

GRCCountry™ version 1.0
User's guide
Version 2007-1-1



GRC Database Information

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2. Technical Requirements

Technical Requirements

GRCCountry™ requires:

- An IBM compatible computer with 486 50 MHz processor or higher
- Mouse
- 10 MB RAM
- DOS version 3.1 or higher
- Microsoft Windows version 95 or higher, or Microsoft Windows NT 3.51 or higher.
- 50 MB of disk space

Furthermore, for each data table being processed, you must have:

- A field to which to write a country code

3. About GRCCountry

About GRCCountry

GRCCountry™ uses the knowledge embedded within the tables used by **GRCTools™** to attempt to assign a country code for an address record not already coded. Tests have shown that **GRCCountry™** works best for developed countries with postal code systems, and on files which contain well formatted and correctly fielded data. Our tests of this file type have produced between 96 and 100% correct country coding. Tests of files which have a greater number of developing countries, including countries without postal code systems, and with poor data formatting and fielding, have produced results of 82% accuracy.

4. Installation

Installation

GRCCountry™ is installed with **GRC Tools™**. Please refer to the **GRC Tools™** manual.

GRCCountry™ must reside in the same directory as **GRC Tools™**. It should not be run at the same time as **GRC Tools** is being run in the same directory.

5. Running GRCCountry

Running GRCCountry™



Run **GRCCountry™** by double clicking on the **GRCCountry™** icon, or by double clicking on GRCCOUNTRY.EXE in the GRCTools directory.

The Menu Quit About

The **GRCCountry™** menu has two main choices, and these will be discussed in order.

Quit

Exits the program

About

Brings up the **About** screen.

6. Processing a file

Processing a file

On the main screen of **GRCCountry™**, choose the file type of the file to be opened.

These file options are currently available:

dBase III+
 Lotus 1-2-3, 1-A
 Lotus 1-2-3, 2.x
 Lotus 1-2-3, 3.x
 Lotus Symphony 1.01
 Lotus Symphony 1.1
 Microsoft Access
 Microsoft Excel 2/3/4
 Microsoft Excel 5.0
 Microsoft Excel 97
 Microsoft FoxBASE+
 Microsoft FoxPro 2.x
 Microsoft Multiplan 4.01
 Microsoft Visual FoxPro
 SQL Server

The native formats of **GRCCountry™** are Visual FoxPro/dBase III+. A data file which is in one of those formats will usually be processed without problems because no data translation has to be done. For all other data formats, **GRCCountry™** will export the file to Visual FoxPro format for processing and then export it again to the input format. If **GRCCountry™** has problems in exporting the data to Visual FoxPro format, it may produce errors. Please check on the list below to ensure that your file will process without problems:

- **All formats - file names** - an input file name must commence with a letter. A file commencing with a number or other character will return an error.
- **All formats - field lengths** - **GRCCountry™** supports field names of 10 characters or less. If your data contains field names which are longer, they are truncated when exported to Visual FoxPro format for processing. If this truncation produces duplicate field names, **GRCCountry™** will give an error. For example, if your file contains the field names:

address_line_1
 address_line_2

these fields become truncated to

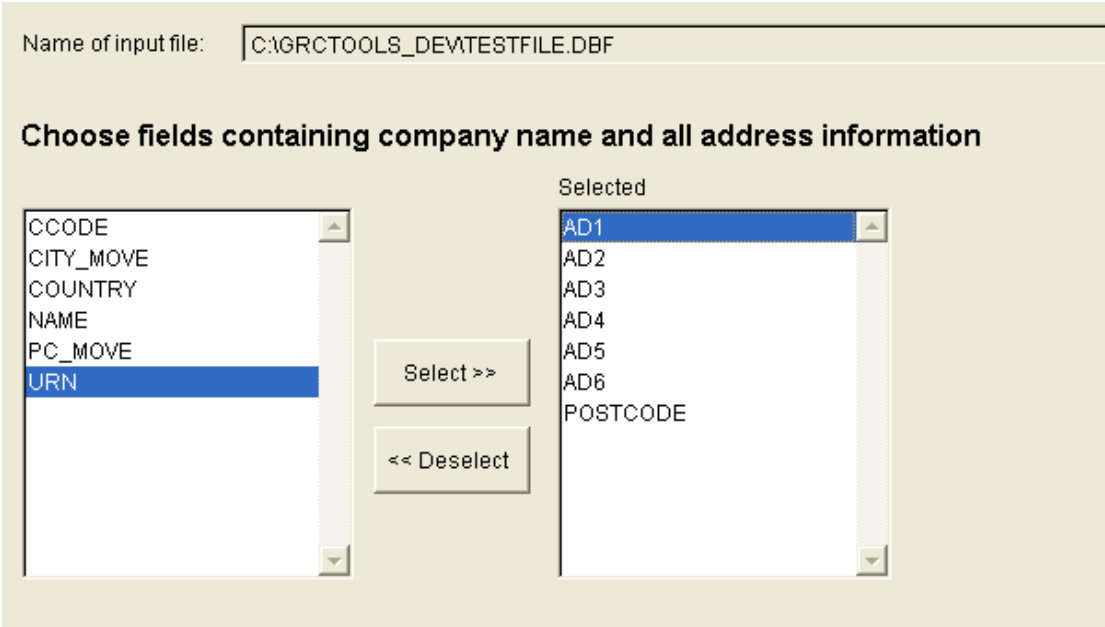
address_li
 address_li

The file then contains duplicate field names and **GRCCountry™** will return an error. Furthermore, no field may be longer than 250 characters.

- **Microsoft Excel** - Importing and exporting from Excel will usually corrupt diacritical marks (accented characters) in your data. This is a characteristic of Excel and not of **GRCCountry™**. If your data contains diacritical marks, you should not use Excel as an import format for **GRCCountry™**. Also, Excel may export fields which should be character fields (such as a postal code field) as a numeric field. Not only will **GRCCountry™** not process numeric fields, Excel will remove any zeros at the front of the data in numeric field, damaging your data.
- **Microsoft Access** - There are some major compatibility problems between Access and FoxPro, and the use of Access input files is best avoided. In any case, fields in Access files must have the "Allow zero length" option set to 'yes' to allow **GRCCountry™** to write data back to the file after processing. Furthermore, no field may be longer than 250 characters long, otherwise it is exported as an unexpected field type and cannot be processed.

Choose the file to be processed using the browse button , then press the  button to read the file.

 Next, choose the fields tab.



Name of input file: C:\GRCTOOLS_DEVTESTFILE.DBF

Choose fields containing company name and all address information

Available Fields	Selected Fields
CCODE	AD1
CITY_MOVE	AD2
COUNTRY	AD3
NAME	AD4
PC_MOVE	AD5
URN	AD6
	POSTCODE

Buttons: Select >>, << Deselect

You are next required to specify the fields in the chosen data source which contain company name, address and postal code information. Include any fields which may include this data:

- Company name
- Street address
- Settlement name
- Region name
- Postal code
- Country name

As a minimum, **GRCCountry™** requires field(s) containing postal code and settlement name to process data.

To choose fields, double click on the field names in the left-hand column or highlight them and press the right arrow button to select. To unselect a field, double click on the field name in the right-hand column or highlight it and press the left arrow button.

Field contents

Next, choose the *Field Contents* tab.

The fields you have specified (may) contain this data: (please check all relevant)

- Country name
- Region/Province name
- Place name
- Postal code
- Address
- Company name
- E-mail address/URL

GRCCountry™ needs to know what data to check for. As **GRCCountry™** requires as a minimum place name and postal code information, these boxes are checked and cannot be changed. If your data contains in some or all cases any of the other information, check the relevant boxes.

IMPORTANT: E-mail address identification works on the basis of the two-letter Internet domain code, i.e. .de for Germany. In certain circumstances, this may be mistaken for other strings, such as the DE state code of Delaware. If in doubt, do not choose to identify countries on the basis of e-mail address/URL.

Coding type

Next, choose the *Coding type* tabs.

Choose country code system to use

- ISO 3166 - 2 letters
- ISO 3166 - 3 letters
- GRC Database Information

Write country code to which field?

Differential to accept as correct

Write differential to which field?

Write results token to which field?

This screen requires a number of parameters.

You need firstly to choose a country coding system for **GRCCountry™** to use. The choice is the ISO 3166 2 or 3 letter code, or the GRC Database Information internal code. The codes are:

<i>Country name</i>	<i>ISO 2</i>	<i>ISO 3</i>	<i>GRC code</i>
Afganistan	AF	AFG	AFG
Albania	AL	ALB	ALB
Algeria	DZ	DZA	ALG
American Samoa	AS	ASM	AMS

Andorra	AD	AND	AND
Angola	AO	AGO	ANG
Anguilla	AI	AIA	ANU
Antigua & Barbuda	AG	ATG	ANT
Argentina	AR	ARG	ARG
Armenia	AM	ARM	ARM
Aruba	AW	ABW	ARU
Australia	AU	AUS	AST
Austria	AT	AUT	AUS
Azerbaijan	AZ	AZE	AZE
Bahamas	BS	BHS	BAH
Bahrain	BH	BHR	BAR
Bangladesh	BD	BGD	BAN
Barbados	BB	BRB	BAB
Belarus	BY	BLR	BEO
Belgium	BE	BEL	BEL
Belize	BZ	BLZ	BEI
Benin	BJ	BEN	BEN
Bermuda	BM	BMU	BER
Bhutan	BT	BTN	BHU
Bolivia	BO	BOL	BOL
Bosnia-Herzegovina	BA	BIH	BOS
Botswana	BW	BWA	BOT
Brazil	BR	BRA	BRA
British Virgin Islands	VG	VGB	BVI
Brunei Darussalam	BN	BRN	BRU
Bulgaria	BG	BGR	BUL
Burkina Faso	BF	BFA	BUK
Burma	MM	MMR	BUR
Burundi	BI	BDI	BUU
Cambodia	KH	KHM	CAM
Cameroon	CM	CMR	CAE
Canada	CA	CAN	CAN
Cape Verde Islands	CV	CPV	CAP
Cayman Islands	KY	CYM	CAY
Central African Republic	CF	CAF	CEN
Chad	TD	TCD	CHA
Chile	CL	CHL	CHI
China	CN	CHN	CHN
Christmas Island	CX	CXR	CHR
Cocos (Keeling) Islands	CC	CCK	COC
Colombia	CO	COL	CLO
Comoros	KM	COM	COM
Congo (Brazzaville)	CG	COG	CNG
Congo (Kinshasa)	ZR	ZAR	ZAI
Cook Islands	CK	COK	COO
Costa Rica	CR	CRI	COS
Croatia	HR	HRV	CRO
Cuba	CU	CUB	CUB
Cyprus	CY	CYP	CYP
Czech Republic	CZ	CZE	CZE
Denmark	DK	DNK	DEN
Djibouti	DJ	DJI	DJI
Dominica	DM	DMA	DOI
Dominican Republic	DO	DOM	DOM
East Timor	TL	TLS	ETI
Ecuador	EC	ECU	ECU

Egypt	EG	EGY	EGY
El Salvador	SV	SLV	ELS
Equatorial Guinea	GQ	GNQ	EQA
Eritrea	ER	ERI	ERI
Estonia	EE	EST	EST
Ethiopia	ET	ETH	ETH
Faeroe Islands	FO	FRO	FAE
Falkland Islands	FK	FLK	FAL
Fiji	FJ	FJI	FIJ
Finland	FI	FIN	FIN
France	FR	FRA	FRA
French Guiana	GF	GUF	FGU
French Polynesia	PF	PYF	FPO
Gabon	GA	GAB	GAB
Gambia, The	GM	GMB	GAM
Georgia	GE	GEO	GEO
Germany	DE	DEU	GER
Ghana	GH	GHA	GHA
Gibraltar	GI	GIB	GIB
Greece	GR	GRC	GRE
Greenland	GL	GRL	GRN
Grenada	GD	GRD	GRA
Guadeloupe	GP	GLP	GUD
Guam	GU	GUM	GUM
Guatemala	GT	GTM	GUA
Guernsey	GG		GUE
Guinea	GN	GIN	GUI
Guinea-Bissau	GW	GNB	GUB
Guyana	GY	GUY	GUY
Haiti	HT	HTI	HAI
Holy See	VA	VAT	VAT
Honduras	HN	HND	HON
Hong Kong	HK	HKG	HOK
Hungary	HU	HUN	HUN
Iceland	IS	ISL	ICE
India	IN	IND	IND
Indonesia	ID	IDN	INO
Iran	IR	IRN	IRA
Iraq	IQ	IRQ	IRQ
Ireland	IE	IRL	IRE
Isle of Man	IM		ISL
Israel	IL	ISR	ISR
Italy	IT	ITA	ITA
Ivory Coast	CI	CIV	IVO
Jamaica	JM	JAM	JAM
Japan	JP	JPN	JAP
Jersey	JE		JER
Jordan	JO	JOR	JOR
Kazakhstan	KZ	KAZ	KAZ
Kenya	KE	KEN	KEN
Kiribati	KI	KIR	KII
Kuwait	KW	KWT	KUW
Kyrgyzstan	KG	KGZ	KIR
Laos	LA	LAO	LAO
Latvia	LV	LVA	LAT
Lebanon	LB	LBN	LEB
Lesotho	LS	LSO	LES

Liberia	LR	LBR	LIR
Libya	LY	LBY	LIB
Liechtenstein	LI	LIE	LIE
Lithuania	LT	LTU	LIT
Luxembourg	LU	LUX	LUX
Macau	MO	MAC	MCA
Macedonia	MK	MKD	MCE
Madagascar	MG	MDG	MAD
Malawi	MW	MWI	MAW
Malaysia	MY	MYS	MAA
Maldives	MV	MDV	MAV
Mali	ML	MLI	MAI
Malta	MT	MLT	MAL
Marshall Islands	MH	MHL	MAR
Martinique	MQ	MTQ	MAN
Mauritania	MR	MRT	MAU
Mauritius	MU	MUS	MAT
Mayotte	YT	MYT	MAY
Mexico	MX	MEX	MEX
Micronesia	FM	FSM	MIC
Moldova	MD	MDA	MOL
Monaco	MC	MCO	MON
Mongolia	MN	MNG	MOG
Montenegro	ME	MNE	MOE
Montserrat	MS	MSR	MOT
Morocco	MA	MAR	MOR
Mozambique	MZ	MOZ	MOZ
Namibia	NA	NAM	NAM
Nauru	NR	NRU	NAU
Nepal	NP	NPL	NEP
Netherlands Antilles	AN	ANT	NAN
Netherlands, The	NL	NLD	NET
New Caledonia	NC	NCL	NCA
New Zealand	NZ	NZL	NEW
Nicaragua	NI	NIC	NIC
Niger	NE	NER	NIE
Nigeria	NG	NGA	NIG
Niue	NU	NIU	NIU
Norfolk Island	NF	NFK	NOF
North Korea	KP	PRK	NKO
Northern Mariana Islands	MP	MNP	NMI
Norway	NO	NOR	NOR
Oman	OM	OMN	OMA
Pakistan	PK	PAK	PAK
Palau	PW	PLW	PAL
Panama	PA	PAN	PAN
Papua New Guinea	PG	PNG	PAP
Paraguay	PY	PRY	PAR
Peru	PE	PER	PER
Philippines	PH	PHL	PHI
Pitcairn Islands	PN	PCN	PIT
Poland	PL	POL	POL
Portugal	PT	PRT	POR
Puerto Rico	PR	PRI	PUE
Qatar	QA	QAT	QAT
Romania	RO	ROM	ROM
Russia	RU	RUS	RUS

Rwanda	RW	RWA	RWA
Réunion	RE	REU	REU
Saint Christopher & Nevis	KN	KNA	STC
Saint Helena	SH	SHN	STH
Saint Lucia	LC	LCA	STL
Saint Pierre & Miquelon	PM	SPM	SPM
Saint Vincent & The Grenadines	VC	VCT	STV
Samoa	WS	WSM	WSM
San Marino	SM	SMR	SAN
Sao Tome & Principe	ST	STP	SAO
Saudi Arabia	SA	SAU	SAU
Senegal	SN	SEN	SEN
Serbia	RS	SRB	YUG
Seychelles	SC	SYC	SEY
Sierra Leone	SL	SLE	SIE
Singapore	SG	SGP	SIN
Slovakia	SK	SVK	SLO
Slovenia	SI	SVN	SLV
Solomon Islands	SB	SLB	SOL
Somalia	SO	SOM	SOM
Somaliland			SOA
South Africa	ZA	ZAF	SAF
South Korea	KR	KOR	SKO
Spain	ES	ESP	SPA
Sri Lanka	LK	LKA	SRI
Sudan	SD	SDN	SUD
Suriname	SR	SUR	SUR
Swaziland	SZ	SWZ	SWA
Sweden	SE	SWE	SWE
Switzerland	CH	CHE	SWI
Syria	SY	SYR	SYR
Taiwan	TW	TWN	TAI
Tajikistan	TJ	TJK	TAJ
Tanzania	TZ	TZA	TAN
Thailand	TH	THA	THA
Togo	TG	TGO	TOG
Tokelau	TK	TKL	TOK
Tonga	TO	TON	TON
Trinidad & Tobago	TT	TTO	TRI
Tunisia	TN	TUN	TUN
Turkey	TR	TUR	TUR
Turkmenistan	TM	TKM	TUK
Turks & Caicos Islands	TC	TCA	TCI
Tuvalu	TV	TUV	TUV
Uganda	UG	UGA	UGA
Ukraine	UA	UKA	UKR
United Arab Emirates	AE	ARE	UAE
United Kingdom	GB	GBR	UNI
United States	US	USA	USA
United States Virgin Islands	VI	VIR	VIR
Uruguay	UY	URY	URU
Uzbekistan	UZ	UZB	UZB
Vanuatu	VU	VUT	VAN
Venezuela	VE	VEN	VEN
Vietnam	VN	VNM	VIE
Wallis & Futuna	WF	WLF	WAL
Western Sahara	EH	ESH	WSH

Yemen	YE	YEM	YEM
Zambia	ZM	ZMB	ZAM
Zimbabwe	ZW	ZWE	ZIM

You then need to specify the field to which the code is to be written. This must be a character/alphanumeric type field.

GRCCountry™ processes addresses by giving a different weighting to the data in each record that it finds, and adding this up to reach a final assessment. For example, an address:

Bonnstrasse 17
11705 BERLIN

may have weights assigned as follows:

Germany: City name and postal code combination: 100, street type: 5, postal code pattern: 15. Total: 120
France: Postal code pattern: 15. Total: 15
Austria: Street type: 5. Total: 5

And so on. The *differential* is the difference between the number assigned to the best fit country and the next one. In the example above, the difference between the best match (Germany, 120 points) and the second (France, 15) is 105 points.

However, if the same address is written with an incorrect postal code as follows:

Bonnstrasse 17
1705 BERLIN

the assessment is much less definite. In this case the weights might become:

Germany: City name: 15, street type: 5. Total: 35
Austria: Postal code pattern: 15, Street type: 5. Total: 20

The *differential* is now only 15 points – the assessment is less certain.

The *Differential to accept as correct* spinner allows you to specify how much of a difference there should be between the top two possible matches to assign a code. We have found that a differential of 10 will give good results for good quality addresses, with full data including largely correct postal codes. For more definite assignments, a differential of 20 may be assigned – in this case fewer countries are found, but equally fewer errors are made. A differential of 30 may be used for very poor quality data. Higher than 30 or lower than 10 should not be used.

You may find it useful to know what differential **GRCCountry™** found in its processing. If you choose a field in the *Write differential to which field* dropdown, the differential number will be written to that field. **NOTE: this must be a numeric field. Specifying this field is optional – you may leave it blank.**

Finally, if you choose a field in the *Write results token to which field*, this field (which must be character/alphanumeric in type) will contain ratings for each country. This token contains the country rating followed by the GRC internal country code. The information for each country is divided by a bar symbol (|). For example:

20:ARG|20:USA|20:SPA|15:AST|15:SLO|5:PAR

The assessment given is dependent upon a number of factors and is not fixed for each element. **NOTE: Specifying this field is optional – you may leave it blank.**

7. Technical Support

Technical Support

Always backup your data before using **GRCCountry™**. GRC Database Information accepts no responsibility for lost or damaged data through the use or misuse of **GRCCountry™**.

Please check the list of frequently encountered problems below.

If all else fails, let us know.

GRC Database Information provides an e-mail only support service (address: graham@grcdi.nl). You are guaranteed the full-attention of the author of the software. When looking for solutions to problems, we must be able to re-construct the problem at GRC Database Information. We must therefore have the following information:

- Your name, company name, address, telephone number and e-mail address
- The serial number of your version of **GRCTools™**
- The operating system that you are using
- A full description of what happens (what happens on the screen; what error message (if any) do you get; at what point (if any) does failure occur)

We shall do our best to solve your problems, or, if **GRCCountry™** was deliberately designed to do something that you did not expect, why this is the case. If we have made an error, we shall try to get a new version of the software to you as quickly as possible, and provide you with free credits as compensation and thanks for finding errors we were not able to find.

If you have any suggestions for changes or improvements to **GRCCountry™** we would gratefully receive these at the same e-mail address. In this way we can ensure that **GRCCountry™** is the tool you need and not the tool we think you need.

Frequently encountered problems

Error: A subdirectory or file c:\temp\ already exists

This error is known to occur on some Windows NT systems where the c:\temp\ directory is a hidden system directory. **GRCCountry™** needs to write temporary files to this directory. If the directory is hidden **GRCCountry™** cannot locate the directory, but equally it cannot create the directory so this error occurs. To resolve this, the directory needs to be made into a “standard” directory, either by changing its properties, or by renaming it and creating a new c:\temp\ directory.

Data type mismatch error

Check that you are not trying to process a field which is not character/alphanumeric in type. Numeric and other fields, which should not be used to store address data, will give this error.

Duplicate field names error

The native format of **GRCCountry™** is Visual FoxPro/dBase III+. Data imported in other formats is imported to Visual Foxpro format for processing, and then exported to the original format after processing. Data being imported must therefore be able successfully to be converted. **GRCCountry™** supports field names of 10 characters or less. If your data contains long field names, they are truncated during import. If this truncation leads to duplicate field names, **GRCCountry™** will fail. For example, if you have the field names:

address_line_1
address_line_2

in your incoming file, **GRCCountry™** will make these into:

address_li
address_li

so that you get a duplicate field names error. Renaming the fields to, for example:

address1
address2

will resolve this problem.

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