인스트루먼트를 통신 제어하는 방법에 대하여 익힙니다.
VISA 함수의 사용법을 익힙니다.

CHAPTER 13. 인스트루먼트 통신

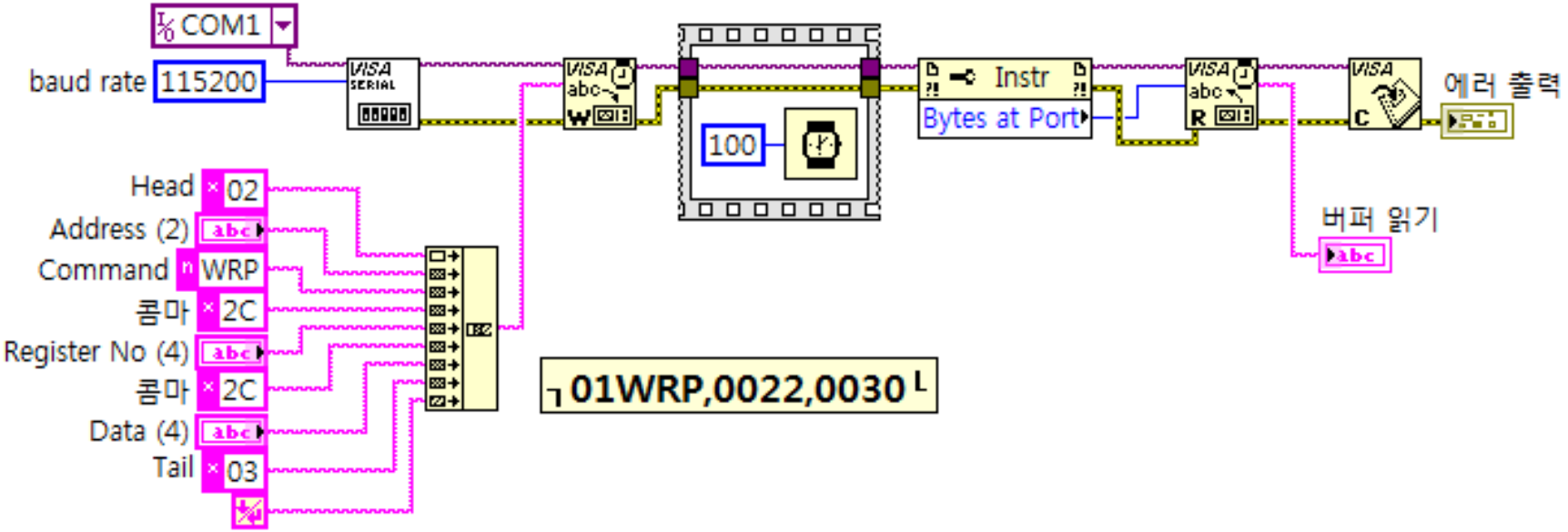
1. 시리얼 통신

RS-232 통신

RS-485 통신

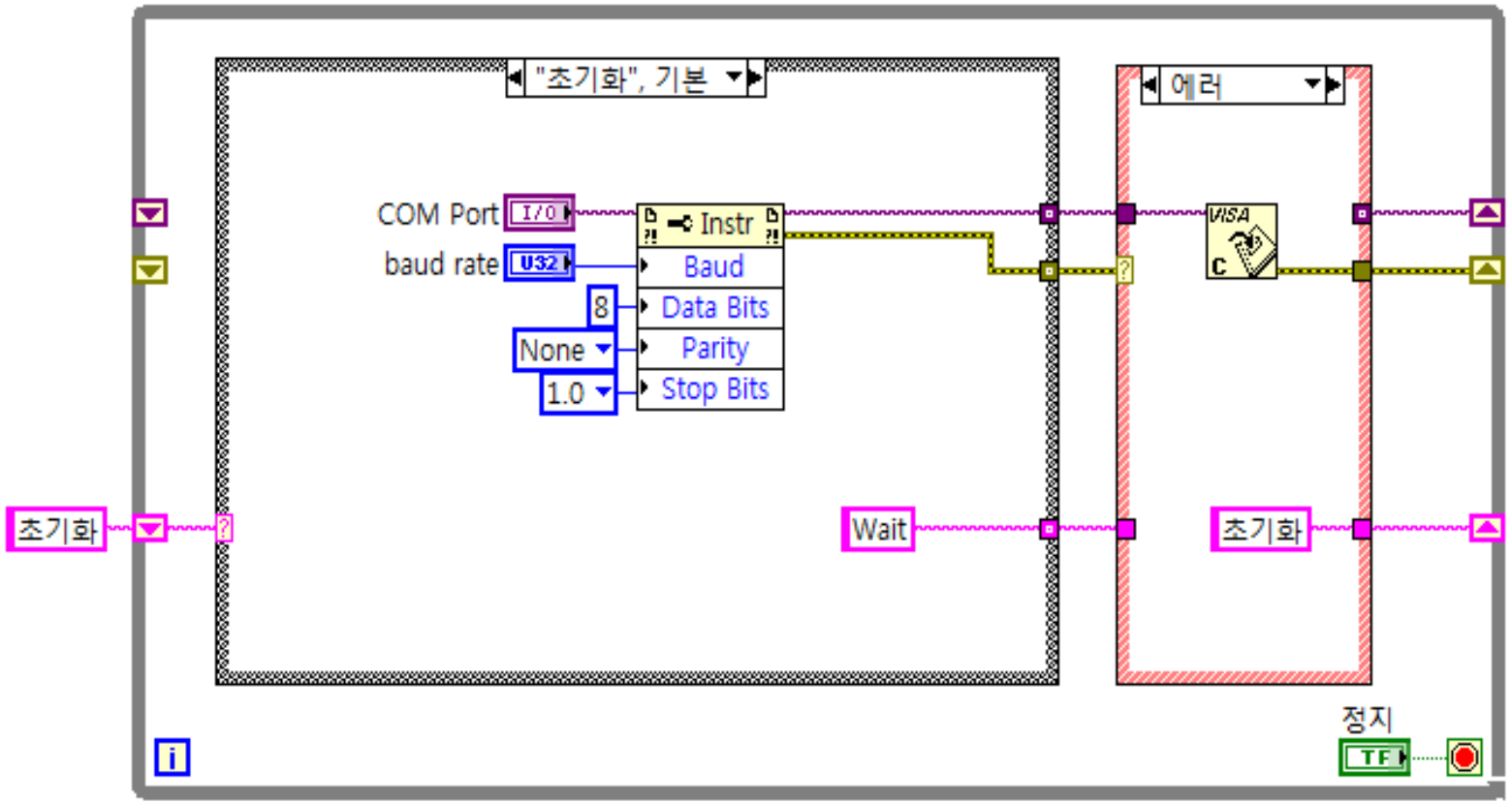
실습 13-1. 한영넉스 TH500

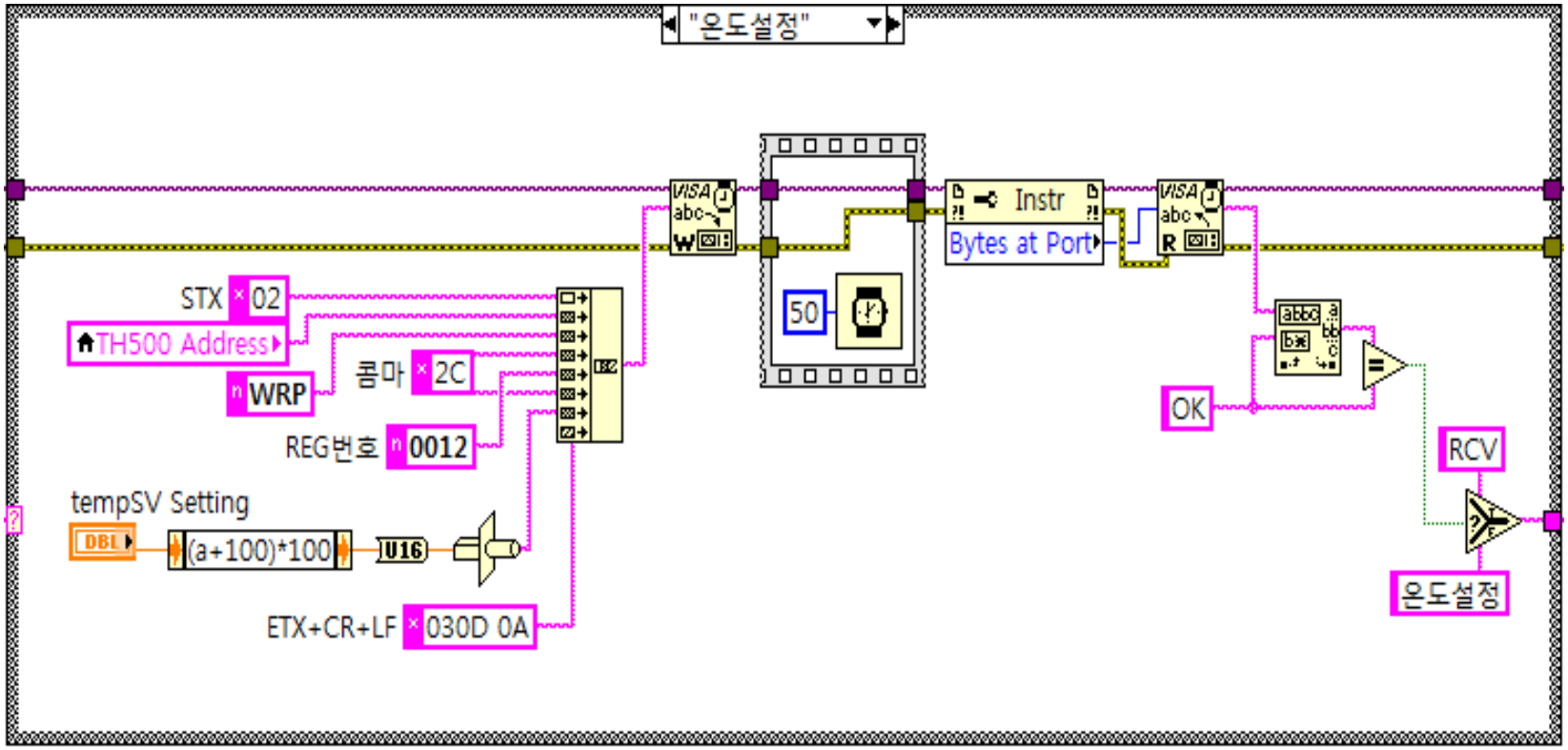
시작 문자 STX($_x$02) + Address(기기 주소) + 명령어 + 콤마(,)
+ Register 번호 + **콤마(,) + Data** + 끝 문자 ETX($_x$03) + 종료 문자(\r\n)



실습 13-2. 한영넉스 TH500

- 상태머신

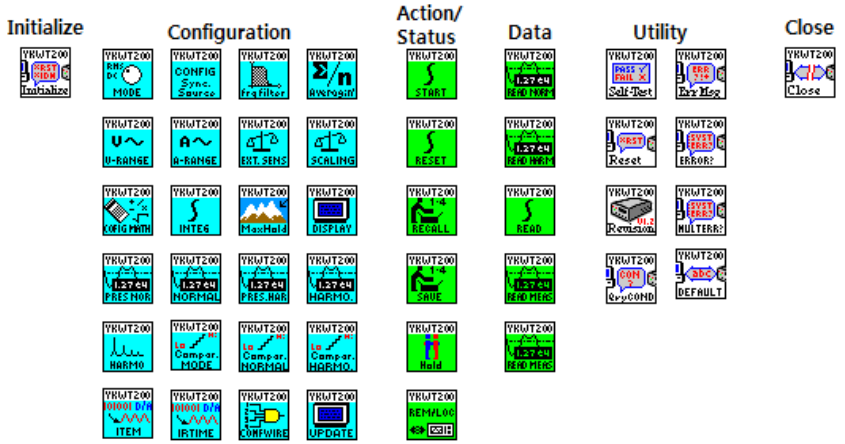


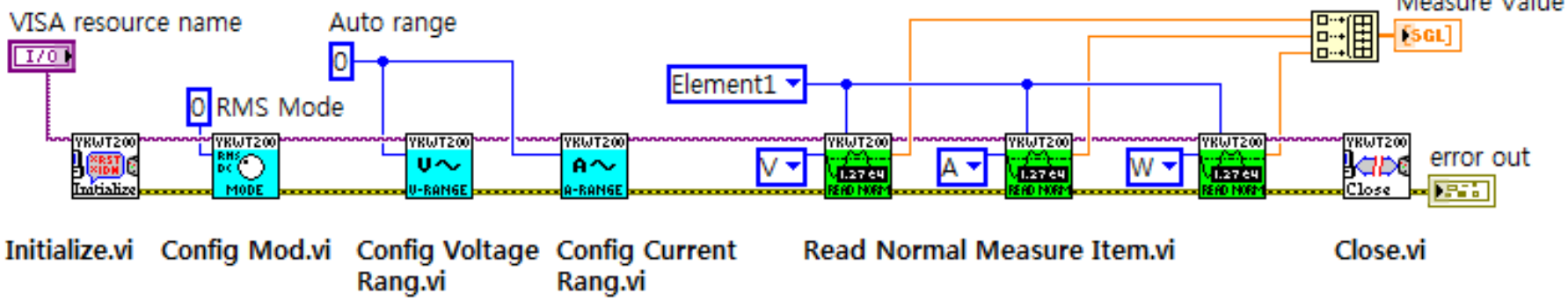

"온도설정"
VISA
abc
W
50
Instr
Bytes at Port
VISA
abc
R
STX
02
TH500 Address
콤마
2C
WRP
REG번호
0012
tempSV Setting
DBL
(a+100)*100
U16
ETX+CR+LF
030D 0A
OK
RCV
온도설정

2. GPIB 통신

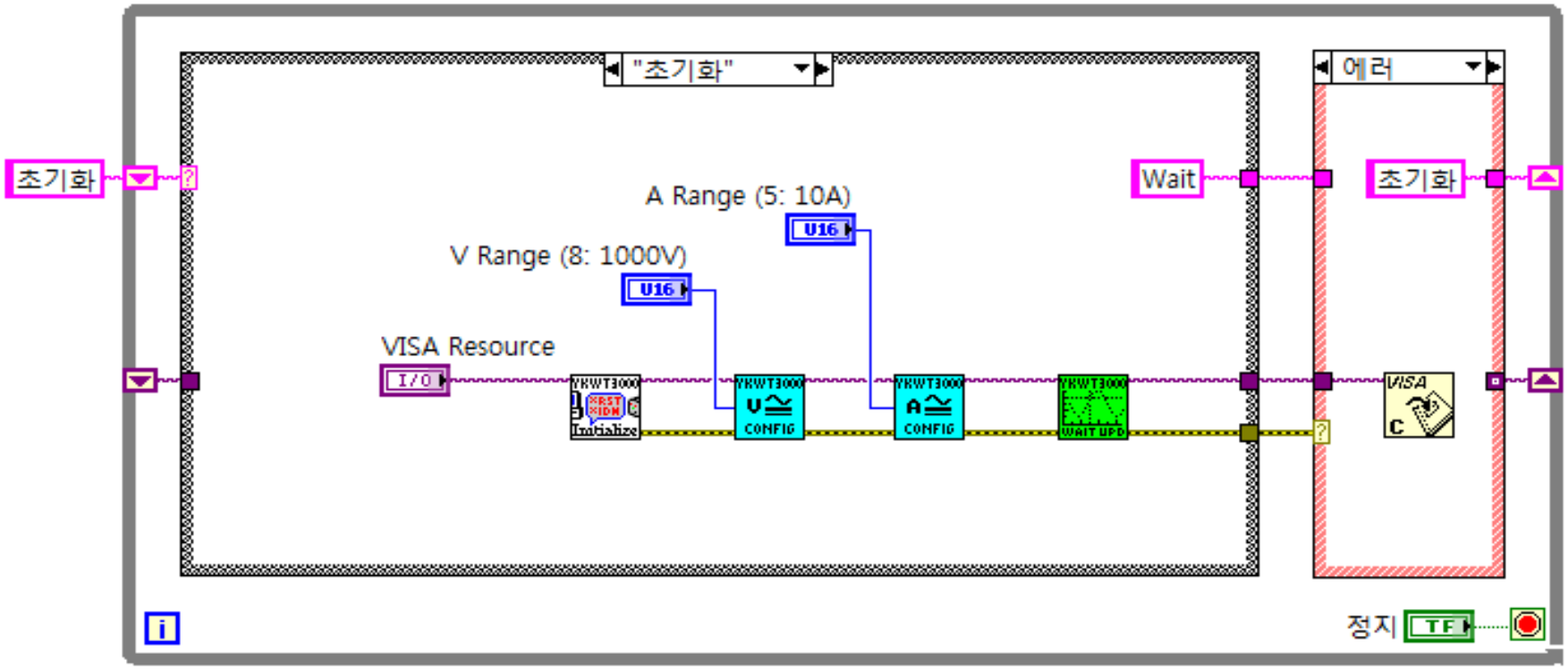
IEEE 488.2

실습 13-3. Yokogawa WT230





실습 13-4. (상태머신)Yokogawa WT230

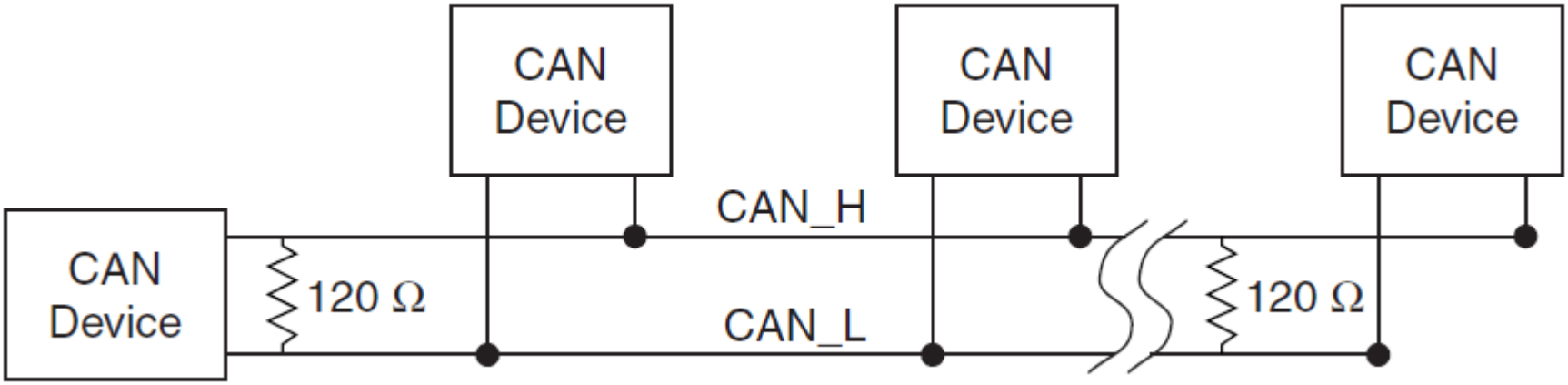


3. CAN 통신

ISO 11898

CAN 통신

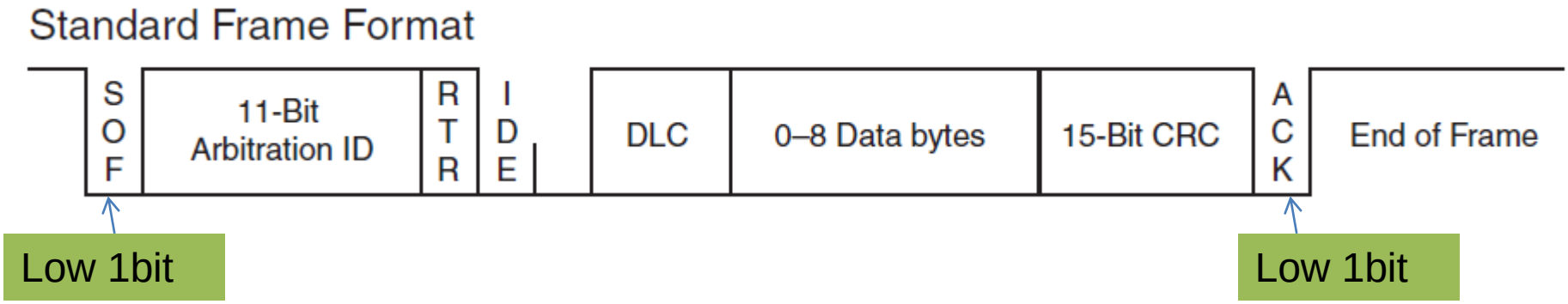
- Half duplex RS-485와 유사
- 120Ω 터미널
- Arbitration ID로 구분
  - 11bits : Standard Frame Format
  - 29bits : Extended Frame Format



Standard Frame Format

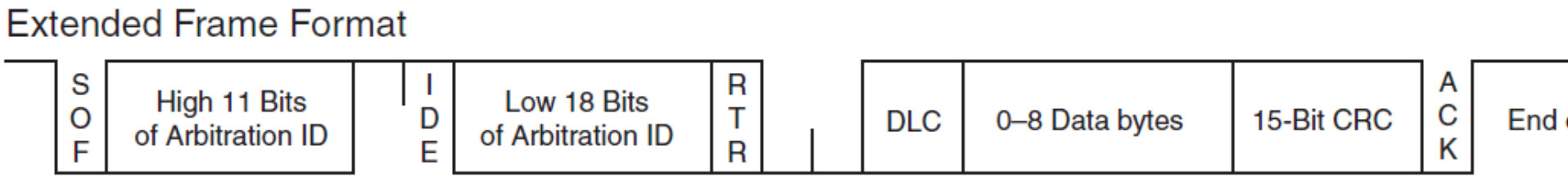
- SOF: Start of Frame
- RTR: Remote Transmit Request
- IDE: Identifier Extension

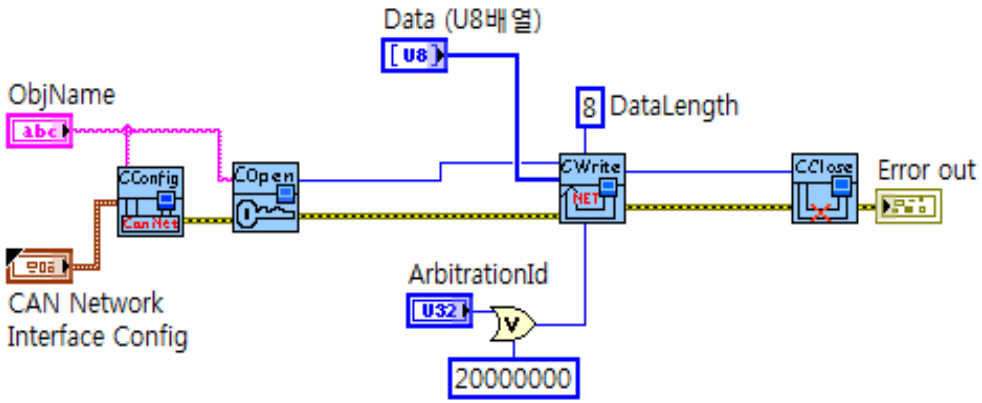
- DLC: Data Length Code

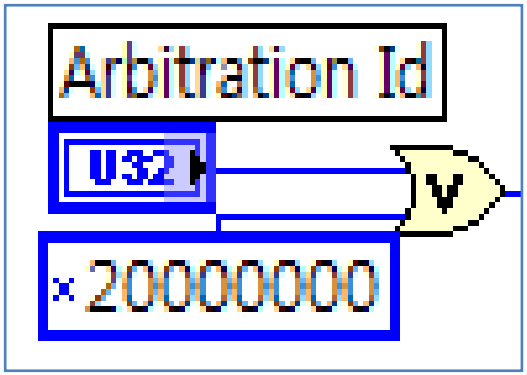


Extended Frame Format

- IDE(Identifier Extension) = High



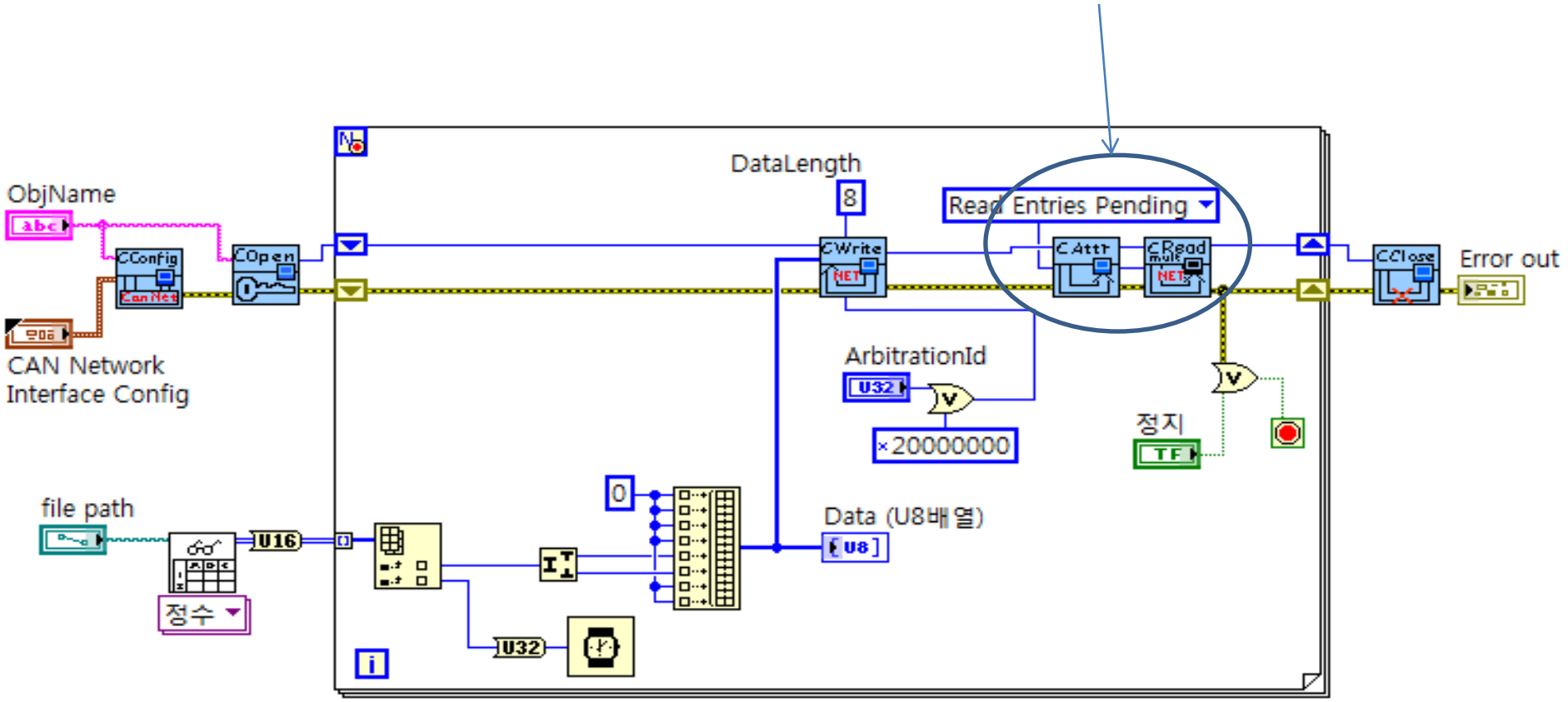




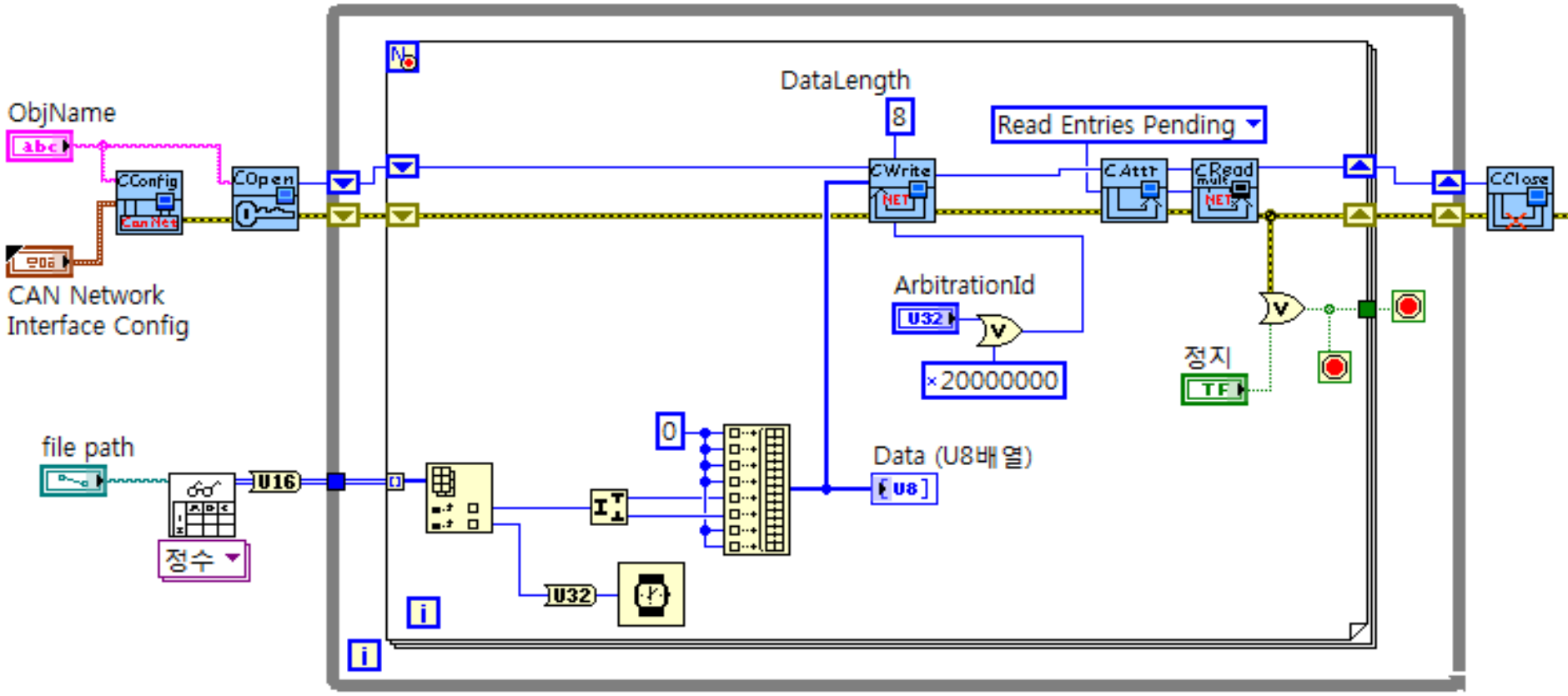
30bit에 1을 추가시켜줌.

CAN 네트워크 상에 정체된 메시지를 모두 읽어 들여서 버퍼를 비움

→NI CAN 함수의 Read Queue나 Write Queue가 넘치지 않도록 하는 조치임



연속 실행


ObjName
CConfig
COpen
CAN Network
Interface Config
DataLength
8
Read Entries Pending
CWrite
CAttr
CRead
CClose
ArbitrationId
U32
×20000000
정지
TF
file path
U16
정수
0
Data (U8배열)
U8
U32
i
i