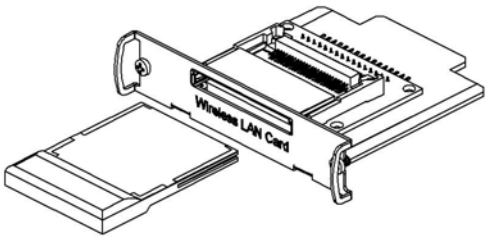
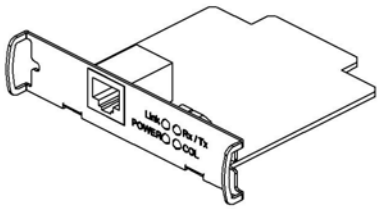
CL5000 Series

Network's Manual

(English)

Rev. 2005. 07.12
F/W Version. 1.00, 1.01, 1.02, 1.03, 1.04, 1.08





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1. Introduction

Getting started

This chapter introduces you to the network features about CL5000.
CL5000 supports 2 unique communication modes.
(Server – Client mode, Master – slave mode)

1.1 Network card

You need network card for communication. We supports wire, and wireless network card.

< Ethernet LAN Card >

< Wireless LAN Card >

NOTE: Wireless care has only card module only.

You need to purchase CF wireless card in local area with certification mark

Install common CF type LAN Module. This is comparable with Intersil PRISM chip-set.

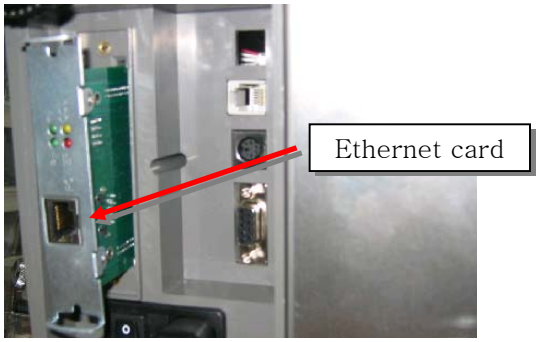
- Protocol : Standard IEE 802.11b(DSSS 2.4Ghz)
- Security : 64 or 128 bit WEP

1.2. Install Network card

Install Ethernet LAN card

1) Turn power off and remove power cord
2) Remove Ethernet card cover

3) Insert Ethernet card onto slot (use same slot for wireless module)



4) Turn on power when installation is finished
5) Set up communication configuration (menu code:1900)

Install Wireless LAN card

1) Turn power off and remove power cord
2) Remove Ethernet card cover
3) Insert Wireless LAN Card.
   i. Insert local wireless CF card

4) Turn on power when installation is finished

MPORTANT

For wireless networking you need to setup **wireless HUB (Access Point = AP)**
(Purchase at local market)

2. Scale and System Configuration

You can understand the concept of communication system and configuration.

2.1. General Terms

CL5000 supports 3 types of network communication

1. Master - Prior scale that contains all standard data
2. Slave - Sub scale for Master scale
3. Network - communicating between Server, Client scale

You can select 1 of the 3 types at network.
For maser-slave network; there is only 1 maser for all network system.

Review following steps for prior network settings.

1. Do I want to set separate IP address for each scale or not?
   NOTE: For setting IP address for each scale, set IP
   For DHCP server set scale DHCP (Auto IP address setting)

2. What's the Gateway values correspond with IP address?
   If you set as USE IP address must set Gateway

3. What's the Sub net mask values correspond with IP address?
   If you set as USE IP address must set Subnet-mask

4. At scale TCP/IP setting (1913), what's the Port value? (20304 factory setting)

* Cheek list (1~4) needs to follow local TCP/IP communication regulation. You can ask local Network webmaster.

2.2. How to set Network method and scale

2.2.1. PC Control

A. Feature

You can control scale with PC or any computing environment such as, data table up/down loading, deleting.

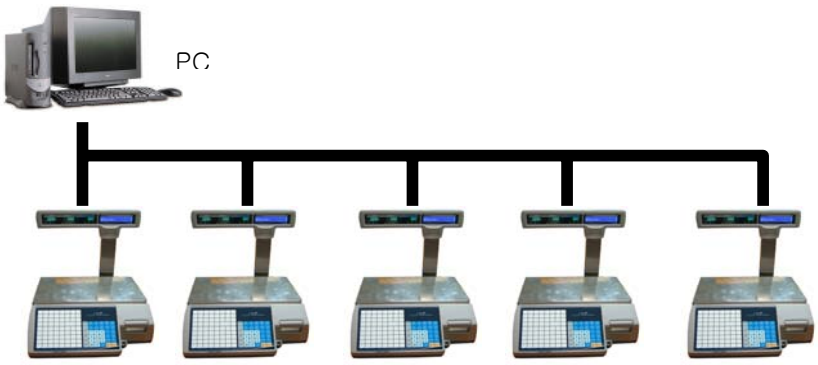
B. Pre-caution

Set each Scale ID different (for individual scale management)

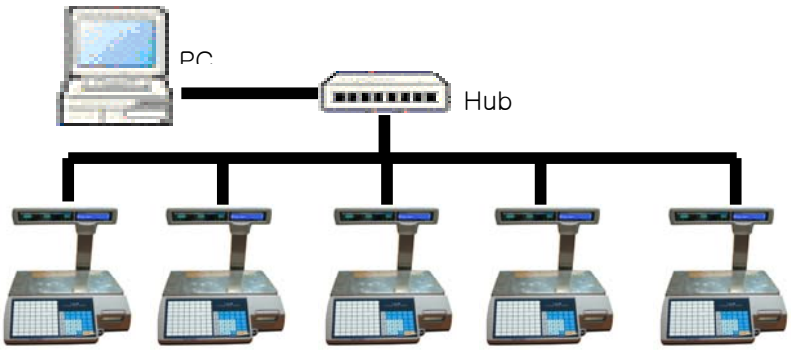
Especially for report feature in CL-Works needs individual scale ID to locate report data.

C. Communication concept diagram

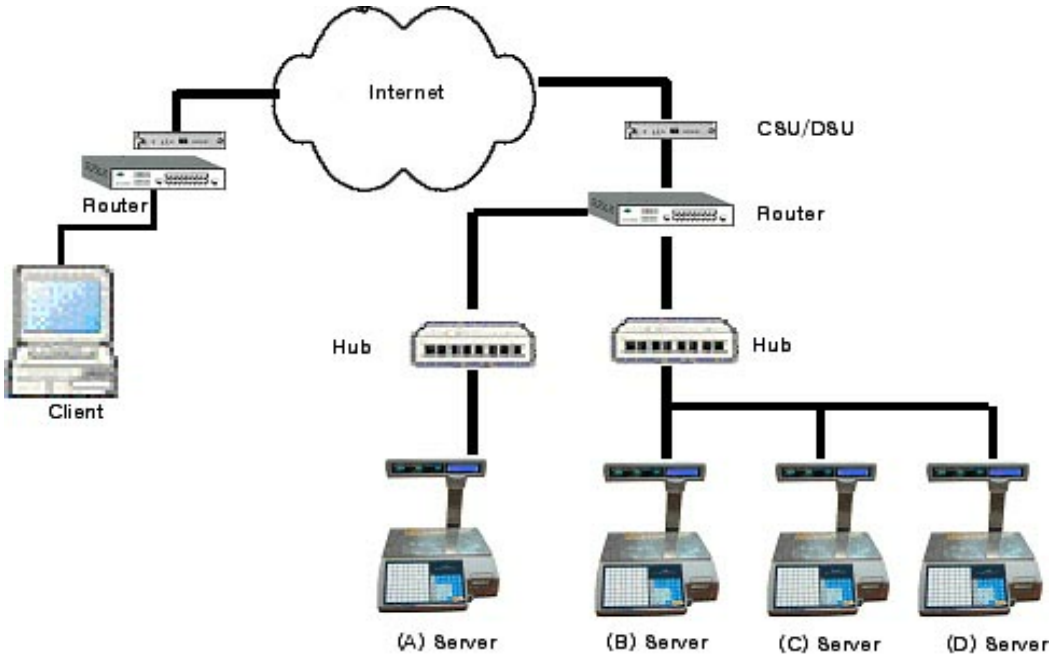
Following picture describes how to set-up the network between scale and PC



(Figure 1: general connection)



(Figue 2: Using Hub connection)



(Figure 3. Internet communication with PC and Scale)

If you know the scales IP address and register into PC, you can access scale individually or all together to monitor report and update PLUs.

NOTE: If you have set HUB (Bridge, Repeater, etc...) use PC manager to search correspond scales

For setting figure 1, 2 network setup; you must input individual IP address for connection test.

Figure 3 can access scale via internet; when you know the scale IP address you can access scale like any other network scale.

D. Before setting the network

- Each scale needs fixed IP address.
- Do not use DHCP without prior notice to CAS. If so CL-Works will not able to retract the right scale because access IP address will change constantly.
- You need to assign proper IP, Gateway, Subnet Mask address from webmaster.

  NOTE: These 3 elements are basic information to operate internet / intranet.

  Please get prior training on internet network; otherwise recommend get advice from network personals.
- You can set scale up to 99 for PC control networking.

E. Scale Configuration

■ summery of scale network configuration

1) Set service type 3 at MENU 1911 and Scale ID.

2) Input IP, Gateway, Subnet mask, and PORT at MENU 1913.

1910			**NETWORK SETTING** **1. Service Type** **2. DHCP** **3. IP**

STEP1. Scale Network Configuration

For Scale network setting following figure.

1910			**NETWORK SETTING** **1. Service Type** **2. DHCP** **3. IP**

MENU 9 1

1911			SERVICE TYPE Scale No. : [1] Service Type (0-3): [3] 3. Network

1. Changing Service Type

You can set Scale No. up to 1~99, which use to distinguish one another. Also you can not use same ID# at Master/Slave mode

SERVICE TYPE
Scale No. : [1]
Service Type (0-3): [3] 3. Network

Ex) Scale No = 1
Service Type (0-3) = 3

For factory setting scale ID as 1 and service type 3
Scale No = 1, Service Type=3

NOTE: If Service Type has changed scale will restart

STEP2: Setting IP and Port

1913			IP Scale IP: [010.010.003.033] Gateway: [010.010.000.001] Subnet Mask: [255.255.000.000]

1. 2. Set IP address and Port

Scale need to have own TCP/IP
NOTE: Recommend to get this information from authorized network personals

If scale does not connected to internet or any other POS system, you can set initial IP address (192.168.1.1) and Gateway (192.168.1.1),
Subnet Mask (255.255.255.0)

If connecting only 2 scale just set different IP address.
Therefore set #1 for 192.168.1.1, and other 192.168.1.2
Set Gateway 192.168.1.1
Leave Port as factory setting.

If IP address changes scale will reboot

IP (1/2)
Scale IP: [010.010.003.033]
Gateway: [010.010.000.001]
Subnet Mask: [255.255.000.000]

IP (2/2)
TCP Port: [20304]

F. Confirmation

1940			Check Scale Server: 10.10. 3. 33 TCP Port: 20304

NOTE: If this figure appear on screen is normal. During the data transitions VFD display TR mark will blink

2.2.2. Floating Clerk (Vender)

A. Feature

You can set Floating clerk set at MENU 1810, if Sale Mode is [1] REG: Ticket & Floating or [4] REG Label & Floating for Floating Clerk Mode.

NOTE: If you operating with only 1 scale there are no need to switch master mode. If not (operating with up to 9) you must set 1 master and others become slave scale.

B. Pre-caution

Recommend to set MENU 1920 “Allow sale in cont” Trans [Y] which allows making a sale during the data transition more effectively.

NOTE: For Master (1)/Slave (8) network up to 9

C. Communication concept diagram

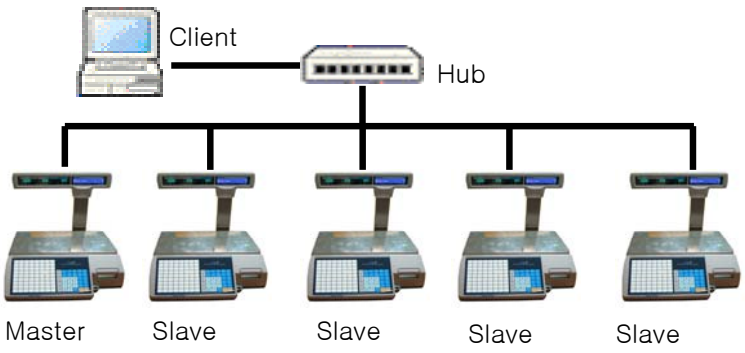
Set Floating Mode at MENU 1810

Set Master or Slave at MENU 1911

Set IP address at MENU 1913

- Follow next step Slave Floating Mode.

Set Remote IP at MENU 1914



D. Before setting the network

- Master: reference 2.2.3
- Slave: reference 2.2.3

E. Configuration

This section explains how to configure master scale and slave scale(s).

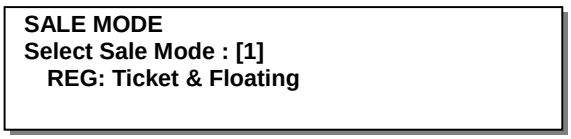
The following is an example of configuring of master and 2 slave scales.

- Set Master scale as followings;
  - IP: 192.168.1.1
  - Gateway: 192.168.1.1
  - Subnet Mask: 255.255.255.0
- Set master scale number to 1 (The master scale number may be any of 1~99 and it must be different from slave scale number).
- Set 1st slave scale as followings;
  - IP: 192.168.1.2
  - Scale Number: 2
- Set 2nd slave scale as followings;
  - IP: 192.168.1.3
  - Scale Number: 3

E.1. How to configure Master Scale

STEP1: Select one of “Floating Modes” in Sale Mode.

There are two Floating clerk Modes.
Selecting [1] is to use Ticket and Floating mode.
Selecting [4] is to use Label and Floating mode.



Now, select [1] in this case.

STEP2: Select service type as master

1911			SERVICE TYPE Scale No. : [1] Service Type (0-3): [3] 3. Network

There are three service types;
[1] 1. Master
[2] 2. Slave
[3] 3. Network
NOTE: The scale number may be any of 1~99.
Do not set Master scale number must not mach with slave scale number
Ex) Scale No = 1
Service Type (0-3) = 1

SERVICE TYPE
Scale No. : [1]
Service Type (0-3): [1] 1. Master

Select [1] 1. Master as a service type

STEP3: IP set-up

1913			IP Scale IP : [010.010.003.033] Gateway : [010.010.000.001] Subnet Mask : [255.255.000.000]

Scale need to have own TCP/IP for each.
NOTE: Recommend to get this information from authorized network personals

IP (1/2)
Scale IP: [010.010.003.033]
Gateway: [010.010.000.001]
Subnet Mask: [255.255.000.000]

If scale does not connected to internet or any other POS system, you can set initial
IP address (192.168.1.1)
Gateway (192.168.1.1),
Subnet Mask (255.255.255.0)

IP (2/2)
TCP Port: [20304]

Set Service Type as Master mode

If IP address changes scale will reboot

E.2. Setting first Slave scale

STEP1: Set Scale as Floating clerk Mode

1810			**SALE MODE** **Select Sale Mode : [2]** **REG: Label**

1. Set scale Floating Mode

You can select Floating Mode in 1 of 2 kinds
[1] Is allowing Ticket printing in Floating mode
[4] is allowing Label printing in Floating mode
For example, select [1] as Ticket printing

SALE MODE
Select Sale Mode : [1]
REG: Ticket & Floating

STEP2: Setting Network Service Type

1911			SERVICE TYPE Scale No. : [1] Service Type (0-3): [3] 3. Server

2. Setting Slave Scale

You can set Scale No. up to 1~ 10 values for purpose of differentiate scale in network. Therefore do not use same number for master or slave.

NOTE: You can set Scale No up to 1~99 but in Master / slave setting mode limit available scale number up to 1~10.

Ex) Scale No = 2
Service Type (0-3) = 2

Set Service Type as Slave

SERVICE TYPE
Scale No. : [2]
Service Type (0-3): [2] 2. Slave

STEP3: Set IP address

1913			IP Scale IP: [010.010.003.033] Gateway: [010.010.000.001] Subnet Mask: [255.255.000.000]

3. Set IP address and Port

You can set Scale No. up to 1~10 value for purpose of differentiate scale in network. Therefore do not use same number for master or slave.

Ex) Set IP as 192.168.1.2

Scale will restart when IP address been reset

IP (1/2)
Scale IP: [192.168.001.002]
Gateway: [192.168.001.001]
Subnet Mask: [255.255.255.000]

IP (2/2)
TCP Port: [20304]

STEP4: Set Remote IP

1914			REMOTE IP Remote IP : [000.000.000.000] TCP Port [20304]

Setting Remote IP

Remote IP is Master scale's IP address.
NOTE: Every slave scale need to input remote IP, order to get newest information form master scale

Input Remote IP 192.168.1.1
Input TCP Port 20304

REMOTE IP
Remote IP : [192.168.001.001]
TCP Port [20304]

E.3. Setting second Slave and others

Repeat slave scale setting except, set scale number as 3 and IP address 192.168.1.3

NOTE: Get a note of scale location and IP address for A/S

2.3. Wireless LAN

CL5000 Series supports Wireless LAN

<Use of wireless network terms>

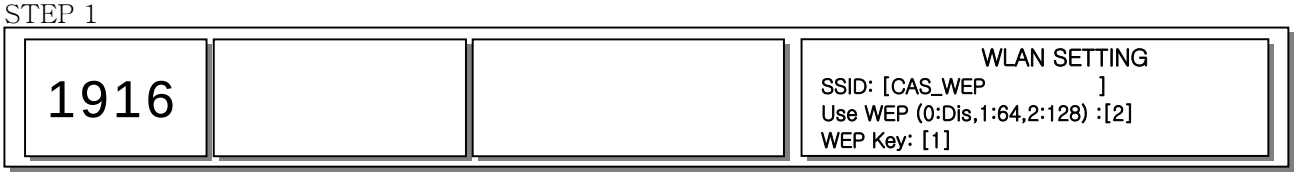
SSID (Service Set Identifier): Name of Access Point (wireless HUB)

WEP (wired equivalent privacy): You can set Password of accessing network. This password can use up to 4 passwords for different purpose. You need to set WEP Key (password) and it can be decoded in 64 or 128bit.

NOTE: CL5000 can set 4 different WEP key

A. Setting wireless LAN

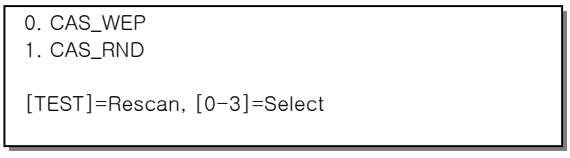
STEP 1

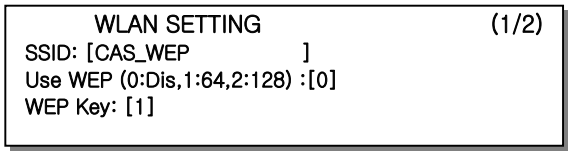


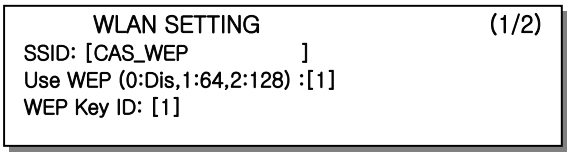
Set Access Point (AP)

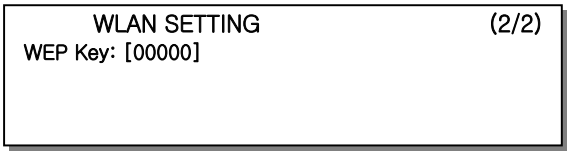
SSID: Name of Access Point device. CL5000 can scan local AP ID and select. Press [Test] key to scan AP(s) and select number of AP

Set WEP key
0: Disable
1: 64 bit password (input 5 digit character passwords)
2: 128 bit password (input 13 digit character passwords)
Default set as 0









3. Application

3.1. Time Synchronize

Step 1: Set Remote IP

Set remote IP of master scale for PLU downloading

NOTE: If you want to locate certain scale that needs downloaded input that IP address.

1914			REMOTE IP Remote IP : [000.000.000.000] TCP Port [20304]

Setting Remote IP

Remote IP: master scale's IP address

Ex)
Set Remote IP as 192.168.1.1
Set TCP Port 20304

REMOTE IP
Remote IP : [192.168.001.001]
TCP Port [20304]

Step: Setting Application

1920			APPLICATION (1/3) Time sync from Server : [N] Delete PLU Sync from Server : [N] Discount Sync from Server : [N]

Set Time Sync from server [Y] and save

After setting remote IP scale will rest at automatically and new IP address will be applied.
The time will be set automatically according to the master scale.

APPLICATION (1/3)
Time sync from Server : [Y]
Delete PLU Sync from Server : [N]
Discount Sync from Server : [N]

3.2. Remote Call PLU

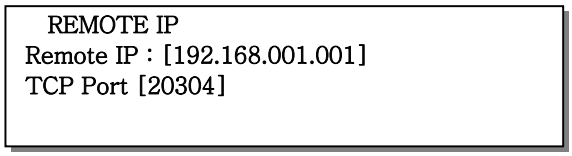
Step 1: Set Remote IP

Set master scale's IP address for Remote call PLU

Setting Remote IP

Remote IP: master scale's IP address

Ex)
Set Remote IP as 192.168.1.1
Set TCP Port 20304



Step 2: Setting sync application

Set Send changed PLU as [Y]
If you want to call up Discount information from remote IP
Set Discount Sync from Server as [Y]

If you want to call up unused PLU information from remote IP scale will know PLU is not exist and start apply onto slave scale automatically.
Set scale Delete PLU sync from Server as [Y]

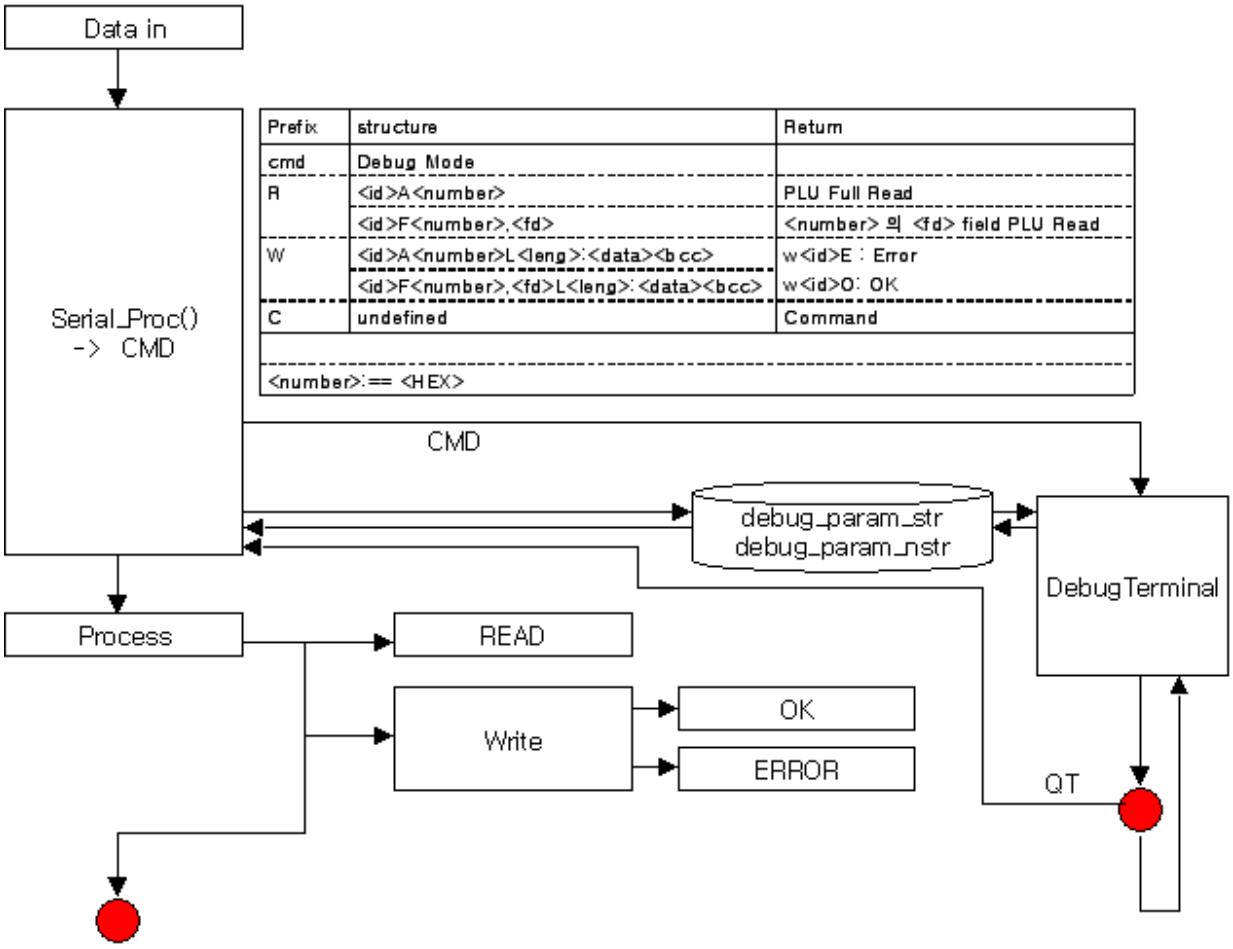
NOTE: After you have set remote IP property. Just a changing master scale will affect the all the slave scales (Report, PLU control, Scroll massage, Time, clerk management.)

4. Protocol

4.1. General

CL5000 has Prefix command to calculate data. The “C” has debug command.

Network protocol has 4 types of command structure to operate.



“R” = Read, “W” =Write, “C” =Command, “I” =Information

Error command???

When Data transmitting the Checksum Error, and resending error massage to confirm;

EX) “Read” command requesting the data

R<xx>:E<error code><0x0a>

Write command:

EX) W<xx>:E<error code><0x0a>

Error code table

Read	80	Range Overflow
	81	Access Deny
	82	Mismach Receive Data or Invalid Value
	84	No Command
Command Result	77	Label Reload완료
	45	Delete 할 PLU 없음
Write		
	FE	Check sum Error

Scale transmit data can have following “W” command

Scale ID “^=<scale id>.”

Department ID : “*=<department id>.”

Ethernet IP : “$=0.”

Ethernet IP : “&=<ipaddress>”

TCP Port : “@=4F50.”

4.2. PLU (Price Look up)

- Download

W02A<pluno>,<deptno>L<data blocks size>:<data blocks><bcc> <data blocks> := <data block><data block>…. <data block> := “F=”<ptype>.<stype>,<data size>:<data> <bcc> :== <data blocks> for all text line “xor”

Description:

“ptype" has following value;
For PLU No apply “F=02.04:<B1><B2><B3><b4>” format
EX) PLU No is 1000 <B1> Ox03 binary value
<B2> 0xE8 binary value
<B3>, <B4> = 0
<data> composed with 4byte

Name	ptype	Stype	Size
Department	1	W	2
PLU No	2	L	4
PLU Type	4	M	1
Name	10	S	40
Name2	30	S	40
Name3	31	S	40
Group	9	W	2
1st Label ID	80	W	2
2nd Label ID	81	W	2
Origin	55	W	2
Unit Weight	5	B	1
FixedWeight	100	L	4
Currency	7	B	1
Prefix	3	S	2
ItemCode	11	L	4
PCS	14	W	2
PCS ID	15	B	1
Fixed Price	26	B	1
Price	6	L	4
SpecialPrice	91	L	4
Tax ID	8	B	1

Tare	13	L	4
Tare ID	12	B	1
%Tare	24	W	2
Tare % limit	23	W	2
Barcode ID	85	W	2
ProducedDate	20	W	2
Packed Date	18	W	2
Packed Time	19	B	1
Sell By Date	16	L	4
Sell By Time	17	B	1
CookByDate	22	W	2
Ingredient	25	W	2
Traceability	35	W	2
Bonus	50	W	2
NutriFact ID	70	W	2
LabelMsg	90	B	1
Reference Dept	71	W	2
Reference PLU	69	L	4
Coupled Dept	64	W	2
Coupled PLU	68	L	4
# of LinkPLU	60	B	1
Link Dept1	61	W	2
Link PLU1	65	L	4
Link Dept2	62	W	2
Link PLU2	66	L	4

stype can have ‘S’, ‘W’, ‘L’, ‘D’, ‘T’,’B’, value

‘S’ = text line
‘W’ = 2byte short Type
‘L’ = 4byte long type
‘D’ = 3byte of date
‘T’ = 3byte of time
‘B’ = 1byte char Type

Return
Error : 0x82 = pluno Mismatch

NOTE: PLU mismatch 시 0ㅔ82가 에러메시지로 리턴 됩니다.

➢ Upload

1. Uploading each PLU

NOTE: You need to know PLU# and department#

Each PLU Read	R13F<plunumber>,<ptype><0x0a> <plunumber> :== <2byte department number> & <6 byte plu number> R14F<plunumber>,<ptype><0x0a> Scale trasmition When PLU has been Updated Send all Plu Field when Ptype=0 Send specific Plu Field when Ptype!=0

Return:

R14F command sends the following result

W13:051<0x0a>: PLU has been erased or not exist

W13:O52<0x0a>: PLU data is already sent

For normal data send: send “W02

and scale send back: W02:O01<0x0a>

2. Reading PLU data start to end

NOTE: When scale information is unknown reading PLU data until request info its not exist.

Reading start to end	R02F<nth>,<ptype><0x0a> <nth> :== <2byte department number> <6 byte nth number>

➢ Delete

Thre are 3 ways to delete PLUs

1. Delete each PLU

Send	C<xx>F13,<pluno><0x0a> <pluno> := <2byte Deparment><6byte plu number> ex) deptno = 1,pluno = 16 “01000010”

2. Delete each Department

Send	C<xx>F12,<department id><0x0a>

Receive :

C<xx>

3. Delete all

Delete All	C<xx>A02<0x0a>

4.2. Table 1

4.2.1. Department

Department is component of name (description) and speed key.

You can set up to 5 departments.

- Download

```
W20F01,<id>L<data block size>:<data block>
<data block> :==<description><speedkey><error>
<description> :== D=<data size>.<data>
<speedkey>  :== K=<data>.
<error>       :== B=<0|1>[.]
```

Description

Error Code “B=1.” (Do not save when this massage is send)

<speedkey> is between 1…5 value of speed key set number

Return:

For normal operation:

W20:O00001<0x0a>

For other error

W20:O<return code><0x0a>

0x99 : id,part value out of range

0x97 : wrong data

0x96 : error address calculation

or

W20F01,<id>L<data block size>:<data block>

In case of Datablock may be B=1.

➢ Upload

Send R20F01,<id><0x0a> Sequencial Command R21F01,<id><0x0a> <id> :== <hexadecimal value>

R21F01 … command is when requested <id>=“1” and data is not exist.
This is useful for continues uploading to find request <id> and return
When Read Error

R<20|21>:E<error code><0x0a>

When Sequencial Command reaches the end, return R21:E99<0x0a> data

Receive

Transmit same data as write data

➢ Delete

Delete ID	C<xx>F21,01<4 byte department id><0x0a>
Delete All	C<xx>F20,001<0x0a>

Description

Department #1 is not allow to delete
You can only change data for minimize operation load
,and Its for protecting other PLU and Table data.

Return

C01:O21<0x0a>

Error :

W21:E<error code><0x0a>

0x86 : When you tiring to delete Department #1
(for #1 can be changed not delete)

0x82 : Error

4.3.2. Group

Benifit: Grouped PLUs are useful to make a selective report information.
Group is smallist report segment.

- Download

W20F02,<id>L<data block size>:<data block> <data block> :==<description><error> <description> :== D=<data size>.<data> <error> :== B=<0|1>[.]

Return

Reference Department

- Upload

Send R20F02,<id><0x0a> R21F02,<id><0x0a> Receive Same as Write data

- Delete

Delete ID	C<xx>F21,02<4 byte group id><0x0a>
Delete All	C<xx>F20,002<0x0a>

Description

Return

C01:O21<0x0a>

Error :

W21:E<error code><0x0a>

0x82 : out of range

4.3.3. Label Message

- Download

W20F03,<id>L<data block size>:<data block> <data block> :==<description><error> <description> :== D=<data size>.<data> <error> :== B=<0|1>[.]

- Upload

Send R20F03,<id><0x0a> R21F03,<id><0x0a> Receive Same as Write data

- Delete

Delete ID	C<xx>F21,03<4 byte LABEL id><0x0a>
Delete All	C<xx>F20,03<0x0a>

4.3.4. Origin

Downloading Origin country

- Download

W20F04,<id>L<data block size>:<data block> <data block> :==<description><error> <description> :== D=<data size>.<data> <error> :== B=<0|1>[.]

- Upload

Send R20F04,<id><0x0a> R21F04,<id><0x0a> Receive Same as Write data

- Delete

Delete ID	C<xx>F21,04<4 byte ORIGIN id><0x0a>
Delete All	C<xx>F20,04<0x0a>

4.3.5. PCS

- Download

W20F05,<id>L<data block size>:<data block> <data block> :==<description><error> <description> :== D=<data size>.<data> <error> :== B=<0|1>[.]

- Upload

Send R20F05,<id><0x0a> R21F05,<id><0x0a> Receive Same as Write data

- Delete

Delete ID	C<xx>F21,05<4 byte PCS id><0x0a>
Delete All	C<xx>F20,05<0x0a>

4.3.6. Tax

- Download

W20F06,<id>L<data block size>:<data block> <data block> :== <tax type><tax value><error> <tax type> :== T=<data>. <tax value> :== V=<data>. <error> :== B=<0|1>[.]

- Upload

Send R20F06,<id><0x0a> R21F06,<id><0x0a> Receive Same as Write data

- Delete

Delete ID	C<xx>F21,06<4 byte TAX id><0x0a>
Delete All	C<xx>F20,06<0x0a>

4.3.7. Tare

- Download

W20F07,<id>L<data block size>:<data block> <data block> :== <description><tare type><tare value><error> <description> :== D=<data size>.<data> <tare type> :== T=<data>. <tare value> :== V=<data>. <error> :== B=<0|1>[.]

- Upload

Send R20F07,<id><0x0a> R21F07,<id><0x0a> Receive Same as Write data

- Delete

Delete ID	C<xx>F21,07<4 byte group id><0x0a>
Delete All	C<xx>F20,07<0x0a>

4.3.8. Barcode Type

You can set Barcode type for each PLUs.

Also you need to select barcode type. (Register barcode type 1~99)

➢ Download

W20F08,<id>L<data block size>:<data block>
<data block> :== <description><barcode type><barcode formnumber >
<barcode format><error>
<description> :== D=<data size>.<data>
<barcode type> :== T=<data>.
<barcode formnumber > :== N=<data>.
<barcode format> := F=<data size>.<data>
<error> :== B=<0|1>[.]

Description

When N=0 is F(there are meaning)

When N=0 is must download format otherwise in real usage may cause problem.

When N≠0 is Barcode Format must input within 30 text letters

Return

Reference

➢ Upload

Send

R20F08,<id><0x0a>

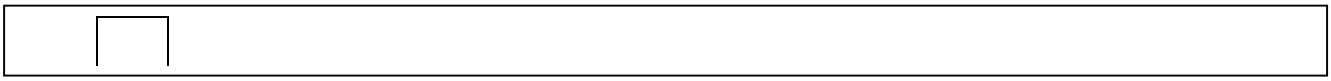
R21F08,<id><0x0a>

Receive

Same as Write data

➢ Delete

Delete ID	C<xx>F21,08<4 byte group id><0x0a>
Delete All	C<xx>F20,08<0x0a>



4.3. Table2

Table2 is one of extension of PLU's Table contains; Ingredient, Nutrition-Facts, Traceability (Country, Slaughter House, Cutting Hall)

4.3.1. Ingredient

Each PLU has individual ingredient factors in table format. This table links with ingredient number.

- Download

```
W30F01,<id>L<data block size>:<data block>
<data block> :== <block number><text data>
<text data>   D=<text data size>.<text data>
<block number> :==   X=<nth block>.
<nth block>    :== 0 : Start
                1 block size = 512
Sending data: text data must send at last
<error>        :== B=<0|1>[.]
```

Description

<id> can have value 1~999

<text data> data size can not be bigger then 512Byte per 1 transition

<block number> is for sending Text data which is greater then 512

1 Block (512 Byte) is Block number

Sending smaller then 512 Byte, you don't need to send <block number>

Return

0x82 <id> error values 0x82

0x99 <data> sending error, Format (byte)size not allow to decode

0x99 <id> over range value가 해당 범위를 초과함.

0x83 no format exists

0x01 Write OK.

➢ Upload

R30F01,<id><0x0a> R31F01,<id><0x0a> <id> :== more then 4Byte text lines 000100 is first 4letter=(“0001”) indicates Ingredient의ID Next 2text (“00”) indicates Data Block number

Description

“R31F01,..” recall request Ingredient ID, if not search next ID and return

If there are no other value receive Wxx:E99

Return

➢ Delete

Delete ID	C<xx>F31,01<4 byte INGREDIENT id><0x0a>
Delete All	C<xx>F30,01<0x0a>

Description

Return

After Delete All command Return time may take a while to receive return massage

OK: “C001:O0030”

4.3.2. Nutrition Facts

USA FDA(Food and Drug Administration) regulates certain products must print following factors.

Download

W30F02,<id>L<data block size>:<data block> <data block> :== D=<data size>.<data> :== T=<nutri-fact Type>. (0=SHORT,1=LONG :== S=<data size>.<data> / Serving Size :== P=<data size>.<data> / Serving Per :== Z=<nutrifact-id>:<4 byte value>.

Description

<nutrifact-id> table

00	calories
01	Calories fat
02	Total Fat
03	Saturated Fat
04	Cholesterol
05	Sodium
06	Total Carbon
07	Dietary Fibers
08	Sugers
09	Protein
0A	Vitamin A
0B	Cacium
0C	Vitamin C
0D	Iron
0E	Etc

- Read

Send

R30F02,<id><0x0a>

R31F02,<id><0x0a>

Receive

Same as Write data.

- Delete

Delete ID	C<xx>F31,02<4 byte nutrition id><0x0a>
Delete All	C<xx>F30,02<0x0a>

Return

OK : “C001:O0030”

4.3.3. Traceability

This is Meet, Fish, other related product history coding.

This code contains; Cutting hall, Slaughter house, bred country, born country)

You must input all the information of Traceability factor; (4-4,4-5,4-6) code must be register.

*Born, Bred, is follows each country standard.

- Download

W30F03,<id>L<data block size>:<data block>
<data block> :== D=<data size>.<data>
:== Z=<id>:<4 byte value>.
<id> : 0 <born in country no>
: 1 <bred in country no>
: 2 <Slaughter house no>
: 3 <Cutting Hall No>

- Upload

Send
R30F03,<id><0x0a>
R31F03,<id><0x0a>
Receive
Same as Write data

- Delete

Delete ID	C<xx>F31,03<4 byte traceability id><0x0a>
Delete All	C<xx>F30,03<0x0a>

Return
OK : “C001:O0030”

4.3.4. Country

For traceability code you must insert country.
You can set country code freely. Therefore need to maintain each country code update manually.

➢ Download

W30F04,<id>L<data block size>:<data block> <data block> :== D=<data size>.<data>

➢ Upload

Send R30F04,<id><0x0a> R31F04,<id><0x0a> Receive Same as Write data

➢ Delete

Delete ID	C<xx>F31,04<4 byte country id><0x0a>
Delete All	C<xx>F30,04<0x0a>

Return
OK : “C001:O0030”

4.3.5. Slaughter House

Traceability code element (you need to set country)

- Download

W30F05,<id>L<data block size>:<data block> <data block> :== <description><country> <description> :== D=<data size>.<data> <country> :== C=<country number>.

- Upload

Send R30F05,<id><0x0a> R31F05,<id><0x0a> Receive Same as Write data

- Delete

Delete ID	C<xx>F31,05<4 byte slaughter id><0x0a>
Delete All	C<xx>F30,05<0x0a>

OK : “C001:O0030”

4.3.6. Cutting Hall

Traceability code element (need to set country)

- Download

W30F06,<id>L<data block size>:<data block> <data block> :== <description><country> <description> :== D=<data size>.<data> <country> :== C=<country number>.

- Upload

Send R30F06,<id><0x0a> R31F06,<id><0x0a> Receive Same as Write data

- Delete

Individual deleting command

Delete ID	C<xx>F31,06<4 byte cuttinghall id><0x0a>

Delete all command

Delete All	C<xx>F30,06<0x0a>

Return

OK : “C001:O0030”

4.4. Store,Customer,Scroll Message and Clerk Table

4.4.1. Store

Inset store data or delet

- Download

W32F01,<id>L<data block size>:<data block> <data block> :=

- Upload

Send R32F01,<id><0x0a> R33F01,<sequential no.><0x0a> Receive Same as Write data

- Delete

Individual deleting command

Delete ID	C<xx>F32,01<id><0x0a>

Delete all command

Delete All	C<xx>F33,01<0x0a>

Return

OK : “C001:O0030”

4.4.2. Customer

Inset Customer information or delete

Download

W32F02,<id>L<data block size>:<data block> <data block> :=

- Upload

Send R32F02,<id><0x0a> R33F02,<sequential no.><0x0a> Receive Same as Write data

- Delete

Individual deleting command

Delete ID	C<xx>F32,02<id><0x0a>

Clerk 1 impossible to delete

Delete all command

Delete All	C<xx>F33,02<0x0a>

Return

OK : “C001:O0030”

4.4.3. Scroll Message

Insert Clerk information and delete

- Download

W32F04,<id>L<data block size>:<data block> <data block> :=

- Upload

Send R32F03,<id><0x0a> R33F03,<sequential no.><0x0a> Receive Same as Write data

- Delete

Individual deleting command

Delete ID	C<xx>F32,03<id><0x0a>

Clerk is impossible to delete

Delete all command

Delete All	C<xx>F33,03<0x0a>

Return

OK : “C001:O0030”

4.4.4. Clerk

Insert Clerk information and delete

- Download

W32F04,<id>L<data block size>:<data block> <data block> :=

- Upload

Send R32F04,<id><0x0a> R33F04,<sequential no.><0x0a> Receive Same as Write data

- Delete
-

Individual deleting command

Delete ID	C<xx>F32,04<id><0x0a>

Clerk 1 is impossible to delete

Delete all command

Delete All	C<xx>F33,04<0x0a>

Return

OK : “C001:O0030”

Error:

W32:E<code><0x0a>

<code> : 0x86 : When delete Clerk 1

4.5. Discount Table

Setting PLU Discount value

➢ Download

```
W09F<dcno>,<mode>L<data block size>:<data block>
<data block> :== <detail data>
<detail data> :== <data index>=<value>.
```

Description

Send Discount Table

<data index> must following table and write in hexadecimal

<mode> can have 0|1|2 value, for this case use “0”

1,2 use for scale to scale transition

<dcno> use temperate value and reserved

<data index>

sign	Description	Example
a	Department No	a=01.
b	Plu No.	b=01.
c	Discount Type	c=1.
d	Target 0	d=
e	Target 1	
f	Price 0	
g	Price 1	
h	Start Date <YY><MM><DD>	h=040717.
i	Start Time <HH><MM><SS>	i=080000.
J	End Date <YY><MM><DD>	J=040830.
k	End Time <HH><MM><SS>	k=000000.
l	Week (b0=Sun Day b1=Mon Day…)	

<data index>에서 Discount type 은 Discount Code가 다음과 같이 정의 된다.

Return

0x99 : error value

0x98 : no room for record

0x97 : Download error

➢ Upload

R09F<pluno>,Kdeptno><0x0a> R10F<xx>,<dc_no><0x0a>

Description

Upload method of <department number>;

You can enter start number to search the most closet list of discount plu

Receive

Same as Write data

Reading R10F if there no more of data sends Error 0x95

Error

R10:E<code>

➢ Delete

Delete ID	C<action>F09,<value><0x0a> <value> :== <2byte department id><6byte pluid>
Delete All	C<action><A|F>10<0x0a>

Return

OK: “C001:O0010<0x0a>”

ERROR:

4.6. Report

- **Upload**

R43F<period and part>,<6byte id><0x0a>
<period and part>:== <period><part>
<period> :== < 2byte data>
<part> :== <2byte part (Scale,PLU,MISC,Group,Department,Hourly,Clerk) >
<6byte id> :== 0.. max

Description

Report contains Part, Period. You can upload each of it

For this purpose Part indicates report part, and Period indicates periodic time.

NOTE: for PC control select Z1 or Z2

Part

Part #	
1	Report from each scale
2	PLU and Non PLU Report
3	
4	Group Report
5	Department Report
6	Hourly Report
7	Clerk Report
8	Tax Report

Period

Period	
1	X1 Report
2	X2 Report
3	All X1,X2 (Only for Clear)

Return

W43F<period and part>,<6byte id>L<data block size>:<data block>

<period and part>::== <period><part>

<period> :== < 2byte data>

<part> :== <2byte part (Scale,PLU,MISC,Group,Department,Hourly,Clerk) >

<data block> :== <part value>

<part value> :== “N”<report local id>=<transaction number>”,”<volume>”.”

<part value> contains; <report local id> can have 00~0F value and each Part has different value.

Scale report

<id> : Scale ID (1..31)

<data block> := <part value>

<part value> := “N”<report local id>=<transaction number>”,”<volume>”.”

[K=<cash>.][y=yymmdd].[h=hhmmss.]

“S”<pay id>=<pay number>”,”<volume>”.”

“Y”<tax id>=<tax type 1byte><tax rate 4byte>”,”<volume>”.”

<report local id> in Scale Report

01	Scale Summary	
02	Void Summary	
03	Repack summary	
04	Override summary	
05	Discount Summary	
06	Prepack Summary	
07	Return Summary	
08	reserved	NO use
09	Change	NO use
0A	Customer Summary	

<pay id> in Scale Report

01	Cash	
02	Pin/Chip	
03	Check	

04	Credit Card	
05	Credit Note	
06	Coupon	
07	Bonus Point	
08	Credit Sales	
09	Change	

PLU report

<id> : <plu save #>

<data block> := <item value>

<item value> : = <identities>=<hex value>.

<identities> table

E	=0. normal/ =1. no data(end)	
n	Total sale count.	
P	PLU #	
D	Department #	
T	PLU Type	
V1	Total sales price	Period
W1	Total sales weight	Period
Q1	Total sales count.	Period
V2	Total Label sales	Period
C2	Total Label print-outs	Period
V3	Total Pre-pack sales	Period
W3	Total Pre-pack sales weight	Period
X	Total Tax price	Period

Group report

<id> : Group Number

<data block> := “M=”<transaction number>,<volume>.

Department report

<id> : Department Number

<data block> := “M=”<transaction number>,<volume>.

Hourly report

<id> : 1..24 (HR)

<data block> := “M=”<transaction number>,<volume>.

Clerk report

<id> : 1..99

<data block> :== <part value>

<part value> :== “N”<report local id>=<transaction number>”,”<volume>”.”

“C=”<cashdraw summary>.

<report local id> in Scale Report

01	Clerk Summary	
02	Void Summary	
03	Repack summary	
04	Override summary	
05	Discount Summary	
06	Prepack Summary	
07	Return Summary	
08	reserved	
09	Change	
0A	unused	
0B	Negative Summary	

➢ Clear and Reset

Clear by Period and Items	C<action>F43,<value><0x0a> <value> :== <2byte period>< 2 byte id>
Clear All	C<action>F42<0x0a>

Clear All command is same as C01F43,09<0x0a>

Return

O K: C001:O0043

ERR:

4.7. Label and Image

4.7.1. Label format

The maximum save Label format is 20. You can set Label ID, but Label ID 1~30 is already been set in scale system.

<Memory map>

Label Area	Size (byte)	Type	Qty	Subtotal	Pos	Define	Value
Label ID	2	word	20	480	0	LABEL_INFO_POINT	0
Width	2	word					
Height	2	word					
Label Name	16	byte					
Label Image size	2	word					
Label Image	4096	byte	20	81920	480	LABEL_IMAGE	480

4.7.2. Bitmap size (for printing size allowance)

When printing bitmap image on label; you need to save image in differently.
The max saving space is up to 14 images.
Also each image can set ID number 1~50.

<Memory map of Bitmap>

Label Area	Size (byte)	Type	Qty	Subtotal	Position	Define	Value
Bitmap ID	2	word	14	84	0	BITMAP_INFO_POINT	0
Bitmap Width	2	word					
Bitmap Height	2	word					
Bitmap Image	8192	byte	14	114688	84	BITMAP_IMAGE	84

Matching the Label format ID and bitmap ID will print image on the Label.

NOTE: In case of printing multiple images on one label bitmap ID must be different.

4.7.3. Data File

In CL5000 has Label data which contains; LFM and bitmap image

A. LFM Data Structure

LFM format contains Label Format.

This information must be decoded order to be download

Label Format File (LFM) structure

Label Header	Bitmap Header 5
4096 Byte Label Format (MAX 4096 byte)	
Bitmap Header size and location Bitmap Data	

LABEL HEADER

NAME	Type	Bytes	Description	
Format	char	6	Label format	Label Information
Version	char	2	Label make Version	
Company	char	10	Label maker information	
Model	char	4		
Usage	char	4		
id	ushort	2	Label ID (1~999)	
width	ushort	2	Label width	
height	ushort	2	Label height	
name	char	16	Label name	
size_label	ulong	4	Label Format size	
CMPHEADER	struct	14*5	Bitmap Structure	

Label Format can have 5 Bitmap-information in one label

This information can have different locations, saved address, size.

NAME	Type	Bytes	Description	
addr	long	4	Data address(location)	Bitmap Information
size	long	4	Data Size	
id	ushort	2	Bitmap ID	
width	ushort	2	Printable width	
height	ushort	2	Printable height	

B. Bitmap image

Download structure

NAME	Type	Bytes	Description	
Format	char	6	Label format	Label Information
Version	char	2	Label Version	
Company	char	10	Label Company	
Model	char	4		
Usage	char	4		
id	ushort	2	Label ID (1~999)	
width	ushort	2	Label width	
height	ushort	2	Label height	

4.7.4. Transfer

- Download

```
W06F<bin id>,<mode>L<data block size>:<data block>
<bin id> := <4byte id>
<mode> := <2byte form><2byte set>
<2byte form> := 1 : Label
                2 : Bitmap
<2byte set> := 1 : Header
             = 2: Data
<data block> ::= <detail data>
<detail data>
          = “N=”<nblock>.
          = “Z=”<name>.
          = “S=<total image size>.
          = “W=”<width>.
          = “H=”<height>.
          = “D=”<size>:<binary data>
```

Description

<nblock> is 1~99

Return

R06:E99 // data error

R06:E98 // no room for save

R06:O043 // Label Header save success

R06:O044 // Bitmap Header save success

Check and Apply

This present setting label format not applied onto scale yet. This following command will switch to new set data.

Check And Apply	C<action>A05<0x0a> ex) C01A05<0x0a>

Return

C<action>:O07<0x0a>

- Delete

Clear Label	C<action>F07,<value><0x0a> <value> :== <2byte type>< 4byte value>
Clear All	C<action>F06,<mode><0x0a>

<2byte type> = 1: Label
2: Bitmap
<4byte value> = <label or bitmap id>
<mode> = 1: Label , 2: Bitmap

4.8. Keypad

4.8.1. Speed Key Set

➢ **Upload**

R04F21,<key no><0x0a>	Speed Key set #1 Upload
R04F22,<key no><0x0a>	Speed Key set #2 Upload
R04F23,<key no><0x0a>	Speed Key set #3 Upload
R04F24,<key no><0x0a>	Speed Key set #4 Upload
R04F25,<key no><0x0a>	Speed Key set #5 Upload

<key no> := 00

If “00” not, allow 0x01 ~ 0xA0 value. Each set value need to Return

➢ **Download**

W04F21,<key no>L<data size>:<data block><bcc>
W04F22,<key no>L<data size>:<data block><bcc>
W04F23,<key no>L<data size>:<data block><bcc>
W04F24,<key no>L<data size>:<data block><bcc>
W04F25,<key no>L<data size>:<data block><bcc>

<data block> MAX 160 x 4 = 640 Byte able to send
(1 data if organized with 4byte)

Send data and download data has following structure.
<key no> = Set 0 to PLU #1
<key no> = Set 1 to PLU #2

4byte long 형식 값 1	4byte long 형식 값 2				

NOTE: DATA is following the “Intel save real number” format

4.8.2. Function Key setting

- **Download**

W04F<keyhwid>,<key hwno>L<data size>:<data block><bcc>

<keyhwid> := 01 -> Sale Key Normal Mode set
02 -> Sale Key Shift Mode set
03 -> Program Key Normal Mode set
04 -> Program Key Normal Mode set
05 -> Second Program Key Normal Mode set
06 -> Second Program Key Normal Mode set
07 -> Customer Key set (spare)
11 -> Sale Key Normal + Shift
12 -> Program Key Normal + Shift
13 -> Second Program Key Normal + Shift
31 -> Clerk Set
32 -> Department Set
33 -> Tare Set
34 -> Currency Set

<key hwno> = 0 sending all block data
<key hwno> <> 0 modify call ID
1 data structured with 2byte

- **Upload**

R04F<keyhwid>,<key hwno><0x0a>

4.9. Other

You can read scale's date/time/current weight value

Indicial setting – you can cheek firmware Version, History...., etc.

4.9.1. Date / Time

➢ Date/Time Setting

```
W45F01,00L<data block size>:<data block>
<data block> := <date time><error>
<date time>
        Y=<year>.
        M=<month>.
        D=<day>.
        h=<hour>.
        m=<minute>.
        s=<second>.
```

Description

Year = 00 ~ 99 value ex) 2004yr = return"04".

month = 1~ 12 value

Day = 1~31 value

h = 0 ~ 23

m = 0 ~ 59

s = 0 ~ 59 set value.

Ex) 47min; return m=2f. value

➢ Read

```
Send
   R45F01,00<0x0a>
Receive
   Same as Write data
```

4.9.2. System Password

- System Password Change

```
W45F02,00L<data block size>:<data block>
<data block> := “P=”<string length>.<string>
```

- Upload

```
Send
   R45F02,<id><0x0a>
Receive
   Same as Write data
```

4.9.3. Scale Information

Scale Information contains following information

F/W Version, Data Structure Version

Weight Digit, Price Digit

KGLB Mode

Capa

- Read

```
Send
   R45F03,<id><0x0a>
Receive
   W45F03,00L<data block size>:<data block><bcc>
   <data block>
            F=<version><reversion>.
            V=<version><reversion>.
            w=<digit>.
            p=<digit>.
           K=<digit>. // 0: Kg, 1: LB
           C = <digit>. // 0: 6, 1:15, 2: 30, 3: 60
```

4.9.4. Weight

Return current weight information

- Upload

Send R45F04,00<0x0a> Receive W45F03,00L<data size>:<data><bcc> <data> := “W=”<weight>.”P=”<digit>.

4.9.5. History

- Upload

Send R45F05,<history id><0x0a> Receive W45F03,00L<data size>:<data><bcc>

<history id> = “0” newly updated set time and info.

<history id> = “1” just before set time and info. You can have 0~4 values

4.10. PLU Field Control

Set allowance or not allow PLU Field.

Before using CL5000 set PLU item field.

- Download (setting)

Send Setting W36F01,<id>L<data size>:<data><bcc> <data> := “P=”<ptype number>.“S=”<ptype number>. Receive

Apply	C<xx>F36,01<0x0a>

- Upload (status)

Send R36A<ptype number><0x0a> or R36F<ptype number>,00<0x0a>

Read R37A<series number><0x0a> Continue reading Receive W36F01,01L<data size>:<data><bcc>

5. Internal Communication

5.1 Transaction Number

Call up new Ticket Number from Remote Server

i00F026,01

Return

I00F036,L<length>:<data><bcc>

<data>:=”T=<counter>.”

6. Example

6.1. PLU

Ex1) Upload PLU

Uploading Department ID 1#, PLU #5.

Send : “R13F01000005,00<0x0a>”

Receive: No data

“W02A00000,00L0027:^=03.*=01.$=0.&=0A0A0321.@=4F50.N=0000.=”

N=0000. Searching existence of information

If data exist;

“W02A00005,00L0198:^=03.*=01.$=0.&=0A0A0321.@=4F50.N=0002.”

“F=02.4C,0004:│ F=04.4D,0001:┌ F=0A.53,0006:BANANA

“F=1E.53,0000:F=1F.53,0000:F=09.57,0002:

“F=50.57,0002: F=37.57,0002: F=05.42,0001:┐

“F=64.4C,0004: F=0B.4C,0004:d F=0E.57,0002: F=06.4C,0004:?

“F=08.42,0001: F=0D.4C,0004: F=18.57,0002: F=17.57,0002:

“F=55.57,0002: F=10.4C,0004: F=11.42,0001: F=19.57,0002:

“F=5A.42,0001: F=47.57,0002: F=45.4C,0004: “

“F=” following each space data(binary, total length is 0x198)
Each data are displayed “F=02.4C,0004:...” means,
PLU Item <02>
= means PLU Number and this data is return as binary(Intel) format.

Ex2) Upload PLU by Sequential

Searching unknown PLUs information;

Send : “R02F01000005,00<0x0a>”

Receiving 5th PLU information more information is following Ex1)

Ex3) Delete PLU

Department ID : 1
PLU NO: delete 5

Send: “C43F13,01000005”

All PLU delete

Send: “C43A02<0x0a>”
Receive : “C003:O02”

Est. 1min. to delete all PLU(3000 PLUs)

6.2. Department

Ex1) Upload #8 Department

Send : “R20F01,008<0x0a>”

Receive: “W20F08,000L0024:^=03.*=01.$=0.&=0A0A0321.@=4F50.B=1”

discription : Scale ID = 3

Department = 1

IP = 10.10.3.33

Port = 20304.

NO data

Upload #1 Department

Send : “R20F01,008<0x0a>”

Receive: “W20F01,001L00031:^=03.*=01.

$=0.&=0A0A0321.@=4F50.D=07.DefaultK=01.”

Description = “Default”

Speed Key ID = 1

Ex2) Department #2 delete

Send:

C01F21,010001<0x0a>

Return

C01:O0021<0x0a>

Error

W01:O0021,R01<0x0a>

6.3. Ingredient

Ex1) Upload #1 Ingredient
Send : “R20F01,008<0x0a>”
Receive: “W20F08,000L0024:^=03.*=01.$=0.&=0A0A0321.@=4F50.B=1”

Ex2) Download #1 Ingredient
discription : Ingredient Text
Send : “W30F01,0001L014:D=0F.Ingredient Text├ ”
Receive: “W30:O0001”

Description part must not above 512Byte.
If so, cut a part 512Byte each to send following example.
Send : “W30F01,0001L014:X=000.D=200.<512 byte first Block>”
Send : “W30F01,0001L014:X=001.D=200.<512 byte second Block>”

When Ingredient is downloading (ID registering X=000) (Data saving X=001)

Ex3) Delete #1 Ingredient
Send : “C41F31,010001<0x0a>”
Receive: “C001:O31<0x0a>”

6.4. Barcode Format

Ex1) Upload #1 Barcode
Send : “R20F0008,0001”

Receive : If there are no Data
“W20F08,000L0024:^=03.*=01.$=0.&=0A0A0321.@=4F50.B=1”
Data is exist:
“W20F08,001L004C:^=03.*=01.$=0.&=0A0A0321.@=4F50.

D=0A.BARCODE/01F=0D.DDIIIIIVPPPPCN=001.T=01.c”

Description = “BARCODE/01”
Format =”DDIIIIIVPPPPC”
Barcode Format Number = 1
Type = 1 (UPC)

Ex2) Download #1 Barcode

Description : DownloadBar
Format Userdefine
Type = 2

Send : “W20F08,0001L02E:T=02.N=0000.”
“D=0B.DownloadBarF=0D.DDIIIIIVPPPPC%”
Receive: “W30:O0001”

Description part must not reach 512Byte.
512Byte so, cut a part 512Byte each to send following example.
Send : “W30F01,0001L014:X=000.D=200.<512 byte 의 첫번째 Block>”
Send : “W30F01,0001L014:X=001.D=200.<512 byte 의 두번째 Block>”

When Ingredient is downloading (ID registering X=000) (Data saving X=001)

Ex3) Delete #1 Barcode
Send : “C41F21,080001<0x0a>”

Receive: “C001:O21<0x0a>”
For Error massage
Receive : “W21:E99<0x0a>”

6.5. Discount

Ex1) Upload PLU 1, Dept 1 of Discount information

Send: “R09F0001,0001”

Receive : No data

“R09:E98<0x0a>”

Receive : Discount Setting value exist

“W09A0001,00L0072:^=03.*=01.$=0.&=0A0A0321.@=4F50.”

“a=01.b=1.c=1C97.d=64.e=C8.f=64.g=C8.h=000000.i=000000.”

“j=000000.k=000000.l=FE.S=00.c”

Ex2) Upload First Discount Information

Send: “R10F0001,00”

Receive : No data

“R10:E95<0x0a>”

Receive : Discount set value exist

“W09A0001,00L0072:^=03.*=01.$=0.&=0A0A0321.@=4F50.”

“a=01.b=1.c=1C97.d=64.e=C8.f=64.g=C8.h=000000.i=000000.”

“j=000000.k=000000.l=FE.S=00.c”

Ex3) Delete Private Discount

Dept #2 PLU Number #1 Discount info delete

Send : “C41F09,02000001”

Return : “ C001:O09”

Ex4) Delete All Discount

Send : “C01A10<0x0a>”

Receive : delete all

“C001:O10<0x0a>

Ex5) Download Discount

data : deptno =1

pluno =2

Discount Type = 0x1c2b

First Target = 100

First Discount Value = 1000

Second Target = 200

Second Discount Value = 2000

Send : “W09F01,0000L028:a=01.b=2.c=1C2B.d=064.f=3E8.e=0C8.g=7D0.6”

Receive : register normally

“W09:O01”

6.6. Report

Ex1) Upload Department 1, PLU 1

Send:

“R09F0001,0001<0x0a>”

Receive :

“W09A0001,00L0072:^=03.*=01.$=0.&=0A0A0321.@=4F50.”

“a=01.b=1.c=1C97.d=64.e=C8.f=64.g=C8.h=000000.i=000000.”

“j=000000.k=000000.l=FE.S=00.c”

Ex2) Delete

6.7. Label and Image

```
firstsend()
{
	LABELHEADER lh;
	int p,p_start;
	/*
	    filename <- GetFilename();
	*/
	fp=fopen(filename,"rb");
	fread(&lh,1,sizeof(lh),fp);
	fclose(fp);
	p=18;
	p_start=p;

	// "\0" include text
	sprintf(&msg[p],"S=%04X.",lh.size_label);
	p+=strlen(&msg[p]);
	sprintf(&msg[p],"W=%04X.",lh.width);
	p+=strlen(&msg[p]);
	sprintf(&msg[p],"H=%04X.",lh.height);
	p+=strlen(&msg[p]);
	sprintf(&msg[p],"Z=%s.",lh.name);
	p+=strlen(&msg[p]);
	data_size=strlen(&msg[p_start]);
	bcc = get_bcc(&msg[p_start],data_size);
	msg[p++]=bcc;
	msg[p]=0;
	data_send_leng = p;
	sprintf(msg,"W06F%04X,%02X%02XL%03X",lh.id,m_labelform,1,data_size);
	msg[p_start-1]=':';
	SendData(msg,data_send_leng);
}
```

// Return : Rxx:O043

```
sendlabel()
{
}
```

4. Reference

Ref 1. Use of Terms

Speed Key Set Number

You can set 5 types of Speed key, this we call “SET NUMBER.” You can set for each department

Bridge

Transparent bridge: a packet-forwarding device that gets it forwarding instructions from the Destination Address Field in the MAC header. Transparent bridges learn about the location of nodes on a network by examining the Source Address Field of packets sent on the network. Transparent bridges are currently used in both the Token-Ring and Ethernet environments. End nodes need not be aware that transparent bridges exist on the network.

Router

A system responsible for making decisions about which of several paths network traffic will take, and for keeping track of routing information which is being passed along a network be one of several different possible protocols. To do this a router uses a routing protocol to gain information about the network and uses algorithms to choose the best router based on several criteria known as route metrics. In OSI terminology, a router is a Network Layer intermediate system.

Hub

The center of a star topology network or cabling system. The term Ethernet hub typically refers to a shared-media hub. Supports shared Ethernet in a "star" topology over Category 5 twisted-pair wire terminated by RJ-45 data jacks.

Repeater

A repeater connects two segments of your network cable. It retimes and regenerates the signals to proper amplitudes and sends them to the other segments. When talking about, Ethernet topology, you are probably talking about using a hub as a repeater. Repeaters require a small amount of time to regenerate the signal. This can cause a propagation delay which can affect network communication when there are several repeaters in a row. Many network architectures limit the number of repeaters that can be used in a row. Repeaters work only at the physical layer of the OSI network model.

Gateway

A gateway can translate information between different network data formats or network architectures. It can translate TCP/IP to AppleTalk so computers supporting TCP/IP can communicate with Apple brand computers. Most gateways operate at the application layer, but can operate at the network or session layer of the OSI model. Gateways will start at the lower level and strip information until it gets to the required level and repackage the information and work its way back toward the hardware layer of the OSI model.

TCP/IP

The part of the network that does the job of transporting and managing the data across the network is called TCP/IP which stands for Transmission Control Protocol (TCP) and Internet Protocol (IP). There are other alternative mechanisms for managing network traffic, but most, such as IPX/SPX for Netware, will not be described here in much detail. The IP layer requires a 4 (IPv4) or 6 (IPv6) byte address to be assigned to each network interface card on each computer. This can be done automatically using network software such as dynamic host configuration protocol (DHCP) or by manually entering static addresses into the computer.

UDP

User Datagram Protocol (UDP) supports the network at the transport layer. User Datagram Protocol (UDP) is an unreliable connection-less protocol and is defined by RFC 768 and 1122. It is a datagram service. There is no guarantee that the data will reach its destination. UDP is meant to provide service with very little transmission overhead. It adds very little to IP data packets except for some error checking and port direction (Remember, UDP encapsulates IP packets).

DHCP

This protocol is used to assign IP addresses to hosts or workstations on the network. Usually a DHCP server on the network performs this function. Basically it "leases" out address for specific times to the various hosts. If a host does not use a given address for some period of time, that IP address can then be assigned to another machine by the DHCP server. When assignments are made or changed, the DHCP server must update the information in the DNS server.

Access Point

Wireless access points (APs or WAPs) are specially configured nodes on wireless local area networks (WLANs). Access points act as a central transmitter and receiver of WLAN radio signals.

Access points used in home or small business networks are generally small, dedicated hardware devices featuring a built-in network adapter, antenna, and radio transmitter. Access points support Wi-Fi wireless communication standards.