

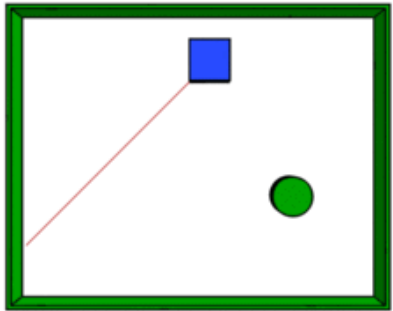
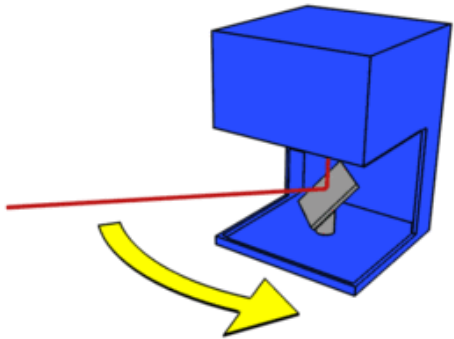
2D Laser scanner – LMS111
&
Socket Programing – TCP/IP

ISL
안재원

- Measuring distance with light
- LMS111
- Socket programing
- Result

Measuring distance with light

- Intro



+

+

+

+

+

+

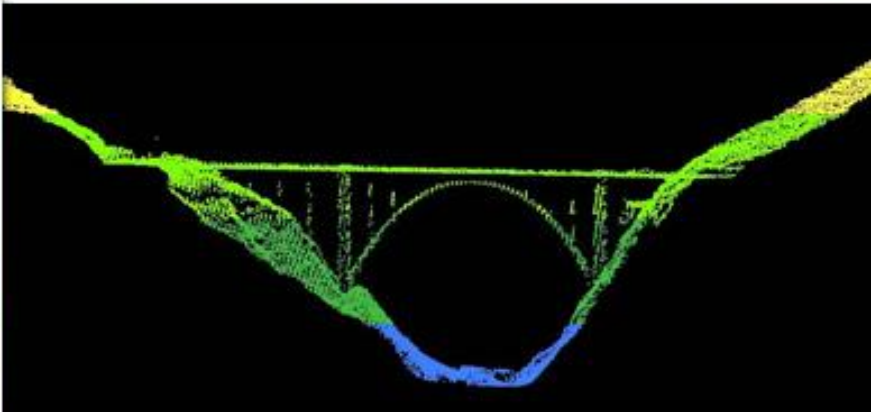
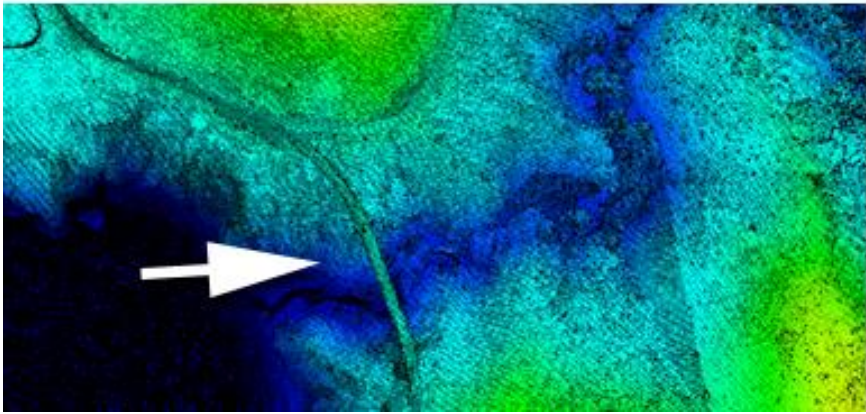
+

+

+

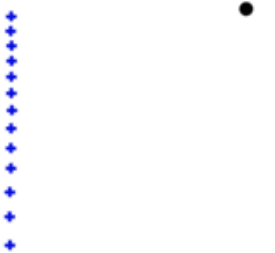
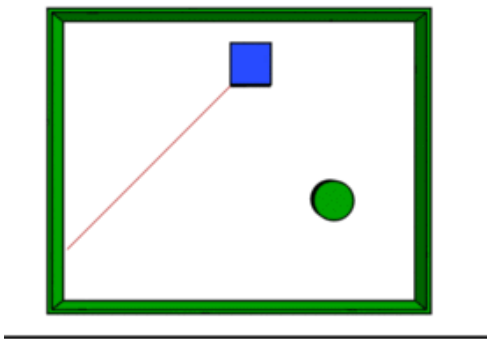
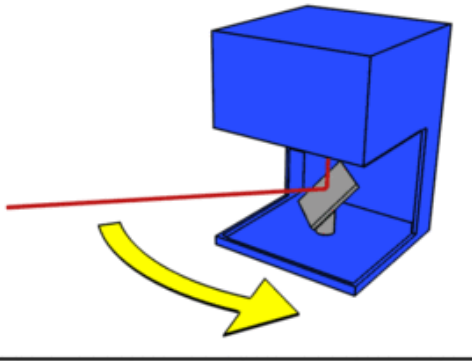
+

+



Measuring distance with light

-LRF, LIDAR, LiDAR, LADAR



2D LRF

- Single-Line scan



3D LRF

- Multiple line scan



- LRF(Laser Range Finder) ————— 거리정보

- LIDAR, LiDAR(Light Detection And Ranging)

- LADAR(Laser Detection And Ranging)

} 위치정보(x, y, z)

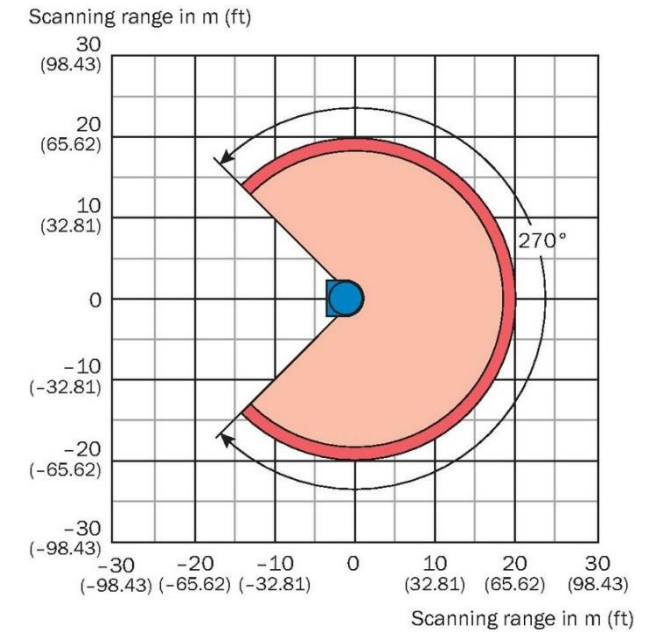
02

LMS111

- intro



- Light source : Infrared
- Aperture angle : 270degree
- Operating range : 0.5m~20m
- Serial(RS-232) Ethernet(TCP/IP)



LMS111

- Setting device

https://www.sick.com

The website uses own cookies and third-party cookies to send advertising messages in line with the user's online navigation preferences. If you want to know more or refuse consent to all or some cookies, [click here](#). If you access any element below this banner you consent to the use of cookies.

Don't show this message again



PDF Online datasheet | Copy shortlink | Add to wish list

- Technical details
- Downloads
- Accessories
- Applications
- Videos

View: [grid icon] [list icon] Show all | Hide all

+ LITERATURE

- SOFTWARE



Type: SOPAS ET
Name: SOPAS Engineering Tool V2
 Version: 2.38.3
 Software category: Configuration software
 Size: 1.00 KB
 Product family GM32, OD Precision, CLV61x, CLV62x, ...

[Details](#)

[Add to wish list](#)

Download



Type: SOPAS ET
Name: SOPAS Engineering Tool V3
 Version: 3.2.0
 Software category: Configuration software
 Size: 1.00 KB
 Product family AFS/AFM60 SSI, AHS/AHM36 SSI, GM32, OD Precision, ...

[Details](#)

[Add to wish list](#)

Download

+ EU DECLARATION OF CONFORMITY

+ CAD DESIGN MODELS

Show all | Hide all

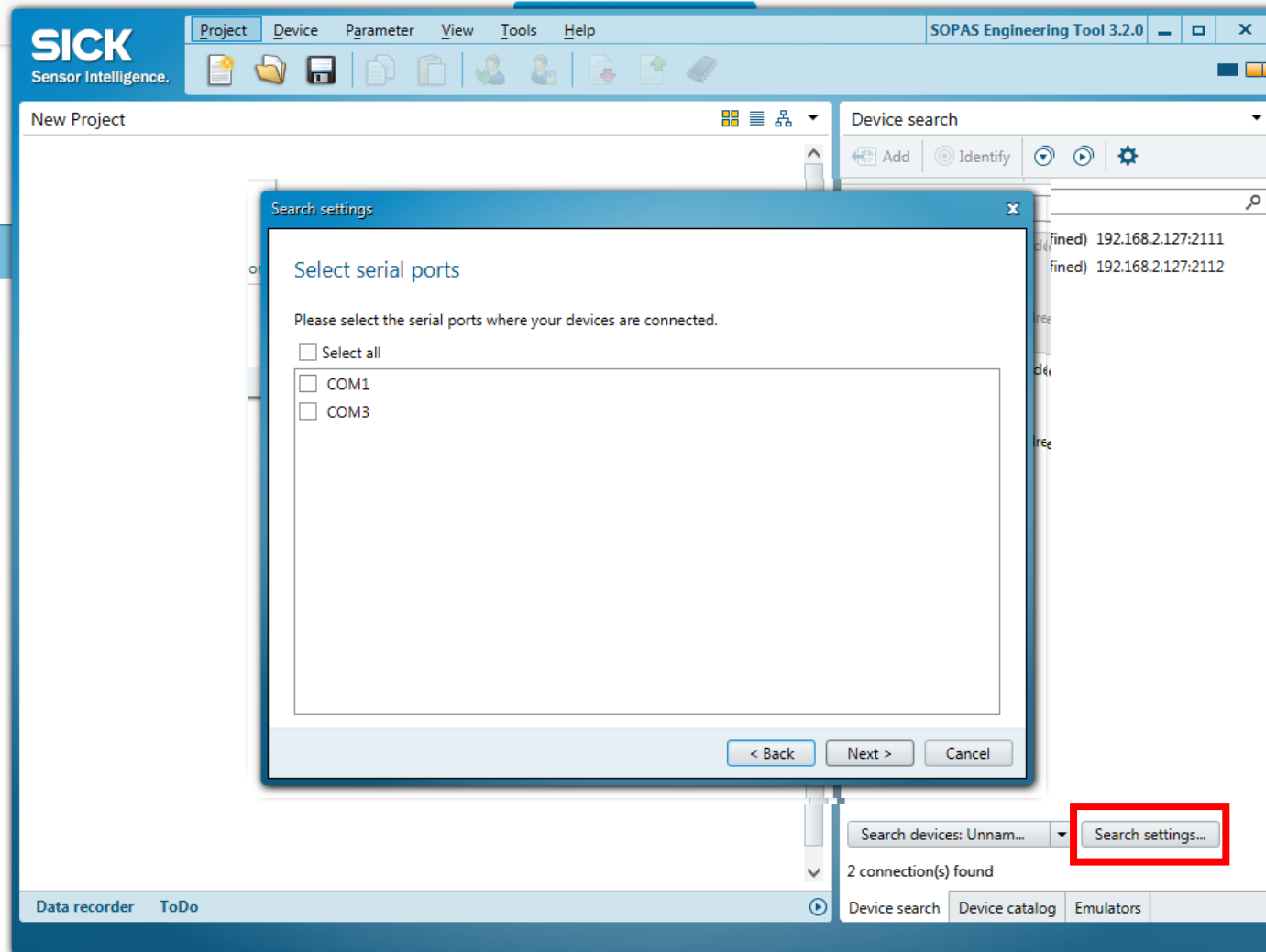
AMOUNT OF EVALUATED ECNOPS

CONTACT

FEEDBACK

LMS111

- Setting device



02

LMS111

- Setting device

The screenshot displays the SICK LMS111 Field Evaluation Monitor software interface. The window title is "SICK Sensor Intelligence. Device LMS11x_FieldEval (not defined) Parameter View Help".

Left Sidebar (Tree View):

- LMS11x_FieldEval (not defined)
 - Parameter
 - Basic settings
 - Filter
 - Contamination measurement
 - Increment configuration
 - Field
 - Evaluation Case
 - Data processing
 - Network / Interface / IOs
 - Serial
 - Ethernet
 - CAN
 - Digital inputs
 - Digital outputs
 - External digital outputs
 - Display settings
 - Monitor
 - Field Evaluation Monitor (selected)
 - Field Evaluation Logging
 - Service

Monitor Window:

Output: [Dropdown] [Icons] [0.0°]

Coordinate:

- X: 0,767 m
- Y: -0,506 m
- d: 0,918 m
- β: -33,417 °

Evaluation Output:

Name: [Dropdown]

Linked with Evaluation Cases:

No	Name
----	------

IOs Section:

Outputs:

Device	1	2	3
1	1	1	1

Inputs:

Device	1	2
1	●	●

Bottom Status Bar:

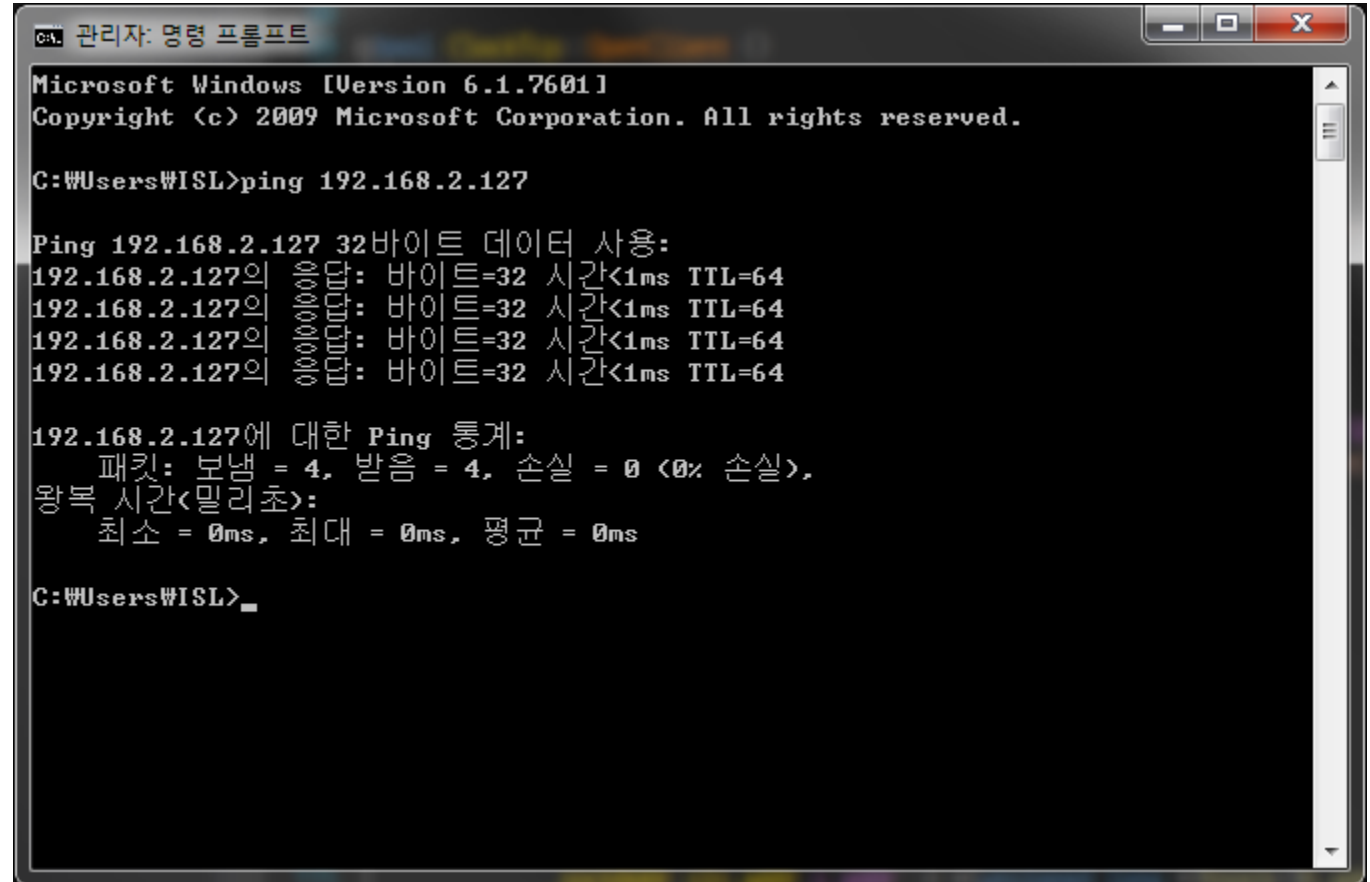
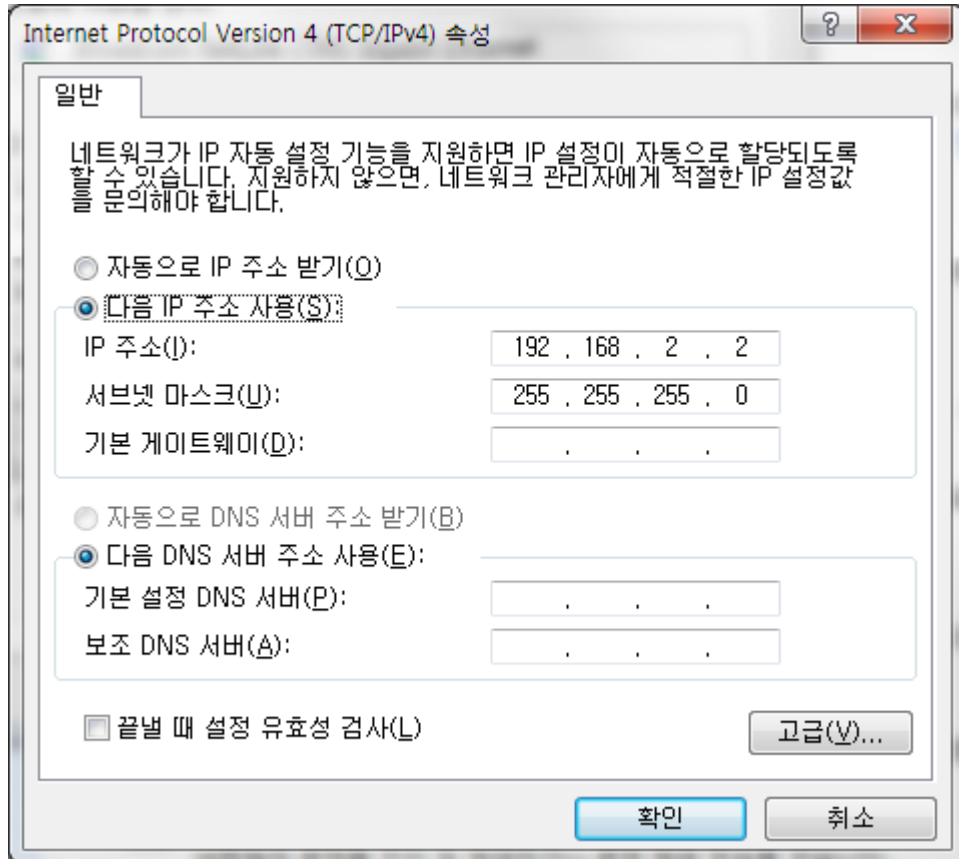
Field Evaluation Monitor ✕ | Field Evaluation Logging ✕ | Basic settings ✕ | Filter ✕ | Contamination measurement ✕ | Increment configuration ✕

Field ✕ | Evaluation Case ✕ | Data processing ✕ | Network / Interface / IOs ✕ | Ethernet ✕ | Digital inputs ✕ | Digital outputs ✕ | External digital outputs ✕ | Display settings ✕

Operator | LMS11x_FieldEval (not defined) S/N: 12370035 | 192.168.2.127-2111 | online | synchronized | Write immediately

LMS111

- Setting device



Socket programming

03

- TCP/IP



Socket programming

03

- TCP/IP



<Client>

XXX.XXX.XXX.XXX



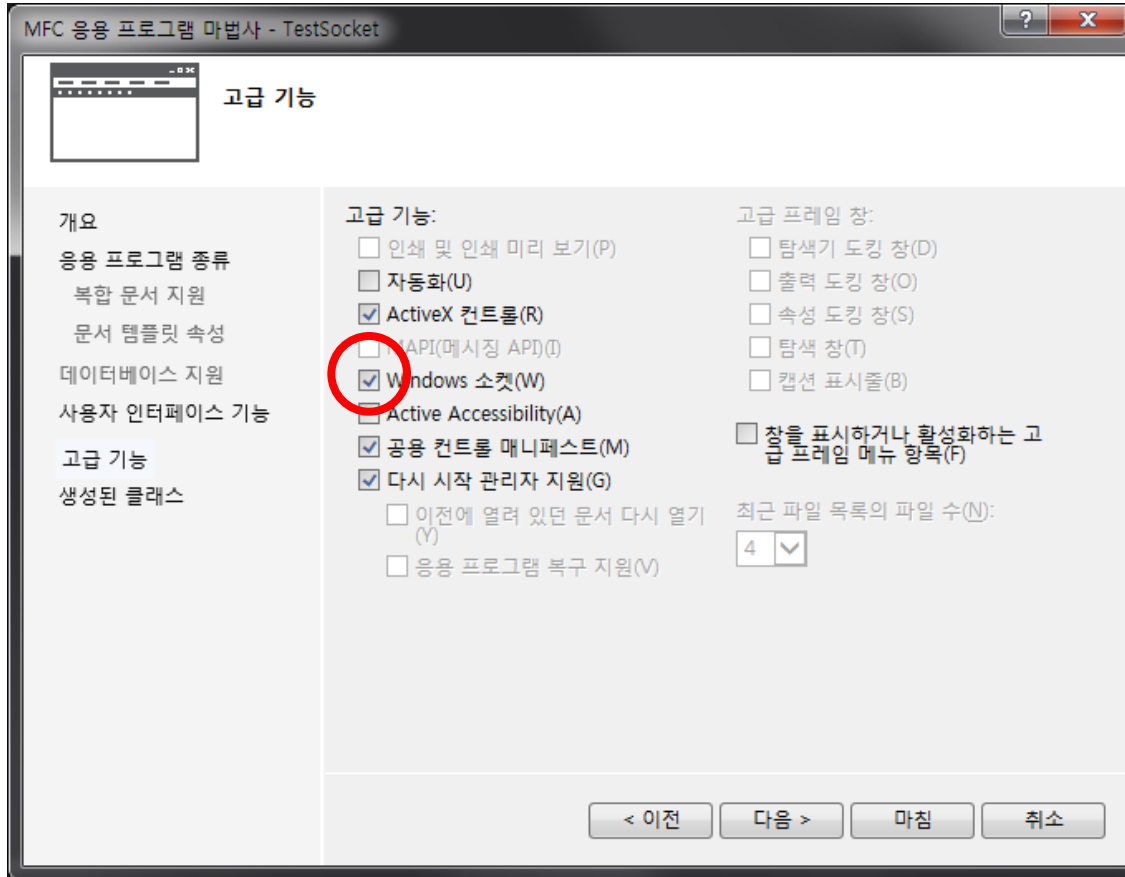
<Host>

XXX.XXX.XXX.XXX

Socket programming

03

- MFC Socket class



- stdafx.h

```
#include <afxsock.h> // MFC 소켓 확장
```

- [프로젝트명].cpp

```
BOOL CTestSocketApp::InitInstance()
{
    // 응용 프로그램 매니페스트가 ComCtl32.dll 버전
    // 사용하도록 지정하는 경우, Windows XP 상에서
    // InitCommonControlEx()를 사용하지 않으면 창을
    INITCOMMONCONTROLSEX InitCtrls;
    InitCtrls.dwSize = sizeof(InitCtrls);
    // 응용 프로그램에서 사용할 모든 공용 컨트롤 클
    // 이 항목을 설정하십시오.
    InitCtrls.dwICC = ICC_WIN95_CLASSES;
    InitCommonControlEx(&InitCtrls);

    CWinApp::InitInstance();

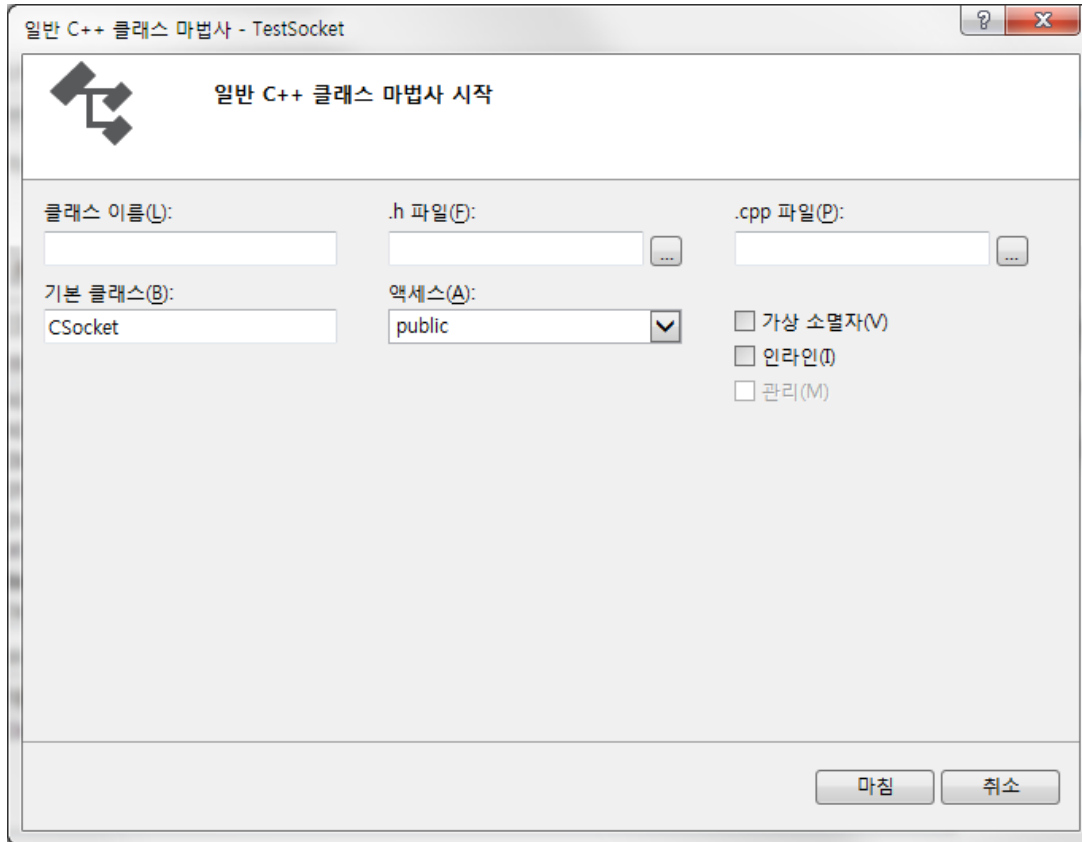
    if (!AfxSocketInit())
    {
        AfxMessageBox(IDP_SOCKETS_INIT_FAILED);
        return FALSE;
    }
}
```

Socket programming

03

- Code

- CSocket을 상속받아 클래스 생성.



```
#pragma once
#include "afxsock.h"

class CConnectSocket :
public CSocket
{
public:
    CConnectSocket();
    ~CConnectSocket();
    virtual void OnClose(int nErrorCode);
};
```

```
void CConnectSocket::OnClose(int nErrorCode)
{
    // TODO: 여기에 특수화된 코드를 추가 및/또는 기본
    ShutDown();
    Close();
    CSocket::OnClose(nErrorCode);
}
```

Socket programing

03

- Code

- [프로젝트 명]dlg.h

```
#pragma once
#include "ConnectSocket.h"
```

```
public:
    CConnectSocket m_Socket;
```

- [프로젝트 명]dlg.cpp

```
void CTestSocketDlg::OnBnClickedBtnon()
{
    // TODO: 여기에 컨트롤 알림 처리기 코드를 추가합니다.
    unsigned char str[] = ("\02sRN LMDscandata\03");
    m_Socket.Send(str, sizeof(str));

    unsigned char str2[200];
    m_Socket.Receive(str2, sizeof(str2));
    printf("%s\t", str2);
}
```

Command Type + Command + Parameter

Login 후에 입력 가능.

Result

- Intro

- LMDscandata 결과

```

F:\(code_2013)\TestSocket\Debug\TestSocket.exe
////////////////////////////////Socket test////////////////////////////////
Connect Server
7sRA LMDscandata 1 1 BCC073 0 0 C9D4 C9D7 3F7EA7D6 3F7F00F6 0 0 7 0 0 1388 168 0
2 DIST1 3F800000 00000000 0 1388 B5 518 506 509 50B 518 518 515 50D 50C 517 51B
51A 51F 51B 526 528 527 52D 52A 3 3 3 3 微微微微7sRN LMDscandata L 3 3 3 3
3 3 19E2 1968 18A4 17D9 1716 1666 15CA 151E 1492 1414 1393 1312 1298 122E 11BE
1153 10FE 109C 1046 FF3 F9D F44 F06 EBB E78 E30 DF9 DBE D7F D4F D17 CED CAE C84
C50 C12 BF4 BD9 BA1 B82 B60 B2D B10 AE6 ABA AAC A89 A6F A4D A38 A13 9F5 9DE 9D2
9AD 987 974 966 941 939 92F 90F 8F5 8E6 8D1 8C5 8BC 899 88E 886 869 862 853 847
831 821 813 807 7F8 7E4 7EB 7D4 7BF 7B9 7B5 7B0 79D 78C 78D 782 780 762 766 74E
749 73B 73E 728 72B 72D 71C 712 716 70A 702 6F2 6ED 6E4 6E9 6E1 6CF 6D8 6C8 6CC
6D6 6CE 6C1 6B6 6B5 6AB 6B2 6A1 6A9 6AA 6A3 69C 6A1 692 68C 68F 682 67E 681 67B
671 682 67E 679 66B 668 664 672 664 65F 664 65B 671 669 661 65E 66D 663 RSSI1 3F
800000 00000000 0 1388 B5 2A8 2C2 2CC 2B9 299 280 269 250 23A 21F 203 1EA 1D7 1C
5 1B5 1A3 199 18E 182 0 0 0 0 0 0 0 0 0 0 122 197 1B2 1B8 1BB 1C4 1C8 1CC 1D1 1D
3 1D9 1E0 1E5 1EA 1EA 1F4 1F6 1FB 1FF 206 203 20D 212 215 217 21F 222 222 227 22
B 22A 22D 22D 232 235 23C 242 240 244 244 245 24A 254 255 257 256 25C 25A 25
F 265 266 268 267 26B 26F 270 272 275 275 273 27C 27B 27D 27F 27F 282 281 281 28
5 287 285 286 287 28A 28A 28E 28E 28D 28F 28D 28F 294 294 290 290 294 293 296 29
5 298 297 299 29C 29C 29F 29E 2A1 29F 29D 29F 2A1 2A2 2A2 2A4 2A4 2A8 2A6 2A4 2A
6 2AA 2A9 2AB 2A7 2AA 2A9 2AB 2AC 2AA 2AB 2AA 2AD 2A9 2AC 2B0 2AE 2AD 2AF 2B0 2B
1 2AF 2B1 2B1 2B3 2B2 2AF 2B3 2B0 2B2 2B3 2B3 2B5 2B8 2B5 2B8 2B6 2B6 2B6 2B5 2B
8 2B6 2B7 0 0 0 0 0 0 L

```

Q & A
