

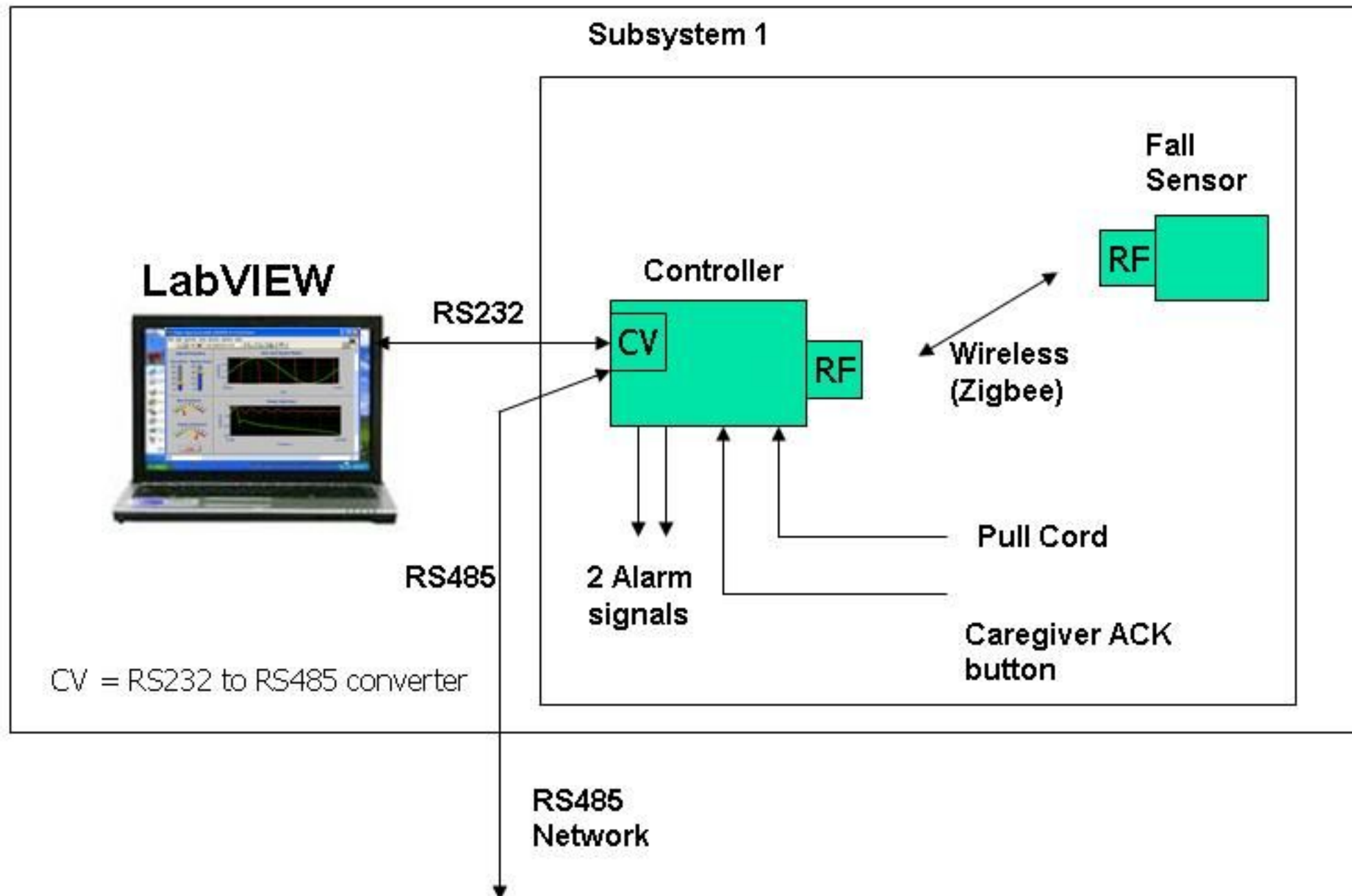
# AAS:

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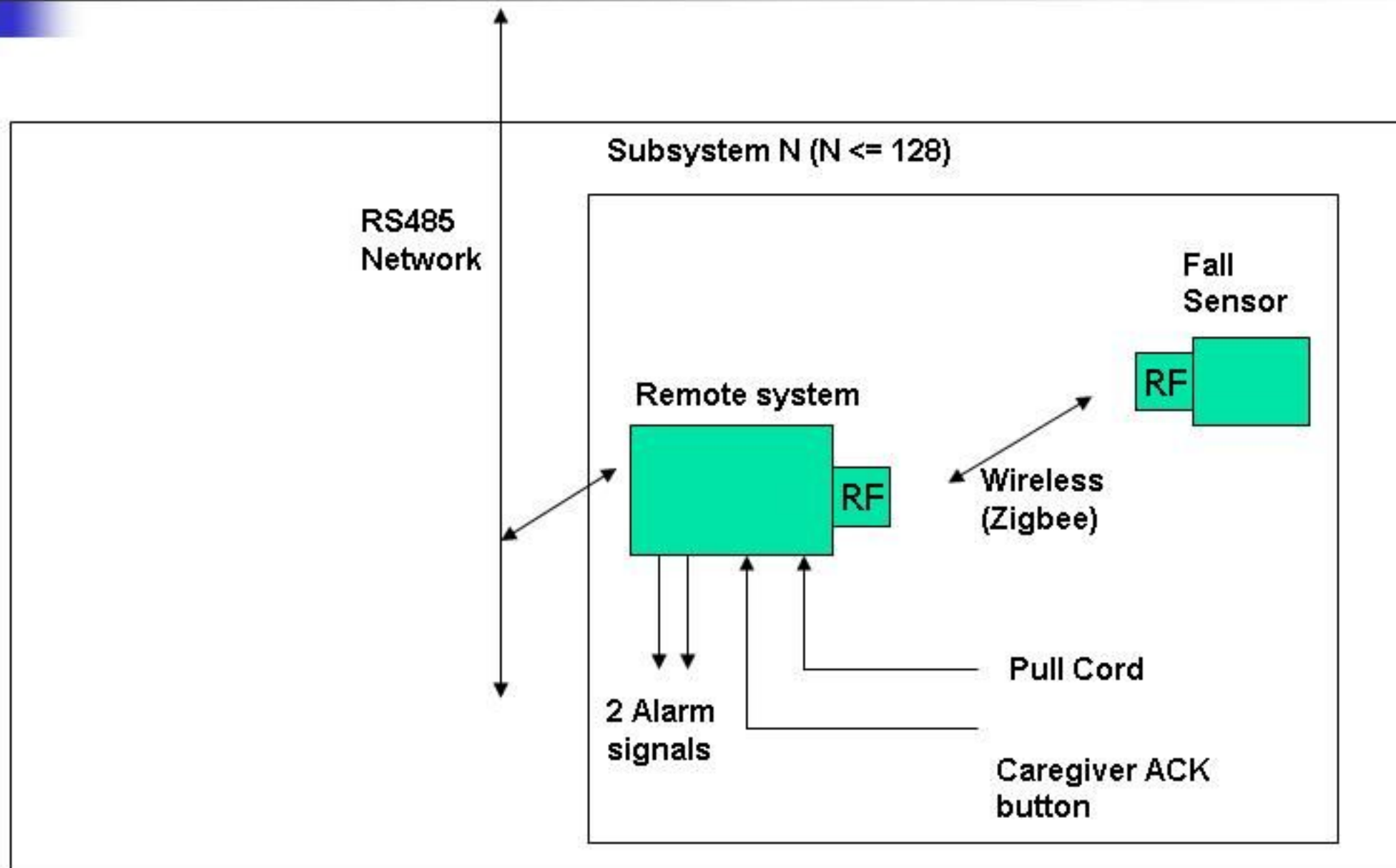
## Alert Alarm System

# Final AAS System H/W Block Diagram

Central Control Room



# Final AAS System H/W Block Diagram





# Overall System Operation

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- Fall Sensor: sends events (as and when it occurs) and Fall Sensor status (periodically) to the Remote system.
- Remote system: sends events (as and when it occurs), Fall Sensor and Remote system status (periodically) to the Controller.
- Controller: reports the events (as and when it occurs) and status (periodically) of Controller, each remote system including its Fall Sensor to the PC.



# Message from Fall Sensor to Remote System (once an event has occurred)

0xCE	Add	Cmd	Data	Chksum
------	-----	-----	------	--------

Start  
byte

1 byte

1 byte

1 byte

1 byte

Data: Fall Sensor

Cmd: (see Command)

Add: Fall Sensor

Chksum:  $0xFF - (\text{Add} + \text{Cmd} + \text{data})$ .

Remote system to check: add all data, including Chksum =  $0xFF$ .

Address:

- 0: RFU,
- 1: Controller address
- 2: PC address,
- 3: Fall sensor (same for all)
- 4: RFU
- 5-255: other node address

Command (Cmd):

- Fall sensor activated:  $0x42$
- Panic button activated:  $0x43$
- Fall sensor battery normal:  $0x48$
- Fall sensor battery low:  $0x49$

# ACK from Remote System to Fall Sensor

0xCE	Add	Cmd	Data	Checksum
------	-----	-----	------	----------

Start  
byte

1 byte

1 byte

1 byte

1 byte

Data: (see Data)

Cmd: (see Command)

Add: Fall Sensor

Checksum:  $0xFF - (Add + Cmd + data)$ .

Fall Sensor to check: add all data, including Chksum = 0xFF.

## Address:

- 0: RFU,
- 1: Controller address
- 2: PC address,
- 3: Fall sensor (same for all)
- 4: RFU
- 5-255: other node address

## Command (Cmd):

- OK (ACK): 0x06
- NOT OK (NAK): 0x21

## Data:

- Fall sensor activated: 0x42
- Panic button activated: 0x43
- Fall sensor battery normal: 0x48
- Fall sensor battery low: 0x49

# Message from Remote System to Controller

0xCE	Add	Cmd	Data	Chksum
------	-----	-----	------	--------

Start  
byte

1 byte

1 byte

1 byte

1 byte

**Data:** address of  
Remote System

**Cmd:** (see Command)

**Add:** Address of the  
Controller

**Chksum:**  $0xFF - (Add + Cmd + data)$ .

Controller to check: add all data,  
including Chksum =  $0xFF$ .

**Address:**

- 0: RFU,
- 1: Controller address
- 2: PC address,
- 3: Fall sensor (same for all)
- 4: RFU
- 5-255: other node address

**Command (Cmd):**

- Pull Cord activated: 0x41
- Fall sensor activated: 0x42
- Panic button activated: 0x43
- Alarm acknowledged: 0x44
- Fall sensor faulty: 0x47
- Fall sensor normal: 0x48
- Fall sensor battery low: 0x49



# ACK from Controller to Remote System

0xCE	Add	Cmd	Data	Chksum
------	-----	-----	------	--------

Start  
byte

1 byte

1 byte

1 byte

1 byte

Data: (see Data)

Cmd: (see Command)

Add: Address of the  
Remote System

Chksum:  $0xFF - (\text{Add} + \text{Cmd} + \text{data})$ .

Remote system to check: add all  
data, including Chksum = 0xFF.

Address:

- 0: RFU,
- 1: Controller address
- 2: PC address,
- 3: Fall sensor (same for all)
- 4: RFU
- 5-255: other node address

Command (Cmd):

- OK (ACK): 0x06
- NOT OK (NAK): 0x15

Data:

- Pull Cord activated: 0x41
- Fall sensor activated: 0x42
- Panic button activated: 0x43
- Alarm acknowledged: 0x44
- Fall sensor faulty: 0x47
- Fall sensor normal: 0x48
- Fall sensor battery low: 0x49



# Messages from Controller to PC

0xCE	Add	Cmd	Data	Chksum
------	-----	-----	------	--------

Start  
byte

1 byte

1 byte

1 byte

1 byte

**Data:** Address of  
Remote System  
reported.

**Cmd:** (see Command)

**Add:** Address of PC

**Chksum:**  $0xFF - (Add + Cmd + data)$ .

PC to check: add all data,  
including Chksum =  $0xFF$ .

## Address:

- 0: RFU,
- 1: Controller address
- 2: PC address,
- 3: Fall sensor (same for all)
- 4: RFU
- 5-255: other node address

## Command (Cmd):

- Pull Cord activated: 0x41
- Fall sensor activated: 0x42
- Panic button activated: 0x43
- Alarm acknowledged: 0x44

## Status:

- Fall sensor faulty: 0x47
- Fall sensor normal: 0x48
- Fall sensor battery low: 0x49
- Fall sensor battery normal: 0x4A
- Remote system faulty: 0x4B
- Remote system normal: 0x4C
- Controller normal: 0x4D

# ACK from PC to Controller

0xCE	Add	Cmd	Data	Checksum
------	-----	-----	------	----------

Start  
byte

1 byte

1 byte

1 byte

1 byte

Data: (See Data)

Cmd: (see Command)

Add: Address of  
Controller

Checksum:  $0xFF - (Add + Cmd + data)$ .

Controller to check: add all  
data, including Checksum =  $0xFF$ .

## Address:

- 0: RFU,
- 1: Controller address
- 2: PC address,
- 3: Fall sensor (same for all)
- 4: RFU
- 5-255: other node address

## Command (Cmd):

- OK (ACK):  $0x06$
- NOT OK (NAK):  $0x15$

## Data:

- Pull Cord activated:  $0x41$
- Fall sensor activated:  $0x42$
- Panic button activated:  $0x43$
- Alarm acknowledged:  $0x44$

## Status:

- Fall sensor faulty:  $0x47$
- Fall sensor normal:  $0x48$
- Fall sensor battery low:  $0x49$
- Fall sensor battery normal:  $0x4A$
- Remote system faulty:  $0x4B$
- Remote system normal:  $0x4C$
- Controller Normal:  $0x4D$