SOYAL

AR-716EV2 (RS-485)

AR-716Ei (10 Base-T)

Multi-door Networking Controller

User's Guide

Version: 7.2

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3. Software Setting

3.1 701 Server software setting of external weigand reader

How to enter?

- Step1: Click the 701 Server Icon <a>S twice to access the Server on the down right corner of the windows.
- Step2: Click Tool Bar Icon 🔛 (701E parameter) for the windows.

Step3: Enter networking controller node ID, then click "Read".

Step4: Click the page of Door Number.



3.2 Door number setting of 701E Parameter

- 1. Reader 1-8 is the door number of the CH1 RS-485 readers. (The CH1 can connect to on-line reader ID node 1-8).
- 2. Reader 9-16 is the door number of the CH2 RS-485 readers. (The CH2 can connect to on-line reader ID node 9-16).
- 3. ID Node of WG reader port 1 is fixed to no.17 on the 716EV2/Ei PCB. If enable anti-pass-back, ID Node 17 is fixed to be in door.
- ID Node of WG reader port 2 is fixed to no.18 on the 716EV2/Ei PCB.
 If enable anti-pass-back, ID Node 18 is fixed to be out door.

Note: The above Door number can be both changeable.

Step5: Click the page of DI Input V.S. Relay Output Connection.





3.3 DI Input V.S. Relay Output Connection setting of 701E Parameter

- 1. The DI.2 is exit button input of reader port 1 and the K1 is open door relay.
 - (1) Choose "DI 2" under the menu item.
 - (2) Click "K1".
- 2. The DI.3 is exit button input of reader port 2 and the K2 is open door relay.
 - (1) Choose "DI 3" under the menu item.
 - (2) Click "K2".

Note: Active second can be set only when the window is DI 1.

3.4 Weigand reader LED and Buzzer indicators

- 1. LED light green and one beep sound mean acknowledge, LED light green twice and two beep sounds mean not acknowledge.
- 2. In anti-pass-back access mode, LED light green five times and five beep sounds mean violates access function.
- 3. When access modes have entering user code, after flash card, LED light green four times and four beep sounds mean that reader wait for being entered the 4-digit user code.

4.1 Set relay time

Time-schedub tead On-l	ed Output line Reade	er DI Inp Door Nu	ut V.S. Rel umber Du	lay Output C uress Code	onnection Reader Rela	Parking Space vy vs 701E Relay:
Reader 1-1	6 Read	er 1	•			
– On Relay w	hile Read	er's Door Re	lay On —			12
🗖 K1	🗖 Rei	lay O 🗖 F	elay 4 🛛 🗖	Relay 8	🗖 Relay 12	2
🗖 K2	🗖 Rei	lay1 🗖 F	elay 5 🔽	Relay 9	🗖 Relay 13	
🗖 K3	🗖 Re	lay 2 🗖 F	elay6 🔽	Relay 10	🗖 Relay 14	
☐ K4	□ Re.	lay3 🔲 B	elay 7 🔽	Relay 11	Relay 15	
Node:01 (Re	lay1)	7000 m	Node:09	9 (Relay5)	ກ 7000 ກ	15
Node:02 (Re	lay2)	7000 m	Node:10) (Relay6)	7000 n	ns
Node:03 (Re	lay3)	7000 m	Node:11	l (Relay7)	7000 n	ns
Node:04 (Re	lav4)	7000 m	Node:12	2 (Relay8)	7000 n	15

Step1: Click the page of Reader Relay V.S. 701E Relays

Step2: Enter relay time in the blank column. Range from 0 to 60,000. (Default 7 sec.) Step3: Press [Write].

4.2 AR-716E-IO hardware installation





Step1: Take away each screw on the top left and on the down left of AR-716EV2 \ 716Ei PCB board. Step2: Screw copper column to fix AR-716E-IO PCB board.

Step3: Then, screw tightly copper column by using screw before take away.

Step4: Connect plug DB1 of AR-716E-IO to socket DB1 of AR-716EV2 $\716Ei$ PCB board.

Connect plug DB2 of AR-716E-IO to socket DB2 of AR-716EV2 \ 716Ei PCB board.



5. AR-727i Configuration

5.1 Reset to Factory Default of the AR-727i



Press RESET bu then AR-727i will	tton more than 5 seconds, restore to Factory Default value.
IP Address	: 192.168.001.127
Gateway IP	: 192.168.001.254
Subnet Mask	: 255.255.255.000
Serail Port	: 9600,N,8,1
TCP Port	: 1621
Password	: none

5.2 DIP Switch Settings



	Description
Switch 1	DHCP Function
	AR-727i support Auto Configuration of the IP and
	gateway addresses and subnet mask function, but
	must make sure the DHCP Server is active.
Switch 2	Serial Setup Mode

5.3 AR-727i's contains three LED indicators, as described in the following table



LED Name	LED Color	LED Function
Link	Yellow	Media is connected.
	Off	Media is not connected.
АСТ	Green	10 Mbps Ethernet connection.
	Off	Ethernet cable is disconnected,
		or has a short.
BUSY	Red	Configuration Setup.
	Off	No.

5.4 How to set IP address on the AR-716Ei

5.4.1 Get IP address by using Net727i software

Usually, the network of some company don't built-in the DHCP Server. Therefore, we can use the following method to get default IP address and modify it. The steps as follows:

- Step 1: Press RESET button more than 5 seconds, The BUSY LED will flash 5 times, then AR-727i will restore to Factory Default value.
- Step 2: Open explorer, click "My Network Places" and press right key to open Properties.



Step 3: Click "Local Area Connection" and press right key to open Properties. Then double click Internet Protocol (TCP/IP) to open Properties.

	s Auvanceu Heip	
🛏 Back 👻 🤿 👻 🗄 🔞 Search	E-Folders 🎯 🖓 🏹 s	Local Area Connection 2 Properties
ddress 逆 Network and Dial-up Conr	nections	General Sharing
lame 🔺	Туре	Connect using
Make New Connection		
Local Area Connection	LAN	D-Link DFE-530TX PCI Fast Ethernet Adapter
Local Arc Disable	LAN	·
Status		Conrigure
Create Shortcut		Components checked are used by this connection:
Delete		🗹 💻 Client for Microsoft Networks
Rename	N	🗹 🛃 File and Printer Sharing for Microsoft Networks
Properties		Internet Protocol (TCP/IP)
		Install Uninstall Properties
	V	Description
		Transmission Control Protocol/Internet Protocol. The default
		wide area network protocol that provides communication
		across diverse interconnected networks.
		Show icon in taskbar when connected
		Show icon in taskbar when connected

Step 4: Click "Use the following IP address" and enter IP address 192.168.001.64, Subnet mask 255.255.255.0

ou can get IP settings assigned auto is capability. Otherwise, you need to ne appropriate IP settings.	omatically ask your	if you netv	ur netv vork a	vork su dminist	ipports rator for
Ubtain an IP address automatica	aily			-	
IP address:	192	168	. 1	. 64	-)
Subnet mask:	255	255	. 255	5.0	-)
Default gateway:		2	48	12	/
C Obtain DNS server address auto	maticallu				2
Use the following DNS server ad	dresses:	: [
Preferred DNS server:		0	te.	-	
Alternate DNS server:		0	11	83	
				w.a.s	

Step 5: Click "ok" to exit.

Step 6: Install Net727i.exe into your PC and run Net727i.exe

(Start \rightarrow Programs \rightarrow soyal software \rightarrow Net727i	Net727i)
🎡 Soyal 727i Serial Device Setup Utility Ver 1.10	×
Get AR-727i at IP 192.168.1 .127 Password :	
Parameters AR-727i Local IP Address : 192.168.1.127	<u>G</u> et
Local Gateway IP Address : 192.168.1.254 Local Netmask IP Address : 255.255.255.0	<u>₩</u> rite
TCP PORT : (1621~5000) 1621 MAC Address : 00.E0.4C.00.00.12	Exit
Force Transmit time : (0~3000ms)5Force Transmit Bytes : (1~32)32	
□ Lock Remote IP Address 192.168.1.1 Setup Password : (0 ~ 8 Characters)	
Serial Port Speed: 9600 - TCP Auto Disconnect Time : (10 ~ 6000 sec) 60	Lock Serial Port
Serial Port Hardware Handshaking (RTS/CTS)	© Freeze Over
Serial Number 00099999 AR-727i Version 1.10 is Ready !	

Step 7: Click "Get" to get default Local IP Address, Gateway, Netmask and TCP Port.

Step 8: Change new address and parameters then click "write". Step 9: switch DIP SW-1 and SW-2 to "OFF" position.

Remark:

(1) How to know PC's IP Address? (Win98)

Start \rightarrow execute \rightarrow enter "winipcfg".

(2) How to know PC's IP Address? (Win2000)

Start \rightarrow Programs \rightarrow Accessories \rightarrow Command Prompt \rightarrow C:\> ipconfig

(3) Please see detailed parameter in next page:

Setting	Value	Notes	Necessity
Local IP Address	192.168.001.127	Defines own IP Address of the	Required
		AR-727CM	
Local Gateway IP	192.168.001.254	Defines the IP Address of the default	Required
Address		gateway	
Local Subnet Mask	255.255.255.000	Defines the IP Address range for the	Required
		local network segment	
TCP Port	1621	The TCP port that other devices must	Required
		use to contact this device. To avoid	
		conflicts with standard TCP ports.	
MAC Address	00.E0.4C.00.00.50	The MAC (Media Access Control)	-
		address is a unique identifier set at the	
		factory.	
Force Transmit time	5	Forces AR-727CM device's TCP/IP	Optional
		protocol software to try to pack serial	
		data received during the specified time	
		into the same data frame.	
Force Transmit Bytes	32	Defines the amount of data in the	Optional
		serial, Ethernet buffer at which the	
		break condition will be generated and	
		the contents of buffer will be sent out	
		via the Ethernet port.	
Lock Remote IP	-	Allows contact with only the specified	Optional
Address		remote IP address.	
Lock Serial Port	-	To avoid the hacker use this IP to	Optional
(Free Run or Freeze		intercept data when Remote IP	
Over)		Address doesn't receive data.	
Setup Password	none	Console password	Optional
Serial Port Speed	9600	Changes current baud rate of the	Required
		AR-727CM's serial port (from 2400bps	
		to 57600bps).	
TCP Auto Disconnect	60	This device automatically closes TCP	Optional
Time		connection if there is no TCP activity	
(Second)		for the given time.	
Serial Port Hardware	-	An exchange of signal over specific	Optional
Handshaking		wires which each device indicates its	
(RTS/CTS)		readiness to send or receive data.	
DHCP	-	Selecting the enable option allows	Optional
		DHCP to automatically assign the	
		AR-727CM's IP address.	

5.5.2 Get IP address by DHCP Server:

AR-727i support Auto Configuration of the IP and gateway addresses and subnet mask function, but must make sure the DHCP Server is active. The steps as follows:

Step 1: Power off.

Step 2: PCB diagram as follows by using DHCP Function.



- **1** Switch DIP SW-1 to "ON" position.
- Switch DIP SW-2 to "OFF" position.
- **3** Switch Jumper J3, J4 and J5 to Net position.
- 4 No IC Chip in the U3 position.
- Step 3: Power on. In begging state the ACT LED will flashing, after IP has got ACT LED will off and auto save the new IP address to EEPROM.
- Step 4: Power off.
- Step 5: Change communication IC Chip from the "U2" position to the "U3" position.
- Step 6: Then, Switch DIP SW-1 to "OFF" position and Switch DIP SW-2 to "ON" position. (return to Serial Setup Mode)
- Step 7: Connect AR-801CM to the HOST of the PCB.
- Step 8: Power on.
- Step 9:To modify parameter on the AR-727i through the Hyper-Terminal function of the Window. (Start \rightarrow Programs \rightarrow Accessories \rightarrow Communication \rightarrow Hyper Terminal)

Step 10: Click "Hyper-Terminal". Shown as follows:

Step 11: key-in any temporary name. It is not important matter.





Step 12: Choose which COM port that AR-801CM connect and click OK to exit.

onnect To		?)
123		
Enter details for	the phone number that yo	u want to dial:
Country/region:	Taiwan (886)	¥.
Area code:	02	
Phone number:		
Connect using:	СОМ1)
	COM1 COM2	
	515151650700000 Middle	

Step 13: Set Port Settings to 9600, 8, None, 1, None and click "OK" to save.

Bits per second:	3600	<u> </u>
Data bits: 🛛	3	•
Parity: 🛛	Vone	•
Stop bits:		•
Flow control:	None	Ŀ

Step 14: AR-727i already gets IP address now shown as follows: Note that save it after set all parameters.



Step 15: Power off. Then switch DIP SW-2 to "OFF" position, take away communication IC Chip on the U3 position of the PCB and AR-801CM.

5.5.3 Get IP address by AR-801CM (COM Port) connects to PC

At first, PCB diagram as follows and Connect AR-801CM to the HOST of the PCB:



- **1** Switch DIP SW-1 to "OFF" position.
- Switch DIP SW-2 to "ON" position. (Serial Setup Mode)
- **3** Switch Jumper J3, J4 and J5 to RS-485 position.
- 4 Make sure that have communication IC Chip in the U3 position.

Step 1: To modify parameter on the AR-727i through the Hyper-Terminal function of the Window. (Start \rightarrow Programs \rightarrow Accessories \rightarrow Communication \rightarrow Hyper Terminal)

Step 2: Click "Hyper-Terminal". Shown as follows:



Step 3: key-in any temporary name. It is not important matter.

New Connec	tion			
Enter a name and ch	oose an icon fo	or the conne	ction:	
lcon:)			
	🔅 🖉	8	ß.	R
<u>121</u>				

Step 4: Choose which COM port that

AR-801CM connect and click OK to exit.

	?>
r the phone number that yo	iu want to dial:
Taiwan (886)	1
02	
СОМ1)
	r the phone number that yo Taiwan (886) 02 COM1

Step 5: Set Port Settings to 9600, 8, None, 1, None and click "OK" to save.

Bits per second 950	
Data bits: 8	•
Parity: Non	e 💌
Stop bits:	
Flow control: Non	· · ·
	Postoro Dofaultr

Step 6: AR-727i already gets IP address now shown as follows:



Step 7: Please refer above 1 item and enter item on the 2 so that set all parameters. Step 8: Note that enter item 6 on the 2 to save parameter after finishing to set parameter. Step 9: Then switch DIP SW-1 and SW-2 to "OFF" position.

6. Installation diagram

6.1 AR-716Ei and AR-721H networking installation





6.3 Points for attention

1. Please use the following installation method, it is correct.



2. Don't use the following installation method, it will cause communication error.



3. We suggest using the following cable in RS-485 communication

