

# SCR11 User Manual

## 1. Reader Opening:

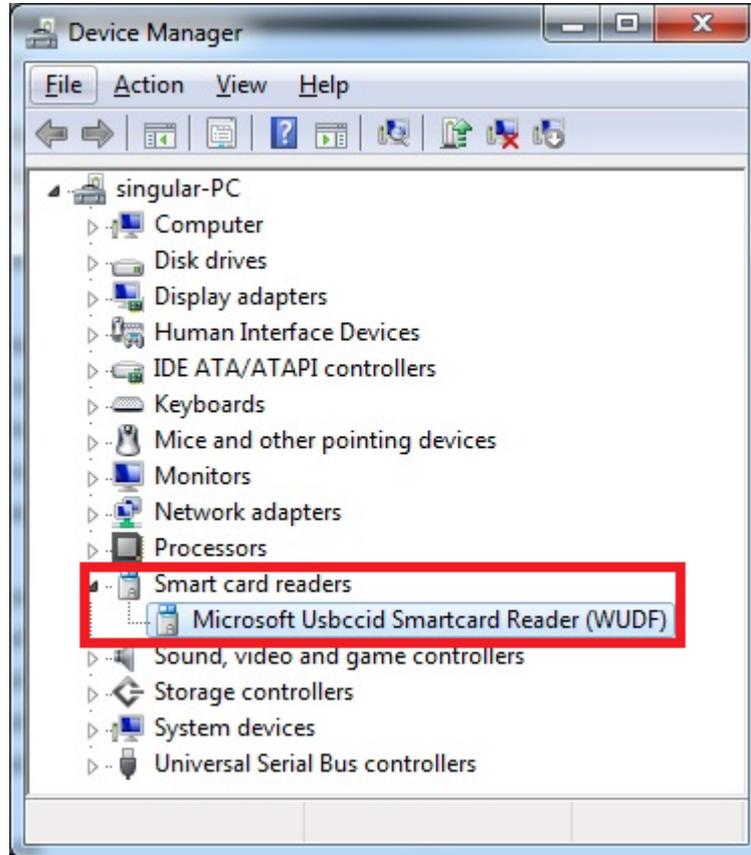
Pull from its two sides to open it.



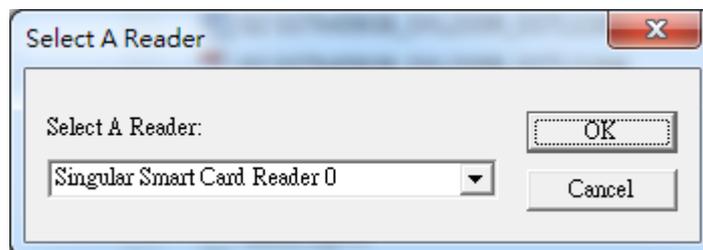
Plug it to a computer to install driver and insert a smart card when need.



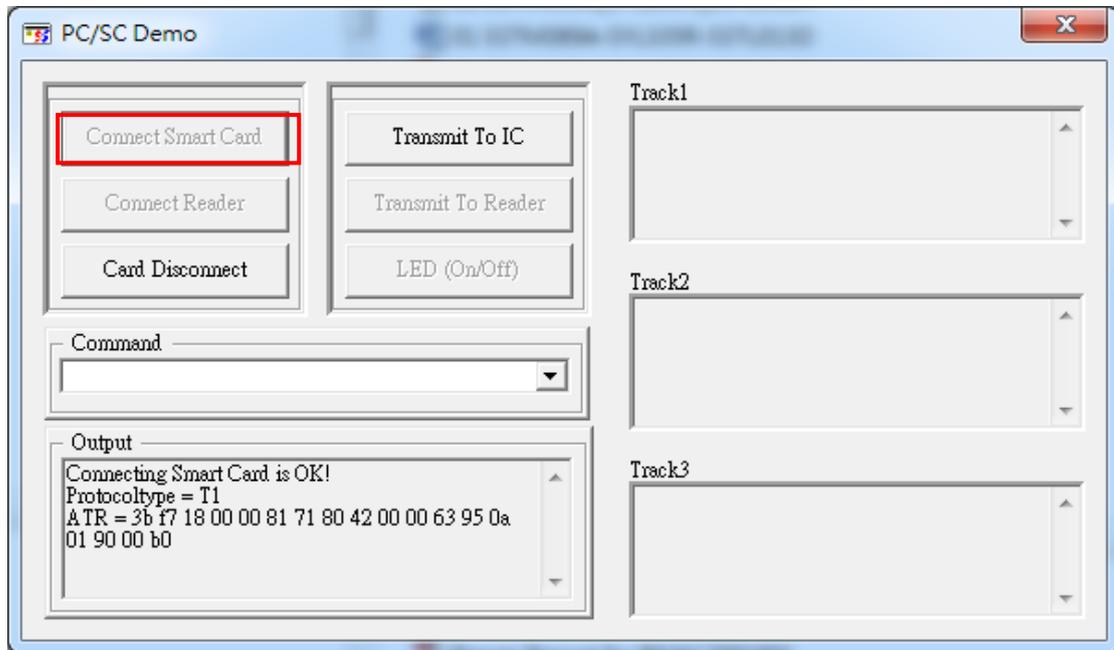
2. Driver Installation: Plug the reader to a Windows computer and the system's hardware wizard will search a build-in "Microsoft USBCCID Smartcard Reader (WUDF)" driver to install automatically. If it fails, please install the device driver usbccid.inf and usbccid.sys we provide in product CD-ROM.



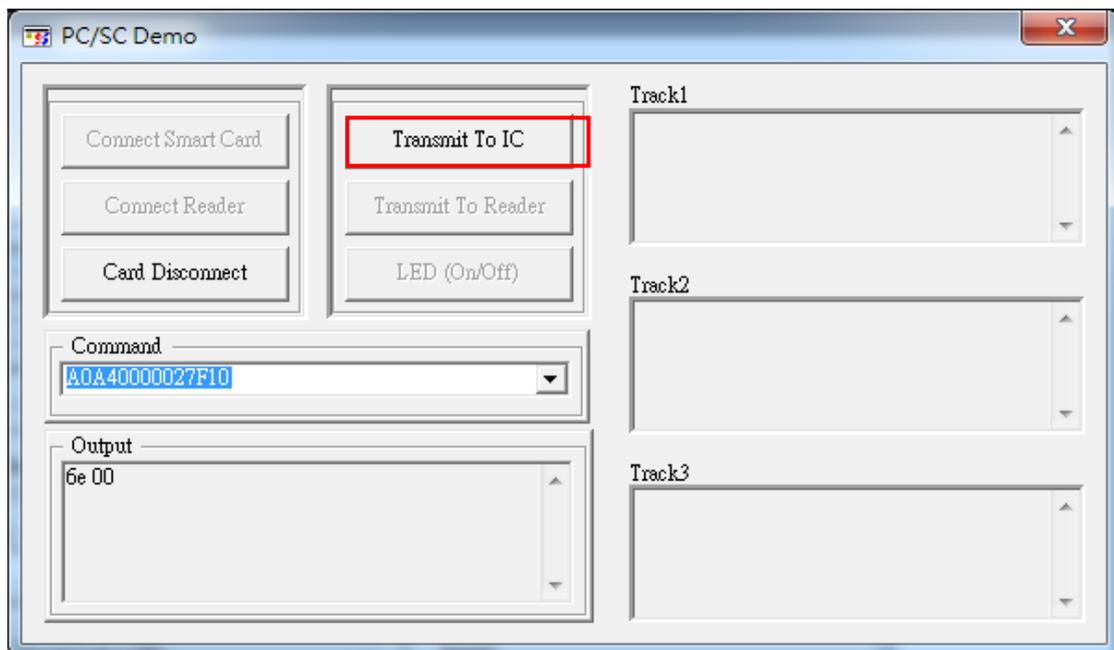
3. Test Program: Execute "PCSCDemo.exe". It will pop up a "Select A Reader" dialog box to show all the smart card readers installed on your system. Please select "Singular Smart Card Reader 0" (or 1, 2.. if you install more than 2 readers).



4. Smart Card Communication: Insert a smart card and then press button [Connect Smart Card] to power on the card. If it is successful, it will show Protocol Type and ATR value as the following picture.



5. Smart Card Communication: After [Connect Smart Card] successfully, you can send APDU command to the card. E.g. to send a GSM SIM Card's Select MF "A0A40000027F10". Input an APDU command in Command control first and then press button [Transmit to IC]. The smart card connected will response in Output control.



- Web ATM and PC/SC compliant reader: Many banks have Web ATM service now. It needs a smart card reader with PC/SC compliance like SCR11. Browser IE, Chrome, Firefox, Opera, Safari with proper plug-in components can support this feature on Windows, Mac and Linux system. The following is an example on IE9.



- For application programmers, we provide demo program's VC++ source code as a reference. You can find it under path \Singular Product CD-ROM:\01 English\02 Card Readers\03 IC RF Card Reader\SCR11 USB Mini Smart Card reader\Driver & Test Program\PCSC Demo Program\PCSCSample\_VC++ Source. For PC/SC smart card API usage, you can check Microsoft MSDN website [http://msdn.microsoft.com/en-us/library/ms953430.aspx#smart\\_card\\_topic4](http://msdn.microsoft.com/en-us/library/ms953430.aspx#smart_card_topic4).

```

// Smart Card Functions
BOOL PCSC_SCARD_Connect(LPPCSC_SCHC pscnc)
{
    pscnc->ret = SCardConnect(pscnc->SC_Context, pscnc->mszReaderName(pscnc->duactReader), SCARD_SHARED_
    SCARD_PROTOCOL_T0 | SCARD_PROTOCOL_T1, &pscnc->SC_Handle, &pscnc->duactProtocol);
    if (pscnc->ret==SCARD_S_SUCCESS)
    {
        pscnc->ConnectionStatus = CONNECTION_SCARD;
        return TRUE;
    }
    else
        return FALSE;
}

BOOL PCSC_SCARD_Disconnect(LPPCSC_SCHC pscnc)
{
    pscnc->ret = SCardDisconnect(pscnc->SC_Handle, SCARD_UNPOWER_CARD);
    if (pscnc->ret==SCARD_S_SUCCESS)
    {
        pscnc->ConnectionStatus = CONNECTION_NO;
        return TRUE;
    }
    else
        return FALSE;
}

BOOL PCSC_SCARD_Transmit(LPPCSC_SCHC pscnc)
{
    pscnc->IO_Request.duProtocol = pscnc->duactProtocol;
    pscnc->IO_Request.cbPciLength = (DWORD) sizeof(SCARD_IO_REQUEST);
    pscnc->duRecvLen = 260; // IN OUT Parameter, you need to tell the buff size

    pscnc->ret = SCardTransmit(pscnc->SC_Handle, &pscnc->IO_Request, pscnc->brSendBuf,
        pscnc->duSendLen, 0, pscnc->brRecvBuf, &pscnc->duRecvLen);
    if (pscnc->ret==SCARD_S_SUCCESS)
        return TRUE;
    else
        return FALSE;
}

```