



ezTCP Technical Document

# Pan Tilt Camera Control

Version 1.1

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<http://www.ezTCP.com>

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# 1 Overview

## 1.1 Overview

Pan/Tilt Cameras were controlled by RS422/RS485 controllers at close range. If you change this interface to LAN, distance restriction between the cameras and the controllers does not need to be considered. Sollae Systems' RS422/485 Ethernet/Wireless converters is an ideal solution to connect the pan/tilt cameras and controllers to the Internet.

## 1.2 Application

Master/Slave was generally used to communicate via industrial RS422/RS485 networks. At this time, multi-drop type of communication, which Master communicates and controls the order of all transmissions with a distributed Slave, enables 1:1 and 1:N communication. If the system changes to LAN communication, there is no need to change in protocols in communication. Following diagrams are examples of usage with RS422/485 Ethernet converter.

### 1.2.1 1:1 Connection

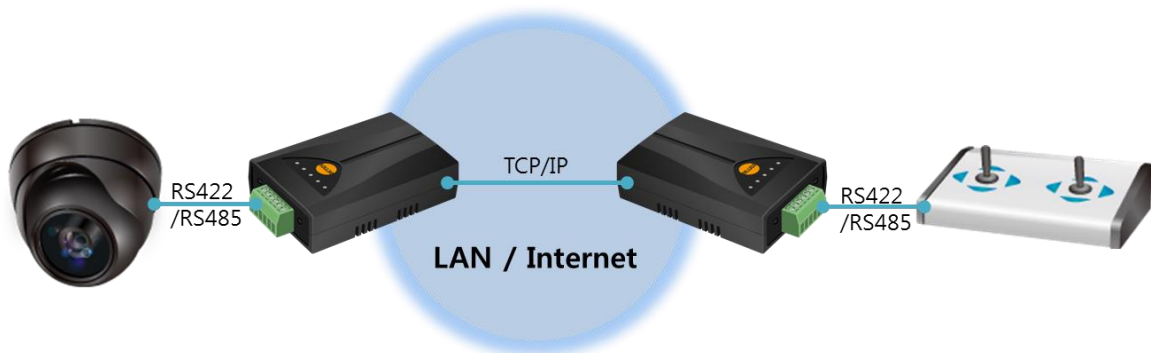


Figure 1-1 1:1 connection

## 1.2.2 1:N Connection

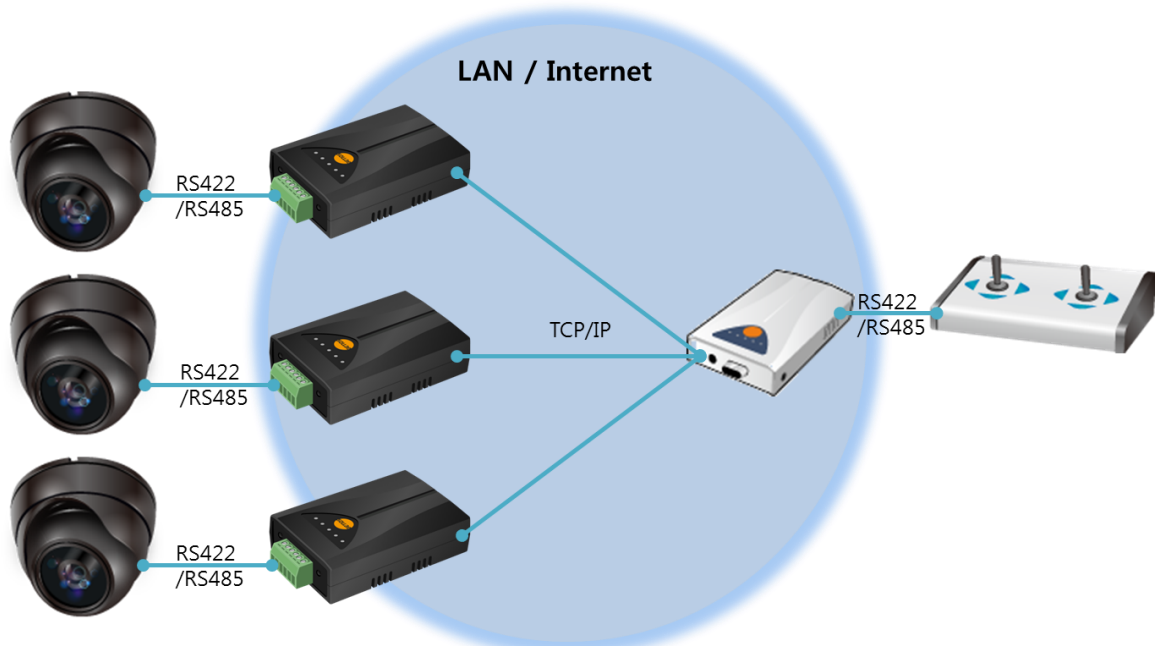


Figure 1-2 1:N Connection

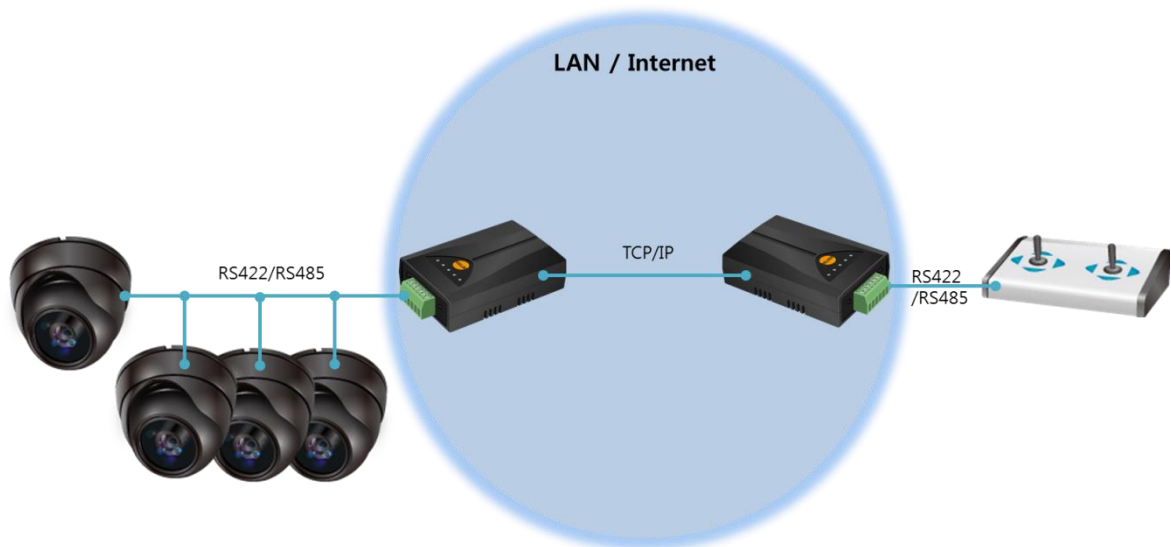


Figure 1-3 Multidrop type 1:N Connection

## 2 Application Example

This part is introducing example of the way to apply and use pan/tilt camera and controller with ezTCP.

### 2.1 Equipment

#### 2.1.1 Pan Tilt Camera

There are two types of pan/tilt camera: an isolated form of pan/tilt and camera, and a unit form. In this demonstration, the unit form will be used. The name of pan/tilt camera is a Samsung Techwin's SCP-2120.



Figure 2-1 Pan Tilt Camera

Variables	SCP-2120
Communication	RS-485, Coaxial control
Protocol	Samsung-T, Samsung-E, Pelco-D, Pelco-P, Bosch, Honeywell, vicon, Panasonic
Pan/Tilt Range (Speed)	360°(650°/sec) / -5°~185°(650°/sec)
Temperature	-10°C~+50°C
Input Voltage/Current	24V AC±10%
Power Consumption	Max. 12W

Table 2-1 Specification of Pan Tilt Camera

## 2.1.2 Controller Keyboard

A controller keyboard will be used to control the Pan Tilt Camera. The controller keyboard model is a Samsung Techwin's SPC-1010.



Figure 2-2 Controller Keyboard

Variables	SCP-1010
Communication	RS-422 / RS-485
Connector	3 Port
Baud rate	2,400 ~ 57,600 bps
Speed Control	Joystick (3-axis Twist Zoom)
Operating Temperature	0°C ~ 40°C
Voltage	12V DC
Power Consumption	140 mA

Table 2-2 Specification of Controller Keyboard

## 2.2 Configuration

### 2.2.1 Overview

Pan/Tilt Camera and Controller Keyboard are each connected by serially to CSE-H55N, and two units of CSE-H55N are connected to TCP without a hub or modem. Use ezManager to set up the environmental value.

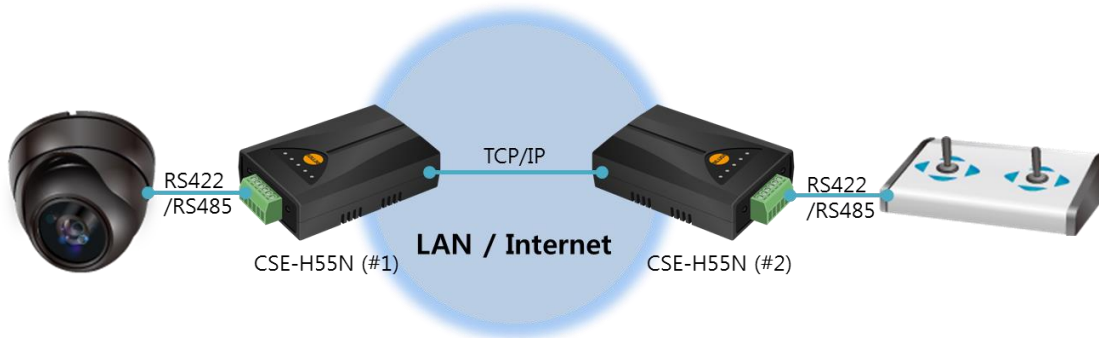


Figure 2-3 Test Application

### 2.2.2 Configuration

- Configuring IP Address related parameters

You must submit IP address related parameters, such as Local IP Address, Subnet Mask, Gateway, in the [NETWORK] tab of the ezManager. If you may not know, ask your network administrator for IP address related parameters.

ezTCP's default environment IP value is 10.1.0.1. When you test on the same local network, refer to the below table.

Parameter	ezTCP #1	ezTCP #2
IP Address	10.1.0.1	10.1.0.2
Subnet Mask	255.0.0.0	255.0.0.0

Table 2-3 IP values

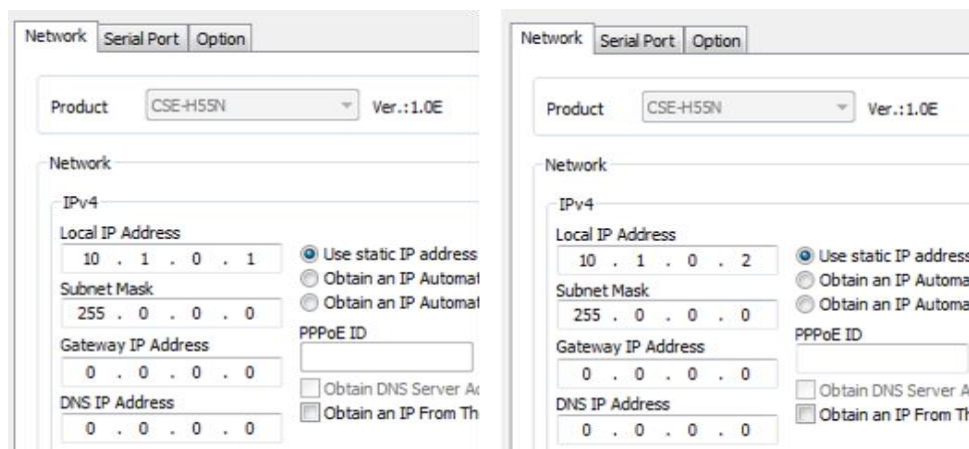


Figure 2-4 The network environment values of the CSE-H55N

- Configuring TCP connection related parameters

Both pan/tilt camera and controller are connected with ezTCP RS422/RS485 Ethernet Converter. Each converters can be set up under TCP or UDP. When you use TCP, each ezTCP should be set up as server, client mode.

Parameter	ezTCP #1	ezTCP #2
Communication Mode	Server	Client
Peer Address	-	10.1.0.1
Peer Port	-	1470
Local Port	1470	-

Table 2-4 TCP values

The figure shows two side-by-side configuration panels for TCP/IP. The left panel is titled 'TCP/IP' and has 'Communication Mode' set to 'T2S - TCP Server'. Below this, 'Peer Address' is an empty field. 'Peer Port' is set to '0' and 'Local Port' is set to '1470'. There is an unchecked checkbox labeled 'TCP Server'. The right panel is also titled 'TCP/IP' and has 'Communication Mode' set to 'COD - TCP Client'. 'Peer Address' is set to '10.1.0.1', 'Peer Port' is set to '1470', and 'Local Port' is set to '1470'. There is a checked checkbox labeled 'TCP Server'.

Figure 2-5 TCP/IP environment values of the CSE-H55N



## 2.3 Demonstration



Figure 2-6 Pan tilt camera and controller



Figure 2-7 The whole configuration

☞ *If you want to check the real motions, please refer to the ['Pantilt Camera Control Demo'](#) video.*

### 3 Revision History

Date	Version	Comments	Author
2014.02.17	1.0	○ First version has been released.	Lisa Shin
2014.11.18	1.1	○ Image revised and caption added	Sara Lee