Redcoal Mobile Internet Developer API (MIDA) Version 5.0

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1. Overview

1.1 Purpose of this Document

This document provides instructions on how application developers and web designers can integrate Redcoal SMS technology into their own solutions. The Redcoal Mobile Internet developer API (MIDA) provides all the tools required to connect to the Redcoal mobile Internet gateway to send text SMS, Ring Tones, Logos, Picture Messages and more.

1.2 Supported Technologies

At present the following two technologies are supported: *MS COM object* (ActiveX controls) and *SOAP*.

Microsoft COM object: Most programming environments support the use of MS COM objects. The Redcoal Mobile Internet COM object provides easy to use methods for sending and receiving SMS messages.

SOAP is a lightweight and simple XML-based protocol that is designed to exchange structured and typed information on the Web. Most software development environments for C++, Java, PHP, Dot.Net or Visual Basic provide tools for easily accessing SOAP web services. An introduction to SOAP technology and protocol specifications can be found at: http://www.w3.org/TR/SOAP/

1.3 Overview Redcoal Gateway Interface

The Redcoal SMS gateway makes it possible for application developers to connect to a number of SMSC's by only using one interface. Redcoal SMS Gateway connects to several different manufacturers' SMSC's on one side and provides an interface to communicate with the application on the other side.
Redcoal MIDA 5.0 provides access to 7 and 8 bit SMS technology. Redcoal reaches more than 130 countries and 300 networks. An up-to-date list of supported countries and networks can be found at http://www.redcoal.com

2 COM Object Specifications

2.1 Getting Started

1. Register your details at http://www.redcoal.com to receive your account password.
2. Copy the source code from one of the sample programs provided and paste it into your own code.
3. Copy the serial number from the file: serialno.txt and paste into your code.

2.2 Serial Number and SMS key

Before any of the COM object methods can be called the property: *SerialNo* and *SMSKey* must be set.
The serial number is generated when installing MIDA. It is stored in the text file: serialno.txt.
Alternatively download the file: http://download.redcoal.com/SerialNoGen.exe
SerialNoGen.exe generates a valid client serial number.

2.3 COM Method: SendTextSMS

Overview: This method sends text SMS messages to the specified mobile destinations. The message can be a simple *one-way* text message, a *2-way* message, or a *flash* SMS message. *In 2-way* SMS messaging, recipients can reply to the SMS whereas the reply is forwarded to the recipient via email, or alternatively retrieved via the method: *GetIncomingMessage* as outlined in 2.7. *Flash SMS* messages are messages that are displayed on the screen of the recipients' mobile phone without being stored in the handset's inbox. Every message deposited is assigned a unique message identifier, stored in the property *MessageIDs*. To check on the status of a message (delivered, processed etc.) call the method *CheckMessageStatus*.

Parameters:

- **strRecipients:** Comma Separated list of destination mobile numbers. Preferably use international format. E.g. "+4179123123, +6140123123".
- **strMessageText:** Message Content, maximum 160 characters. Messages longer 160 characters will be cut off.
- **strReplyEmail:** Always specify a reply email address. Error notifications and message delivery confirmations (if enabled) will be sent to this address. SMS replies will be forwarded to this email address if 2-way mode is enabled.
- **strOriginator:** Most networks allow the customisation of the originator, this is the number or alphanumeric sender string that is displayed on the mobile phone. If 2-way SMS is enabled this field is ignored because the orignator (or sender) is one of Redcoal's mobile numbers.
- **iType:** Number specifying the message type:
  0: One-way text SMS
  1: 2-way SMS
  2: Flash SMS

Returns:
Error code as outlined in Appendix A.

2.4 COM Method: SendBinarySMS

Overview: This method sends Mobile Phone Logos, Ring tones, Picture Messages or VCards to the specified destinations. The message identifier(s) for this message will be returned after the send method is completed and stored in the property *MessageIDs*. To check on the status of a message (delivered, processed etc.) call the method *CheckMessageStatus*.

Parameters:

- **strRecipients:** Comma Separated list of destination mobile numbers. Preferably use international format. E.g. "+4179123123, +6140123123".
- **strBinaryFile:** Specifies the logo, ringtone or picture file. Check out Appendix B for valid file types.
- **strExtraParam:** For Operator logos specify the 5-digit operator code (see Appendix C). For picture messages this specifies the text accompanying the picture.
- **strReplyEmail:** Always specify a reply email address. Error notifications and message delivery confirmations (if enabled) will be sent to this address.
- **iType:** Number specifying the message type:
  5506: Operator Logo (Smart Messaging Protocol)
  5505: Ring Tone (Smart Messaging Protocol)
  5514: Picture Message
  9204: VCard
  255: Remove Operator Logo Message

Returns:
Error code as outlined in Appendix A.

2.5 COM Method: GetCreditsLeft

Overview: This method retrieves how many credits (message quota) are left for this account. The credits left retrieved will be stored in the property *CreditsLeft*. This method has no parameter.

Returns:
Error code as outlined in Appendix A.

2.6 COM Method: CheckMessageStatus

Overview: This method checks the status of previously deposited messages. Identifiers of previously deposited messages are returned by the methods *SendTextSMS* and *SendBinarySMS*, and are stored in the property *MessageIDs*. This method takes as input the property string *MessageIDs* (as is) and returns the status of these messages in the property *MessageStatus*. Possible message status, separated by comma (corresponding to each of the comma separated message identifiers in the

property string *MessageIDs*), can be:

PENDING: Message not yet processed
OK: Message successfully deposited at SMS-C
FAIL: Deposit at SMS-C failed, will try again
ABORT: Can't deposit message with SMS-C, Error notification mailed to user.
CONFIRMED: Message arrived at handset

This method has no parameter.

Returns:
Error code as outlined in Appendix A.

2.7 COM Method: GetIncomingMessage

Overview: This method retrieves SMS replies from the Redcoal SMS gateway. It retrieves all the messages that are replies to messages sent with the specified *strReplyEmail* address. The sender, content and timestamp of the reply message together with how many replies left (waiting to be retrieved) are returned and stored in the properties listed below.

Parameters:
- **strReplyEmail:** the email address specified when sending the to-be-replied message (the *strReplyEmail* parameter used in the method *SendTextSMS*).

Output Properties:
- **ReplySender:** Mobile Number of the sender
- **ReplyMessageContent:** Text content of the reply message
- **ReplyTimeStamp:** Server time when message was received
- **ReplyMessagesLeft:** Number of reply messages that still need to be retrieved from the server (not including this one).

Returns:
Error code as outlined in Appendix A.

2.8 COM Method: GetLicenseInfo

Overview: This method retrieves the COM object licensing information. The retrieved licensing information is stored in the property *LicenseInfo*, together with the bulletin message (if any) stored in the property *BulletinMessage*. This method has no parameter.

Returns:
Error code as outlined in Appendix A.

2.9 COM object Properties

- **SerialNo:** The client serial number (read-write string property), see 2.2.
- **SMSKey:** account password (read-write string property), see 2.2.
- **LastErrorCode:** error code for the last method call (read-only integer property).
- **MessageIDs:** List of message identification numbers for the last call of *SendTextSMS* or *SendBinarySMS* method. The identification numbers are used when calling the *CheckMessageStatus* method (read-write string property).
- **MessageStatus:** The status of the previously deposited messages with the identifiers of these messages specified in *MessageIDs*. This property is set after the method *CheckMessageStatus* is called (read-only string property).
- **CreditsLeft:** The amount of credits (message quota) left for this account, set after calling the method *GetCreditsLeft* (read-only double property).
- **LicenseInfo:** Licensing information of the COM object, set after calling the method *GetLicenseInfo* (read-only string property).
- **BulletinMessage:** Bulletin message (if any), set after calling the method *GetLicenseInfo* (read-only string property).
- **ReplySender:** Sender of the reply message (if any), which contains the sender's mobile number, set after calling the method *GetIncomingMessage* (read-only string property).
- **ReplyMessageContent:** Content of the reply message (if any), set after calling the method *GetIncomingMessage* (read-only string property).
- **ReplyTimeStamp:** The timestamp at which the server received the reply message (if any), set after calling the method *GetIncomingMessage* (read-only string property).
- **ReplyMessagesLeft:** Number of reply messages left on the server that still need to be retrieved (not including the one just returned by the method *GetIncomingMessage*), set after calling the method *GetIncomingMessage* (read-only integer property).
- **AsyncMode:** Set to 'False' by default (read-write Boolean property). See 2.10.
- **ProxyAddress:** Some network configurations require manual specification of a proxy server. Use this property to set the IP address of your proxy server
- **ProxyUserName:** Some proxy servers require authentication. Leave this parameter empty if the proxy server doesn't require authentication
- **ProxyPassword**: Some proxy servers require authentication. Leave this parameter empty if the proxy server doesn't require authentication

2.10 Asynchronous Mode (Advanced Programmers)

By default all the COM object methods work in *synchronous* mode. This means that the method doesn't return until a message is successfully dispatched with the Redcoal gateway, or after the method *GetIncomingMessage* or *CheckMessageStatus* completed its tasks. Since all communication is via the Internet, it might take several seconds before the methods return.
If the *AsyncMode* property is set to 'True' then COM object works in *asynchronous* mode. This means that the methods:

- SendTextSMS

- SendBinarySMS
- GetIncomingMessage
- CheckMessageStatus

return immediately. The COM object will trigger the Event: *OperationCompleted* once the method call is completed. In asynchronous mode the following properties can only be retrieved once the event *OperationCompleted* is triggered

- LastErrorCode
- MessageIDs
- ReplySender
- ReplyMessageContent
- ReplyTimeStamp
- ReplyMessageLeft

3 SOAP Interface Specification

3.1 Getting Started

There are numerous third party applications to test web services supporting the SOAP interface without the need for any programming. The best way to get started is:

1. Register your details at http://www.redcoal.com/quickstart.asp, after which you will be sent a 'SMS key'.
2. Use a third party SOAP testing web site, for example http://www.soapclient.com/soaptest.html
3. Provide the following WSDL file location: **http://xml.redcoal.com/soapserver.dll/wsdl/ISoapServer**

3.2 Serial Number and SMS key

All SOAP methods require a *serial number* and *SMS key* to function properly.
Register your details at http://www.redcoal.com to get your 'SMS key'.
The serial number is generated when installing MIDA. It is stored in the text file: serialno.txt.
Alternatively download the file: http://download.redcoal.com/SerialnoGen.exe
SerialNoGen.exe generates a valid client serial number.

3.3 SOAP return values, Error Codes

All SOAP method calls return an integer value. If the call is successful the return value is '0' otherwise an error message as listed in appendix A.

3.4 SOAP Method: SendTextSMS

Overview: This method sends Text SMS messages to the specified mobile destinations. The message can be a simple one-way text message, a *2-way* message, or a *flash* SMS messages. *In 2-way* SMS messaging, recipients can reply to the SMS whereas the reply is forwarded to the recipient via email, or alternatively retrieved via the method: *GetIncomingMessage* as outlined in 2.1. *Flash SMS* messages are messages that are displayed on the screen of the recipients' mobile phone without being stored in the handset's inbox.

IN Parameters:

- **strInRecipients:** Comma Separated list of destination mobile numbers. Preferably use international format. E.g. "+4179123123, +6140123123"
- **strInMessageText:** Message Content, maximum 160 characters. Messages longer 160 characters will be cut off.
- **strInReplyEmail:** Always specify a reply email address. Error notifications and message delivery confirmations (if enabled) will be sent to this address. SMS replies will be forwarded to this email address if 2-way mode is enabled.
- **strInOriginator:** Most networks allow the customisation of the originator, this is the number of alpha-numeric sender string that is displayed on the mobile phone. If 2-way SMS is enabled this field is ignored because the

orignator (or sender) is one of our mobile numbers.

- **iInType:** Number specifying the message type.
  0: One-way Text SMS
  1: 2-way Text SMS
  2: Flash SMS

OUT Parameters:

- **strOutMessageIDs:** List of message identification numbers to be used with the '*CheckMessageStatus*" Method. There is one message ID per destination number as listed in the parameter *strInRecipients*. The message IDs are separated by comma and are in the same order as the destination number. I.e. the first ID corresponds to the first destination mobile number in *strInRecipients* the second ID corresponds to the second destination number etc.

3.5 SOAP Method: SendBinarySMS

Overview: This method sends Mobile Phone Logos, Ring tones, Picture Messages or VCards to the specified destinations.

IN Parameters:

- **strInRecipients:** Comma Separated list of destination mobile numbers. Preferably use international format. E.g. "+4179123123, +6140123123"
- **strInBinaryContent:** The binary file (Logo, Ring Tone, Picture message) converted to a byte string. Check out section 3.9 on information on how to convert a file into a byte string. See Appendix B for supported file types.
- **strInExtraParam:** For operator logos this parameter specifies the 5 character operator codes (see appendix D). For SMS picture message the parameter specifies the 120 characters long text message accompanying the picture.
- **strInReplyEmail:** Always specify a reply email address. Error notifications and message delivery confirmations (if enabled) will be sent to this address.
- **iInType:** Number specifying the message type:
  5506: Operator Logo (Smart Messaging Protocol)
  5505: Ring Tone (Smart Messaging Protocol)
  5514: Picture Message
  9204: VCard
  255: Remove Operator Logo Message

OUT Parameters:

- **strOutMessageIDs:** List of message identification numbers to be used with the '*CheckMessageStatus*" Method. There is one message ID per destination number as listed in the parameter *strInRecipients*. The message IDs are separated by comma and are in the same order as the destination number. I.e. the first ID corresponds to the first destination mobile number in *strInRecipients* the second ID corresponds to the second destination number etc.

3.6 SOAP Method: GetCreditsLeft

Overview: This method returns available credits for this account.

In Parameters:

N/A

OUT Parameters:

- **dOutCreditsLeft:** a double value specifying available credits

3.7 SOAP Method: CheckMessageStatus

Overview: This method takes as input a message ID string as returned by the methods *SendTextSMS* or *SendBinarySMS* and returns the messages status for these messages.

IN Parameters:

- **StrInMessageIDs:** Comma separated list of message ID values.

OUT Parameters:

- **StrOutMessageStatus:** Message Status for the specified message IDs separated by comma:

  PENDING: Message not yet processed
  OK: Message successfully deposited at SMS-C
  FAIL: Deposit at SMS-C failed, will try again
  ABORT: Can't deposit message at SMS-C, error notification mailed to user.
  CONFIRMED: Message arrived at handset

3.8 SOAP Method: GetIncomingMessage

Retrieve SMS replies from the Redcoal SMS gateway. Retrieves all the messages that are replies to messages sent with the specified s*trInReplyEmail* address.

IN Parameters:

strInReplyEmail: the email address specified when sending a to-be-replied message (the *strInReplyEmail* parameter used for the method *SendTextSMS*).

OUT Parameters:

- ***strOutSender***: Mobile Number of the sender
- ***strOutMessageContent***: Text content of reply message
- ***strOutTimeStamp***: Server time when message was received
- ***iOutMessagesLeft***: Number of reply messages that still need to be retrieved from the server (not including this one).

3.9 Converting a File into a Byte String

The parameter ***strInBinaryContent*** of the ***SendBinarySMS*** method is an array of bytes (or octets) containing the actual content of the logo, ringtone or VCard. The content is initially stored as binary file. Hence, user will need to retrieve the content

from the binary file into an array of bytes. A sample C/C++ code for doing this is as follows:

```
BYTE *content=0;  // a byte array pointer
// Open binary file for read access
FILE *fp = fopen(filename, "rb");
if (fp) {
  fseek(fp, 0, SEEK_END);    // Goto end of file
  int size = ftell(fp);      // Get total file size
  content = new BYTE[size];  // Allocate enough memory
  rewind(fp);                // Rewind file
  int ch, i=0;
  // Read file and store into byte array
  while ((ch = getc(fp)) != EOF) {
    content[i++] = (BYTE)ch;
  }
}
else {
  // Handle file open error
}
return content;
```

Appendix A: Error Codes

0: No Error
1: Feature Not Available
2: Service Not Available
3: Too Many Wrong Passwords, Please contact support@redcoal.com
4: Invalid Password
5: No Credits Left/ go to: http://www.redcoal.net/purchase.asp
6: Not Enough Credits Left
7: Binary File Not Found
8: One or more invalid destinations
9: Invalid Format (for binary and fax data)
10: Invalid Serial No
11: Invalid HTTP property
12: Daily Quota Reached
13: Destination not in restricted list
14: Invalid File
15: File too big
16: General Fault: e.g: no internet connection, can't connect to Redcoal XML server, can't get past the proxy firewall.
17: Cannot read the specified file or don't have permission to read the file
18: Invalid License

Appendix B: Binary File Types

Operator Logo
The operator logo file is a 72x14 black and white bitmap file (with file extension "bmp"). When dispatching operator logos the 5 digits operator code for destination network must be specified. Check out appendix C for valid operator codes. The MIDA installation provides some sample operator logo files.

Picture Message
Picture file is a 72x28 black and white bitmap file (with file extension "bmp"). The picture file can be accompanied by an up to 120 characters long text message.
The MIDA installation directory lists some sample picture message files.

Ring Tone
Ring tone file must be in RTTTL format (with file extension "rtttl"). The MIDA installation directory lists some sample ring tone files.

VCard
The VCard must have the standard Microsoft VCard format (with file extension "vcf", but is actually a plain-text file in certain format). The MIDA installation directory lists some sample ring tone files.

Appendix C: Operator Network Codes

Operator codes must be passed as 5 character strings to the parameter s*trInExtraParam* when sending Operator logos.
E.g. to send to Australia Telstra use: “505 01”

Country Operator/Network Country code Network code

Albania Albanian Mobile Comms 276 01
Algeria Albanian Mobile Comms 603 01
Andorra S.T.A. MobilAnd 213 03
Armenia ArmenTel 283 01
Australia Telstra Mobile Comms 505 01
Australia Cable + Wireless Optus 505 02
Australia Vodafone 505 03
Austria MobilKom Austria A1 232 01
Austria max.mobil.Telekoms Service 232 03
Austria Connect Austria One 232 05
Azerbaijan Azercell Telekom B.M. 400 01
Azerbaijan J.V.Bakcell GSM 2000 400 02
Bahrain Batelco 426 01
Bangladesh Grameen Phone 470 01
Bangladesh Sheba Telecom 470 19
Belgium Belgacom Mobile Proximus 206 01
Belgium KPN Orange 206 20
Belgium Mobistar 206 10
Bosnia Herzegovina Cronet 218 01
Bosnia Herzegovina PTT Bosnia 218 19
Bosnia Herzegovina PE PTT BIH 218 90
Botswana Mascom Wireless 652 01
Brunei Darussalam Jabatan Telekom 528 01
Brunei Darussalam DST Communications 528 11
Bulgaria MobilTel AD 284 01
Cambodia CamGSM 456 01
Cambodia Cambodia Samart Comms 456 02
Cameroon PTT Cameroon Cellnet 624 01
Canada Microcell Connexions Inc 302 37
Cape Verde Cabo Verde Telecom 625 01
Chile Entel Telefonia Movil 730 01
Chile Entel PCS Telecom. 730 10
China China Telecom GSM 460 00
China China Unicom GSM 460 01
China Liaoning PPTA 460 02
Cote d'Ivoire Comstar Cellular Network 612 01
Cote d'Ivoire Telecel 612 02
Cote d'Ivoire S.I.M Ivoiris 612 03
Cote d'Ivoire Loteny Telecom Telecel 612 05
Croatia Croatian Telecoms Cronet 219 01
Croatia Vipnet 219 10
Cyprus Cyprus Telecoms Authority 280 01
Czech Republic RadioMobil 230 01
Czech Republic EuroTel Praha 230 02
Czech Republic SPT Telecom 230 03
Denmark Tele-Danmark Mobil 238 01
Denmark Sonofon 238 02
Denmark Telia Denmark 238 20
Denmark Mobilix 238 30
Egypt MobiNil 602 01
Egypt Misrfone Telecom. Click 602 02
Estonia Estonian Mobile Telephone 248 01
Estonia Radiolinja Eesti 248 02
Estonia Q GSM 248 03
Ethiopia Ethiopian Telecoms Auth. 636 01
Fiji Vodafone Fiji 542 01
Finland Telia Finland 244 03
Finland Radiolinja 244 05
Finland Alands Mobiltelefon 244 05
Finland Finnet Group 244 09
Finland Sonera Corporation 244 91
France France Telecom Itineris 208 01

France SFR 208 10
France Bouygues Telecom 208 20
French Polynesia Tikiphone 547 20
French West Indies France Caraibe Ameris 340 01
Georgia Geocell Limited 282 01
Georgia Magti GSM 282 02
Germany D1 DeTe Mobil 262 01
Germany D2 Mannesmann Mobilfunk 262 02
Germany E-Plus Mobilfunk 262 03
Germany Viag Interkom 262 07
Ghana ScanCom 620 01
Gibraltar Gibraltar Telecoms Gibtel 266 01
Greece Cosmote 202 01
Greece Panafon 202 05
Greece Telestet 202 10
Greenland Tele Greenland 290 01
Guinea Sotelgui Lagui 611 02
Hong Kong Hong Kong Telecom CSL 454 00
Hong Kong Hutchison Telecom 454 04
Hong Kong SmarTone Mobile Comms 454 06
Hong Kong New World PCS 454 10
Hong Kong Peoples Telephone 454 12
Hong Kong Mandarin Com. Sunday 454 16
Hong Kong Pacific Link 454 18
Hong Kong P Plus Comm 454 22
Hungary Pannon GSM 216 01
Hungary Westel 900 GSM Mobile 216 30
Iceland Iceland Telecom Siminn 274 01
Iceland TAL hf 274 02
India TATA Cellular 404 07
India Bharti Cellular Telecom Airtel 404 10
India Sterling Cellular Essar 404 11
India Escotel Mobile Comms 404 12
India Modi Telstra Modicom 404 14
India Aircel Digilink Essar Cellph. 404 15
India Hutchison Max Touch 404 20
India BPL Mobile 404 21
India BPL USWest Cellular 404 27
India Usha Martin Tel. Command 404 30
India Mobilenet 404 31
India SkyCell Communications 404 40
India RPG MAA 404 41
India Srinivas Cellcom 404 42
Indonesia PT. Satelindo 510 01
Indonesia Telkomsel 510 10
Indonesia PT. Excelcomindo Excelcom 510 11
Iran TCI 432 11
Iraq Iraq Telecom 418 01
Ireland Eircell 272 01
Ireland Esat Digifone 272 02
Ireland Meteor 272 03
Israel Partner Communications 425 01
Italy Telecom Italia Mobile TIM 222 01
Italy Omnitel Pronto 222 10
Italy Wind Telecomunicazioni 222 88
Jordan J.M.T.S Fastlink 416 01
Kuwait Mobile Telecoms MTCNet 419 02
Kyrgyz Republic Bitel 437 01
Lao Lao Shinawatra Telecom 457 01
Latvia Latvian Mobile Tel. 247 01
Latvia BALTCOM GSM 247 02
Lebanon FTML Cellis 415 01
Lebanon LibanCell 415 03
Lesotho Vodacom 651 01
Liberia Omega Communications 618 01
Lithuania Omnitel 246 01
Lithuania UAB Bite GSM 246 02
Luxembourg P+T LUXGSM 270 01
Luxembourg Millicom Tango GSM 270 77
Macau C.T.M. TELEMOVEL+ 455 01
Macedonia Macedonian Tel. MobiMak 294 01
Madagascar Madacom 646 01
Madagascar SMM Antaris 646 02

Madagascar Sacel 646 03
Malawi Telekom Network Callpoint 650 01
Malaysia My BSB 502 02
Malaysia Binariang 502 03
Malaysia Binariang Comms. Maxis 502 12
Malaysia Telekom Cellular TM Touch 502 13
Malaysia DiGi Telecommunications 502 16
Malaysia Time Wireless Adam 502 17
Malaysia Celcom 502 19
Malta Vodafone 278 01
Mauritius Cellplus Mobile Comms 617 01
Moldova Voxtel 259 01
Morocco Itissalat Al-Maghrib IAM 604 01
Mozambique Telecom de Mocambique 634 01
Namibia MTC 649 01
Netherlands Libertel 204 04
Netherlands KPN Telecom 204 08
Netherlands Telfort 204 12
Netherlands Ben 204 16
Netherlands Dutchtone 204 20
New Caledonia OPT Mobilis 546 01
New Zealand Vodafone 530 01
New Zealand Telecom NZ 530 03
New Zealand Telstra 530 04
Norway Telenor Mobil 242 01
Norway NetCom GSM 242 02
Oman General Telecoms 422 02
Pakistan Mobilink 410 01
Papua New Guinea Pacific Mobile Comms 310 01
Philippines Isla Comms 515 01
Philippines Globe Telecom 515 02
Philippines Smart Communications 515 03
Poland Polkomtel PLUS GSM 260 01
Poland ERA GSM 260 02
Poland IDEA Centertel 260 03
Portugal Telecel Communicacoes 268 01
Portugal Optimus Telecom. 268 03
Portugal Telecom Moveis Nac. TMN 268 06
Qatar Q-Tel QATARNET 427 01
Reunion Societe Reunionnaise SRR 647 10
Romania MobiFon CONNEX GSM 226 01
Romania Mobil Rom DIALOG 226 10
Russia MTS Moscow 250 01
Russia North-West GSM 250 02
Russia Siberian Cellular 250 05
Russia Zao Smarts 250 07
Russia Don Telecom 250 10
Russia New Telephone Company 250 12
Russia Far-Eastern Cellular 250 12
Russia Kuban GSM 250 13
Russia Uratel 250 39
Russia North Caucasian GSM 250 44
Russia KB Impuls BeeLine 250 99
Rwanda Rwandacell 635 10
Saudi Arabia Ministry of PTT Al Jawal 420 01
Saudi Arabia Electronics App' Est. EAE 420 07
Senegal Sonatel ALIZE 608 01
Seychelles Seychelles Cellular Services 633 01
Seychelles Telecom AIRTEL 633 10
Singapore Singapore Tel. GSM 900 525 01
Singapore Singapore Tel. GSM 1800 525 02
Singapore MobileOne Asia 525 03
Slovak Republic Globtel GSM 231 01
Slovak Republic EuroTel GSM 231 02
Slovenia Si.mobil 293 40
Slovenia Mobitel 293 41
South Africa Vodacom 655 01
South Africa MTN 655 10
Spain Airtel Movil 214 01
Spain Retevision Movil 214 03
Spain Telefonica Moviles Movistar 214 07
Sri Lanka MTN Networks Dialog GSM 413 02
Sudan Mobile Telephone Company 634 01

Sweden Telia Mobitel 240 01
Sweden Comviq GSM 240 07
Sweden Europolitan 240 08
Switzerland Swisscom NATEL 228 01
Switzerland diAx Mobile 228 02
Switzerland Orange 228 03
Syria Syrian Telecom Est. MOBILE 417 09
Taiwan Far EasTone Telecoms 466 01
Taiwan TUNTEX Telecom 466 06
Taiwan KG Telecom 466 88
Taiwan Chunghwa Telecom 466 92
Taiwan Mobitai Communications 466 93
Taiwan Pacific Cellular TWNGSM 466 97
Taiwan TransAsia Telecoms 466 99
Tanzania Tritel 640 01
Thailand Advanced Info Service AIS 520 01
Thailand WCS IQ 520 10
Thailand Total Access Worldphone 520 18
Thailand Digital Phone HELLO 520 23
Togo Togo Telecom TOGO CELL 615 01
Tunisia Tunisie Telecom Tunicell 605 02
Turkey Turk Telekom Turkcell 286 01
Turkey TELSIM Mobil Telekom. 286 02
U.S.A. APC Sprint Spectrum 310 02
U.S.A. Wireless 2000 Telephone 310 11
U.S.A. BellSouth Mobility DCS 310 15
U.S.A. Omnipoint Communications 310 16
U.S.A. Pacific Bell Wireless 310 17
U.S.A. Western Wireless Voicestream 310 26
U.S.A. Powertel 310 27
U.S.A. Aerial Communications 310 31
U.S.A. Iowa Wireless Services 310 77
Uganda Celtel Cellular 641 01
Uganda MTN Uganda 641 10
Ukraine Ukrainian Mobile Comms 255 01
Ukraine Ukrainian Radio Systems 255 02
Ukraine Kyivstar GSM 255 03
Ukraine Golden Telecom 255 05
United Arab Emirates UAE ETISALAT-G1 424 01
United Arab Emirates UAE ETISALAT-G2 424 02
United Kingdom Cellnet 234 10
United Kingdom Vodafone 234 15
United Kingdom One 2 One 234 30
United Kingdom Orange 234 33
United Kingdom Jersey Telecom GSM 234 50
United Kingdom Guernsey Telecoms GSM 234 55
United Kingdom Manx Telecom Pronto GSM 234 58
Uzbekistan Buztel 434 01
Uzbekistan Daewoo Unitel 434 04
Uzbekistan Coscom 434 05
Venezuela Infonet 734 01
Vietnam MTSC 452 01
Vietnam DGPT 452 02
Yugoslavia MOBTEL 220 01
Yugoslavia ProMonte GSM 220 02
Zambia Zamcell 645 01
Zimbabwe NET*ONE 648 01
Zimbabwe Telecel 648 03