

CipherLab **User Guide**

FORGE 8 Series AG OCX Programming Guide

DOC Version 1.00



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RELEASE NOTES

Version	Date	Notes
1.00	Feb. 26, 2009	► Initial Release.

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INTRODUCTION

The purpose of Forge 8 series AG OCX is to simplify complex data transmission protocol to concise API call approach to provide convenient way for programmer to develop program to transmit data between PC and terminal with Forge 8 series AG runtime.

This manual briefly describes what the properties' and methods' function provided by OCX at chapter 1, 2 and 3 and further how to use them at chapter 4. We recommend that you read the document thoroughly before use and keep it at hand for quick reference.

Thank you for choosing CipherLab products!

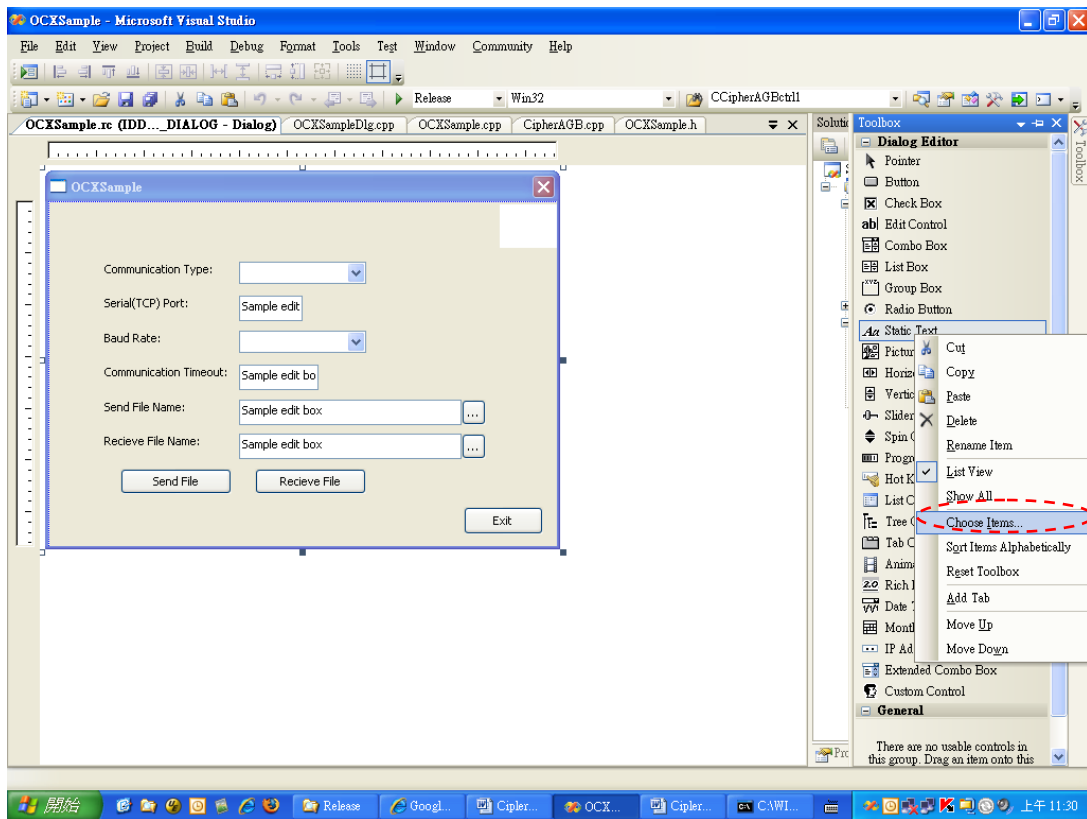
REGISTER OCX

For correctly programming with CipherLab 8 series AG OCX component, please register OCX component first. Run "Regsvr32 [path\CipherAGB.ocx]" in command line to register OCX. [path\] indicate the path of CipherAGB.ocx file.

Chapter 2

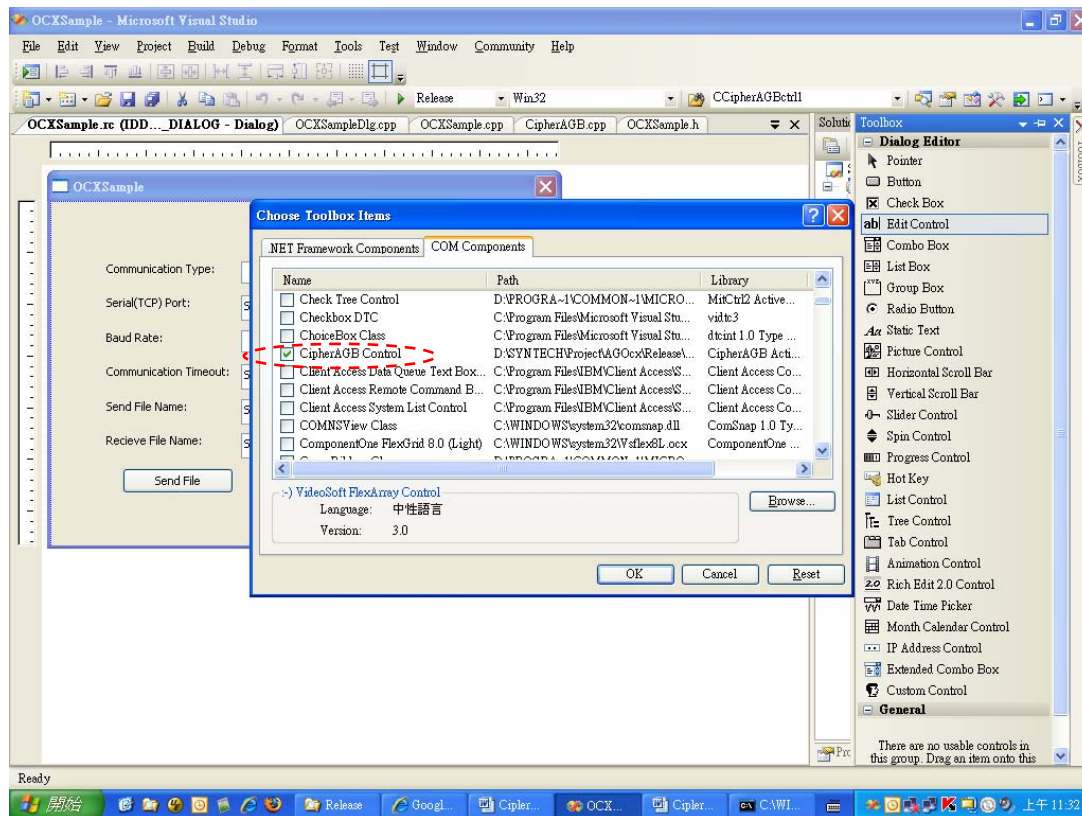
INCLUDE OCX INTO VS 2005 PROJECT

Right click on Toolbox panel and Toolbox menu will appear as picture 1. Click “Choose Item” menu item and “Choose Toolbox Items” appeared as picture 2.

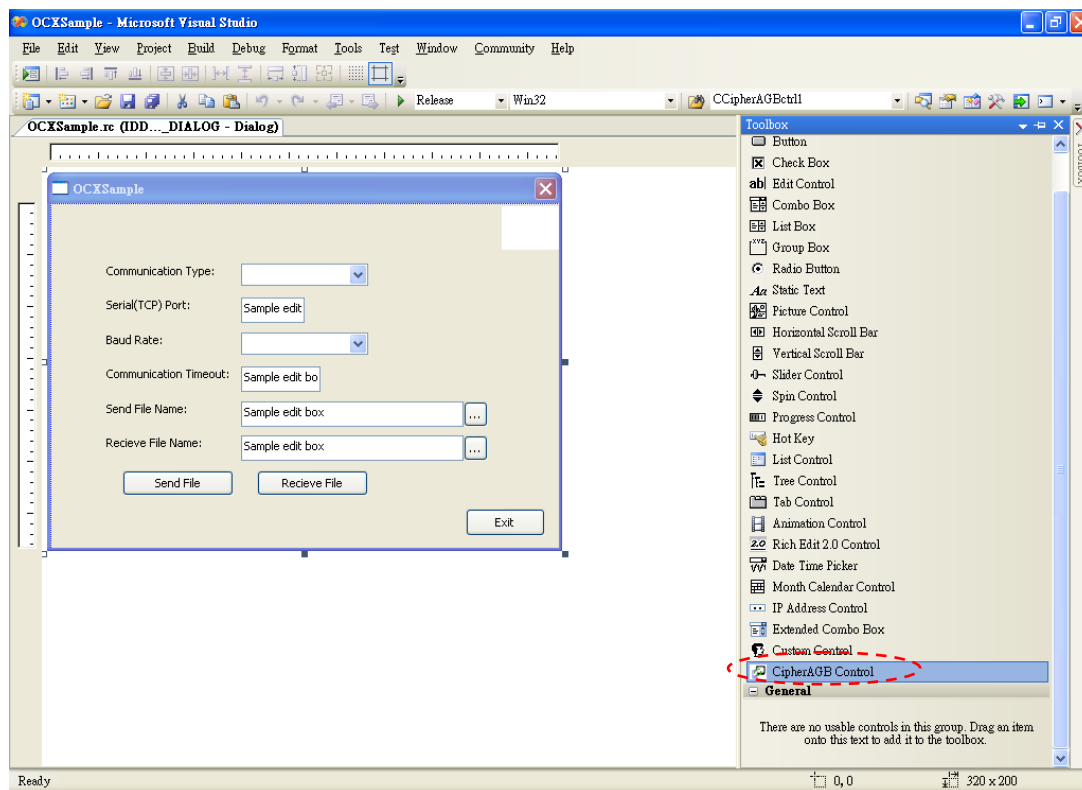


Picture 1

Select COM Components tab and check CipherAGB Control, then click “OK” button and CipherAGB OCX will be included into project as picture 3.



Picture 2



Picture 3

PROPERTIES

The programmer must finish setting the communication properties Port, BaudRate and Timeout settings in advance, so as to operate the method functions in the Chapter 4 correctly.

1. Port: the port number for Serial or TCP communication
2. BaudRate: the transmission rate for serial communication
3. Timeout: the connection waiting time-out

The VB/C# programmer can assign the appropriate value to the object property directly, so as to finish the property settings. The C++ programmer can set the relative properties by the property functions illustrated below. The valid property value range is described in the property functions.

SetPort

Purpose	Set the port number for Serial or TCP communication.
Syntax	Void SetPort(long nPortNo);
Parameter	nPortNo Serial or TCP communication port, valid value from 1 to 65,535, 1 is default.
Return value	None
See also	GetPort

GetPort

Purpose	Get current serial or TCP/IP communication port number.
Syntax	long GetPort();
Parameter	None
Return value	Return serial or TCP/IP communication port number.
See also	SetPort

SetBaudRate

Purpose	To set transmission rate for serial communication
Syntax	void SetBaudRate(long nBaudRate);
Parameter	nBaudRate transmission baud rate, supported baud rates are 115200, 57600, 38400, 19200, 9600, 115200 is default
Return value	None
Remark	This property is available only for serial communication, including RS232, Cradle-IR and Modem.

See also GetBaudRate

GetBaudRate

Purpose To get serial transmission baud rate setting

Syntax long GetBaudRate();

Return value Return transmission baud rate setting

See also SetBaudRate

SetTimeout

Purpose To set connection waiting time-out

Syntax void SetTimeout(long nTimeout);

Parameter nTimeout

connection timeout, valid value from 1 to 65,535 second, 15 second is default

Return value None

See also GetTimeout

GetTimeout

Purpose To get connection timeout setting

Syntax long GetTimeout();

Return value Return connection timeout setting, valid range from 1 to 65,535.

See also SetTimeout

METHODS

InitConnection

Purpose	Initialize a connection according to link type.		
Syntax	long InitConnection(long nLinkType);		
Parameter	nLinkType link type, 0:RS232, 1:Cradle-IR, 2:Modem, 3:Ethernet		
Return Value	>0 indicates successfully initialize a connection, otherwise, indicate error occurs on initialization period and the below error code will be returned.		
	Properties Error	-1201	(Invalid communication port assigned)
		-1202	(Invalid Timeout value assigned)
	RS232/Cradle/Modem Error	-1004	(Communication port does not exist)
		-1005	(Communication interface access denied)
		-1006	(Open Comm error)
	Modem Error	-1000	(Initialize Communication error)
	Ethernet Error	-1000	(Initialize Communication error)
See Also	CloseConnection		

CloseConnection

Purpose	Close opened connection
Syntax	void CloseConnection();
Parameter	None
Return Value	None
See Also	InitConnection

ReadFile

Purpose	To receive data from terminal		
Syntax	long ReadFile(LPCTSTR sTargetFile);		
Parameter	sTargetFile target file path.		
Return Value	>=0 indicates successfully receive terminal records and record count returned, otherwise, indicate error occurs during receiving terminal data and the below error code will be returned.		
	Properties Error	-1200	(Link type error)

RS232/Cradle/Modem Error	-1003	(Communication Timeout)
	-1008	(Cradle-IR Device error)
	-1100	(Open file error)
	-1101	(Communication error)
Ethernet Error	-1001	(Socket error)
	-1002	(Program error)
	-1003	(Communication Timeout)
	-1100	(Open file error)

See Also DownloadFile

DownloadFile

Purpose	To download lookup file from PC to terminal, only RS232, Cradle-IR and Modem supported.	
Syntax	long DownloadFile(LPCTSTR sSourceFile);	
Parameter	sSourceFile	source file path.
Return Value	>0 indicates successfully download file to terminal, otherwise, indicates error occurs during downloading file and the below error code will be returned.	
	Properties Error	-1200 (Link type error)
	RS232/Cradle/Modem Error	-1003 (Communication Timeout)
		-1008 (Cradle-IR Device error)
		-1100 (Open file error)
		-1101 (Communication error)
See Also	ReadFile	

ERROR CODE DESCRIPTION

Error Code	Description
-1000	Initialize modem or TCPIP error.
-1001	Create socket error.
-1002	Create thread error.
-1003	Wait response timeout
-1004	Specified com port does not exist.
-1005	Com port resource is pending and can't be opened.
-1006	Open com port error except error -1004 and -1005
-1007	Com port is not opened before transmitting data.
-1008	Fail to initialize Cradle-IR device
-1100	Fail to open target or source file
-1101	Transmit data error.
-1200	Specified link type is not supported, for example, the DownloadFile() function does not support file download via Ethernet or invalid value assigned.
-1201	Invalid port number assigned, for example, 0 or minus value.
-1202	Invalid timeout value assigned, for example, 0 or minus value.

Appendix II

VC++ SAMPLE CODE FOR READ/DOWNLOAD FILE VIA RS232, COM1 AND 115200

```
CCipherAGBctrl1 CIPHERAGB;                                // To create CipherAGB object

BOOL AGBOcxTransmission()
{
    CIPHERAGB.SetPort(1);                                  // Transmit data via COM1
    CIPHERAGB.SetBaudRate(115200);                         // Transmission rate, 115200 bps
    CIPHERAGB.SetTimeout(15);                              // Connection timeout, 15 seconds

    if (CIPHERAGB.InitConnection(0) < 0)                  // initialize RS-232 connection
    {
        MessageBox ("Initializing connection error!", "Error", MB_OK | MB_ICONEXCLAMATION);
        CIPHERAGB.CloseConnection();
        return FALSE;
    }

    // To receive data from terminal and save to file lookup.txt
    int rdcount = CIPHERAGB.ReadFile("C:\\lookup.txt");
    if (rdcount >= 0)
    {
        TCHAR msg[100];
        ZeroMemory(msg, sizeof(msg));
        wsprintf(msg, "Total %d records received!", rdcount);
        MessageBox (msg, "Complete", MB_OK | MB_ICONINFORMATION);
    }
    else
    {
        MessageBox ("Failed to receive data from terminal!", "Error", MB_OK | MB_ICONEXCLAMATION);
        CIPHERAGB.CloseConnection();
        return FALSE;
    }

    // To download file lookup.txt to terminal
    // if (CIPHERAGB.DownloadFile("C:\\lookup.txt") > 0)
    //     MessageBox ("Send file complete", "Complete", MB_OK | MB_ICONINFORMATION);
    // else
    // {
    //     MessageBox ("Failed to send file to terminal!", "Error", MB_OK | MB_ICONEXCLAMATION);
    //     CIPHERAGB.CloseConnection();
    //     return FALSE;
    // }
    CIPHERAGB.CloseConnection();

    return TRUE; // return TRUE
}
```
