols.

character code

The binary representation of a single element of a character set; for example, EBCDIC, ASCII.

compact disc-read only memory (CD-ROM)

A data storage medium. A 12-cm disc similar to an audio CD. Ordnance Survey uses the writable CD, a WORM (write once, read many) device. The digital bits are encoded into a vegetable dye and, once written, cannot be erased by overwriting with subsequent data. A laser reads the disc.

coordinate pair

A coordinate pair is an easting and a northing.

coordinates

Pairs of numbers expressing horizontal distances along original axis. Alternatively, that triplets of numbers measuring horizontal and vertical distances. Row and column numbers of pixels from raw imagery are not considered coordinates for the purpose of the standard.

copyright

Copyright is a legal property right that enables the creator of an original work to protect it from unauthorised use. Through the *Copyright, Designs and Patents Act 1988*, Crown copyright continues to subsist in all Ordnance Survey products until the end of the period of 50 years from the end of the year in which they were published, and in the case of data from the end of the year in which it was extracted from the Ordnance Survey database. Crown copyright is vested in The Controller of Her Majesty's Stationery Office, who has delegated powers to the Director General, Ordnance Survey for the administration of copyright in publications and data, including the determination of terms and conditions under which permission for their reproduction is given.

currency

An expression of the up-to-dateness of data.

customer

An organisation or individual that makes use of Ordnance Survey's data supply facilities. This includes both direct sales customers of Ordnance Survey as well as customers of Licensed Partners. It does not include anyone, or any organisation, that has access to Ordnance Survey material without charge.

data

A representation of facts, concepts or instructions in a formalised manner suitable for communication, interpretation or processing.

data capture

The encoding of data. In the context of digital mapping, this includes map digitising, direct recording by electronic survey instruments and the encoding of text and attributes by whatever means.

data format

A specification that defines the order in which data is stored or a description of the way data is held in a file or record.

data model

An abstraction of the real world that incorporates only those properties thought to be relevant to the application or applications at hand. The data model would normally define specific groups of entities and their attributes and the relationship between these entities. A data model is independent of a computer system and its associated data structures. A map is one example of an analogue data model.

database

An organised, integrated collection of data stored so as to be capable of use in relevant applications, with the data being accessed by different logical paths. Theoretically, it is application-independent, but in reality it is rarely so.

dataset

An Ordnance Survey term for a named collection of logically related features arranged in a prescribed manner; for example, all water features. A dataset has more internal structure than a layer and is related to another dataset only by position.

digital

Data that is expressed as numbers (digits) in computer-readable form is said to be digital.

digital map

Any map sold by Ordnance Survey or its agents in any form; that is on computer-readable media or as hard copy on paper and/or film or microfilm – produced mainly, or wholly, using computerised means.

digital map data

The digital data required to represent a map. The data includes not only map detail but also features header data, map header data and management data.

Digital Versatile Disk (DVD)

A high capacity disk for data storage; was called Digital Video Disc; Ordnance Survey use 4.23GB. data storage capacity discs.

dots per inch (dpi)

The resolution, or fineness, of a raster image.

eastings

See [rectangular coordinates](#).

extent of the realm (EOR)

The external bounding lines of Land-Line[®] data is EOR. The *Territorial Waters Jurisdiction Act 1878* and the *Territorial Waters Order in Council 1964* confirm that EOR of Great Britain as used by Ordnance Survey is properly shown to the limit of mean low water (mean low water springs in Scotland) for the time being (except where extended by Parliament).

feature

An item of detail within a map that can be a point or symbol, a line or text.

feature code (FC)

An alphanumeric attribute code used in digital map data to describe each feature in terms of the object surveyed, its representation on the map or both.

file

An organised collection of related records. The records on a file may be related by a specific purpose, format or data source – the records may or may not be arranged in sequence. A file may consist of records, fields, words, bytes, characters or bits.

font

The style of text character used by a printer or plotter.

format

The specified arrangement of data. For example, the layout of a printed document, the arrangement of the parts of a computer instruction, the arrangement of data in a file.

geographical information system (GIS)

A system for capturing, storing, checking, integrating, analysing and displaying data that is spatially referenced to the Earth. This is normally considered to involve a spatially referenced computer [database](#) and appropriate applications software.

gigabyte (Gb)

The equivalent of 1 073 741 824 bytes; a measure of data storage capacity.

grid

The planimetric frame of reference; for example, the National Grid.

hard copy

A print or plot of output data on paper or some other tangible medium.

kilobyte (Kb)

The equivalent of 1 024 bytes; a measure of data storage capacity.

map

The representation on a flat surface of all or part of the Earth's surface, intended to be communicated for a purpose or purposes, transforming relevant geographic data into an end-product that is visual, digital or tactile.

map generalisation

A reduction in map detail, so that the information remains clear and uncluttered when map scale is reduced. May also involve resampling to larger spacing and/or a reduction in the number of points in a line.

map header

Data at the start of the digital map file describing that data. It may contain information on the source and history of the geometric data within the map and the coordinate system in use as well as holding information essential to the management of Ordnance Survey's digital mapping system.

map scale

The ratio between the extent of a feature on the map and its extent on the ground, normally expressed as a representative fraction, for example, 1:1250 or 1:50 000.

megabyte (Mb)

The equivalent of 1 048 576 bytes; a measure of data storage capacity.

National Grid

A unique referencing system that can be applied to all Ordnance Survey maps of Great Britain (GB) at all scales. It is based on 100 km squares covering the whole of GB based on a Transverse Mercator projection. It is used by Ordnance Survey on all post-war mapping to provide an unambiguous spatial reference in GB for any place or entity whatever the map scale.

northings

See [rectangular coordinates](#).

pixel

In the 1:10 000 scale product a **pixel** is a single point represented by a square.

raster data

Attribute data expressed as an array of pixels, with spatial position implicit in the ordering of the pixels.

rectangular coordinates

Also known as X-Y coordinates and as [eastings](#) and [northings](#). These are two-dimensional coordinates that measure the position of any point relative to an arbitrary origin on a plane surface, for example, a map projection, a digitising table or a VDU screen.

resolution

A measure of the ability to detect quantities. High resolution implies a high degree of discrimination but has no implication as to accuracy. For example, in a collection of data in which the coordinates are rounded to the nearest metre, resolution will be 1 m but the accuracy may be ± 5 m or worse.

source scale

The scale of the source information from which the map was digitised; that is the scale of survey for a basic-scale map, or the scale of the source map for a derived map.

spatial data

Data that includes a reference to a two- or three-dimensional position in space as one of its attributes. It is used as a synonym for geometric data.

stipple

Used to produce light or dark shading (for example, building/water fill); this is dependent on spacing of the dots – the denser the dots, the darker the effect.

structured data

Data within which collections of features (of any type) form objects. Topographically structured data also contains topological information defining the relationships between features and objects.

TIFF

TIFF is a tagged image file format-based file format for storing and interchanging raster images with the most recent version (6.0) published in 1992.

topographic database

A database holding data relating to physical features and boundaries on the Earth's surface.

topography

Topography is the study of the physical features of the Earth. A topographic map's principal purpose is to portray and identify the features of the Earth.

transfer format

The format used to transfer data between computer systems. In general usage, this can refer not only to the organisation of data but also to the associated information, such as attribute codes, which are required in order to successfully complete the transfer.

transfer medium

The physical medium on which digital data is transferred from one computer system to another, for example, CD-ROM.

update

The process of adding to and revising existing digital map data to take account of change.

vector

A straight line joining two data points.

vector data

Positional data in the form of coordinates of the ends of line segments, points, text positions and so on.

volume

A physical unit of the transfer medium; that is a single disc.