ATTACHMENT E.

- USER'S MANUAL -

CEYON

RF-ID Writer MANUAL

Contents

1. WIM125 Series

1.1. Specifications

1.1.1. Product specifications

WIM125-S	Parameter	Description
	Processor	8 bit Processor
	Frequency	125 KHz
	LCD type	16*2 line 32 character display
	Power	DC 12V / 1A
	Communication	RS232 , RS422, RS485 (Menu Setting)
	Dimensions	(W)300mm * (L)350mm * (H)75mm
	Material	ABS
	Host Interface	1ea (RS232 , RS422, RS485)
	Internal ant.	1ea
	LED display	POWER, COM, READ, WRITE
	KEY	4 KEYS
	Keyboard I/F	1ea

1.1.2. Environment Specifications

Item	Specifications
Operation temperature range	0°C to +65°C
Operation humidity range	20 % ~ 90 % (No dewing)
Operation atmospheric pressure range	1 atmospheric pressure
Conservation temperature range	0°C to +80°C
Conservation humidity range	20 % ~ 90 % (No dewing)

1.2. Name

1.2.1. WIM125-S Rear Side

Since WIM125-S uses a built-in antenna, there is no need of antenna connector. All other matters are same as lower side in respect of contents.

1.2.2. WIM125-S Upper Part

There is a loading part on the upper side of WIM125-S to place a cassette or cassette box on. To accurately detect the tag ID, it is recommended to properly place a cassette or cassette box on each groove (loading part) so that the tag may be located on the upper side of the tag contact part.

1.3. Installation method

1.3.1. Method to install WIM125-S

WIM125-S should be installed on even surface with sufficient space is obtained, and it is better to install at appropriate height so that it is easy for worker to operate.

1.3.2. Precautions in installing WIM125 Series

① If difficult to perform drill work on the adhesion surface inevitably, install the WIM125 at a designated location by using a separate bracket.
② Install WIM125 Series at a place where it is easy for worker to operate.
③ Install WIM125 Series at a place where it is easy to supply power or connect communication lines.
④ Adhesion surface and bracket materials should not be of metal-series (including SUS, AL) and material to absorb wave (magnet, ferrite, etc) should be avoided. If adhesion surface and bracket materials are of metal-series or material to absorb wave, a separate consultation is needed in relation with installation.
⑤ Install antenna at a place possible to read out.
⑥ Installing product around equipment should be avoided where 125KHz and low frequency occur.

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1.4. Power Connection

Insert adaptor supplied by our corporation into a DC power jack.

1.4.1. If power is properly input

All LEDs turn on after powering on.
Boozer rings for about 1second.
If fixed time eclipses after LED model name* of WIM125 is displayed on LED, the boozer rings, all LEDs turn off, only red Power LED turns on, converting to operation mode (read).

1.4.2. If power is improperly input

No LED turns on.
No boozer rings.
No LCD message properly plays.

1.4.3. Check following points:

For improper operation, check power adaptor.

Check input power is about DC15V in no load condition.

Check power polarity of adapter is proper. (For adapter other than that provided by our corporation)

1.5. Antenna Connection

Antenna terminal is composed of a 6-pin miniature DIN jack and length of antenna cables is 2M. In some cases, a flat cable adaptor PCB provided by our corporation may be used for extension of a flat cable. Maximum 3.5m of flat cable can be used in mixed use of 1.5m. Arbitrary cutting or modification of cables provided by our corporation should not be used. Since reading distance may largely differ depending on size antenna and tag, other types of antenna are variously prepared. Consult technical staff of our corporation considering purpose and environment to use.

1.6. Connection of Communication Lines

Communication line connection between WIM125 Series and HOST is explained.

Since detailed specification is same as REM125 Series, refer to REM125 Manua.

1.7. Connection of Keyboard

WIM125 Series enables to easily input tag ID by using a keyboard.

All general keyboards used in a computer are supported. It is possible to use only if simply connecting them to the keyboard connector. ID input using characters, numbers and symbol keys on the keyboard is allowed. No direction keys (→,←,↑,↓), edit keys (Insert, Delete, Home, End, PageUp, PageDown) and several special function keys are not used. Convenient short keys may be used if using the keyboard as follow:

'F1': Performs reading operation in the Read Mode.

Perform reading operation after converting from Write Mode to Read Mode.

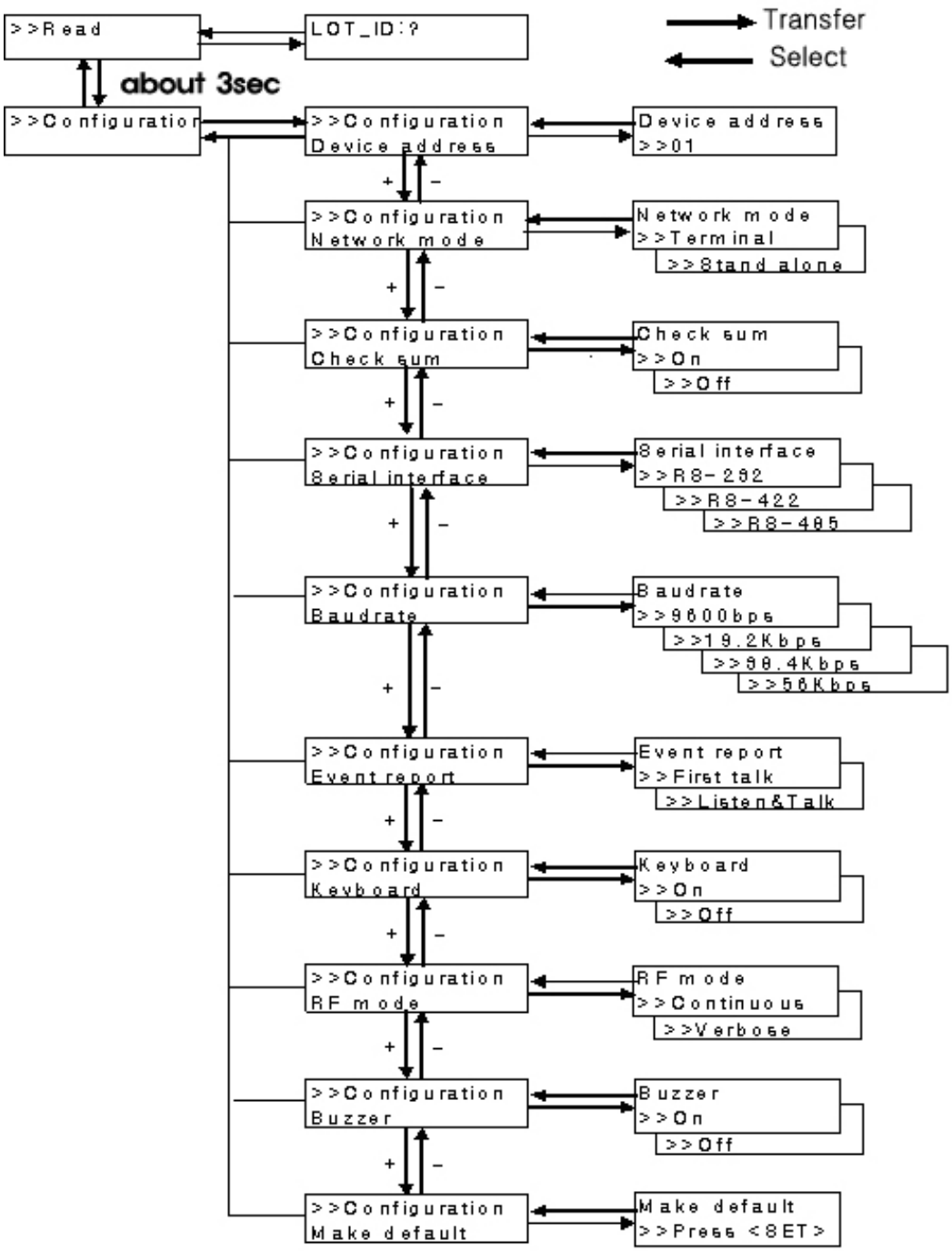
'F2': Converts from Read Mode to Write Mode. In this case, if there is an ID read in the Read Mode, the cursor is located at the last character of the ID.

'F3': Converts from Read Mode to Write Mode, erases all IDs of the tag. Convert to the Read Mode after inputting '0' into the tag.

Erases all characters input in the Write Mode and then moves the cursor to the original position.

1.8. Menu

1.8.1. Menu Tree*



1.8.2. Read Operation (Read Mode)

">>Read" is displayed on the LCD window.

Read mode is a mode firstly entering after applying power, and is set to Continuous (RF mode) and First talk (Event report) in shipment out of factory. Tag ID is detected together with boozer sound when tag approaches to the antenna and is displayed on LCD (for about 5 seconds and ID is transmitted to the host at the same time. Maximum character numbers are 11 characters displayed on LCD.

1.8.2.1. Method to re-detect same Tag ID

If tag falls within the recognition scope of antenna in basic mode, it performs ID detection only once, and if the same tag continues to fall within the recognition scope of antenna, it performs detection no longer. In this case, following methods are used when desire to detect ID of the same tag:

Separate tag from antenna by sufficient distance (about 30cm) and then approach it to antenna again after waiting for about 1 second.

Enable to detect ID by pressing the F1 key when the keyboard is adhered.

Read operation continues to perform when tag exists within distance of recognizing antenna if activating RTC by using a CRTC*(Command of Reset Tag in Continuous mode) in the host in connection with the host.

1.8.3. Write Operation(Write Mode)

Write Mode is displayed as "LOT_ID :" on the LCD window and the cursor flickers.

This is a mode to input ID into the Tag and can be entered by using a F2 key on the keyboard. This mode can be converted to Read Mode by pressing 'Conversion' key for about 3 seconds or pressing the F1 key on the keyboard.

1.8.3.1. ID Entry

For ID, up to 1 ~ 23** characters can be entered. In this case, there should be no space between characters. If reaching to maximum character numbers of entry, entry is done no

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* If referring to annexed protocol, detailed descriptions for CRTC mode is provided. In addition to them, refer to protocol for both RF mode and Event report mode related with reading.

** Only LOT_ID up to 11 characters can be entered when entering with the keyboard, and in order to all 23 characters, CTW commands should be used in the HOST. For further details, refer to annexed protocol.

longer and boozer sound informs status that it is impossible to enter whenever pressing the key. If pressing 'Enter' key on the keyboard in order to complete entry, write operation is performed. Standby status of entry remains in the Write Mode. If Write Mode is completed, boozer sound rings triple time shortly and the Write Mode is converted to Read Mode.

1.8.4. Configuration Mode *

This mode is displayed as ">>Configuration" on the LCD window.

This is mode to change various settings of the unit and can be entered by pressing the 'Conversion' key for more than 3 seconds. For detailed setting items, refer to the Menu Tree.

1.8.4.1. Boozer sound

Boozer sound rings whenever changing each of settings and respective meaning is as follow:

Short Beep triple time: Means completed setting or OK.

Short Beep once: Means that setting values change.

1.8.4.2. Key operation

Respective key performs following operation when changing settings by using a key:

FUNC (conversion): Moves to previous menu or upper menu after canceling without selecting setting values.

SET (Select): Moves upper menu or lower menu after selecting setting values.

INC (+)/DEC(-): Change items.

Automatically return to Read Mode if not pressing the key for 10 seconds after the final key entry.

1.8.4.3. Addressing

Always designate and use address of the unit if executing multi communication except for point to point. Up to No 1 ~ 16 can be entered. In shipment, address is set to No. '1'.

Since communication with the host is not done in changing unit number, do not change the unit number unless there is sufficient understanding about use of the unit.

Sequence	Key Entry	LCD Message	Remarks
1	FUNC (conversion)	>>Configuration	Enter into Configuration mode with a long beep sound if pressing FUNC (conversion) key for 3 seconds.
2	SET (selection)	>>Configuration Device address	Setting items
3	SET (selection)	Device address >>01	Displays current setting values
4	INC(+)/DEC(-)	Address increase/decrease	Setting scope: 1 ~ 16
5	SET (selection)	>>Configuration Device address	Addressing is done with a short beep sound triple times and moves to the upper mode.
6	FUNC (conversion)	>>Configuration	Moves to upper mode.
7	FUNC	>>Read	Moves to Read Mode.

1.8.4.4. Network mode

This is mode to set network connection status and the user can control this mode at the host by connecting (terminal mode) it to the host or directly operate (stand alone) the unit.

Sequence	Key Entry	LCD Message	Remarks
1	FUNC (conversion)	>>Configuration	Enter into Configuration mode with a long beep sound if pressing FUNC (conversion) key for 3 seconds.
2	SET (selection)	>>Configuration Device address	Setting item
①	INC(+)/DEC(-)	>>Configuration Network mode	Moves to setting item.
3	SET (selection)	Network mode >>Terminal	Displays current setting values.
4	INC(+)/DEC(-)	Changes setting values	
5	SET (selection)	>>Configuration	Addressing is done with a short

		Network mode	beep sound triple times and moves to the upper mode.
6	FUNC (conversion)	>>Configuration	Moves to upper mode.
7	FUNC	>>Read	Moves to Read Mode.

1.8.4.5. Checksum setting

User can insert or delete checksum information to detect fault operartion when translating detected tag ID to the host. Menu setting is same as network mode setting.

You can add or remove 2 bytes of checksum information to detect error of data when transmitting ID detected from the host. As for method to setup menu, you can set it in the same manner as network mode setting method.

1.8.4.6. Serial interface setting

This is item to set physical communication covenants connected to the host, and supports RS-232, RS-422 and RS-485.

1.8.4.7. Baud rate setting

You can set communication speed when communicating to the host, and this mode supports 9600bps, 19.2Kbps, 38.4Kbps and 56Kbps.

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1.8.4.8. Event report setting

This is item to setup method to transmit tag ID read in the Read Mode to the host and for further details, refer to annexed protocol.

1.8.4.9. Keyboard setting

You can set to on when using the keyboard, and if there is no keyboard, set to Off.

There is no need of changing this keyboard setting when using it as terminal mode since it is not affected by On/Off setting.

1.8.4.10. RF mode setting

This mode is to set RF operation for Read Mode and for further details that refer to annexed protocol.

1.8.4.11. Buzzer setting

This is mode used when turning on or off boozer sound generated in detection Tag ID or

performance of ID writing. In this case, key operation boozer sound also rings in the Off status.

1.8.4.12. Factory setting

This is mode used when restoring to setting value in shipment of factory. Setting is changed to the first setting value of each menu.

1.9. Host Communication

WIM125 Series communicates with the host by using same protocol as REM125 Series and you can perform transmission/receipt of ID, setting, etc of the unit at the host. For further details, refer to annexed protocol.

1.10. Checking Points of Unit

To check normal operation of the unit, refer to following items:

1.10.1. Power Application

① Do All LEDs turn on and boozer sound rings when power is applied, and is model name of product displayed on LCD?

② Do all LEDs except for power LED turn off after about 1 second from power application and is “>>Read” displayed on the LCD?

③ For WIM125, does the red LED turn on in the antenna installed outside?

1.10.2. ID Read/Write

① Is a proper ID on the LCD together with boozer sound when placing a tag within recognition distance? Does the Read LED turn on and continue for about 5 seconds (For WIM125, does the yellow LED turn on the antenna installed outside?

② When continuously placing same tag within recognition distance of the antenna, does it detect ID no longer after reading it once? (However, RTC mode must be disabled)

③ Is up to 11 characters of ID displayed on LCD?

④ Is read operation performed when pressing the F1 key of the keyboard?

⑤ Is it converted to Write Mode when pressing F2 of the keyboard?

⑥ For Write Mode, is ID read in Read Mode displayed? Does the cursor locate at the last character?

⑦ Is up to 11 characters on the keyboard?

⑧ Is entered ID when pressing the Enter key of the keyboard? Is entered ID properly displayed after converting it to Read Mode?

⑨ Are all entered characters erased when pressing the F3 key of the keyboard in the Write

Mode? Does the cursor locate at the first?

⑩ Are all previous ID erased when pressing the F3 key of the keyboard in the Read Mode? Is '0' entered?

Refer to the annexed unit check list for detailed checking points that operate needs other than above checking points.

1.11. Problems and Troubleshooting

Problems to likely occur by type and are suggested and methods to solve them are introduced.

1.11.1. Problems related with power supply

Q1. No LED turns on when connecting power connector.

A1. Check following points if such problems occur:

Check output of adaptor, a power supply unit comes out (DC12V / 1A)

Remove a DC power jack and then connect and restart it after about 10 seconds.

1.11.2. Problems related with network access

Q1. No host and WIM125 are connected.

A1. Check following points if such problems occur:

Check connection status of various cables connecting host and unit, etc once again.

Also check exclusive cables are connected.

Check operation status both host and machine.

Q2 No WIM125 and antenna are connected.

A2. Check following points if such problems occur:

Check connection status of various cables connecting both WIM125 and antenna once again.

Also check exclusive cables are connected.

Check operation status both 2WIM125 and antenna.

1.11.3. Problems related with operation

Q1. No operation is done.

A1. Check communication lines of the unit is properly connected.

Check power is properly supplied.

Q2. No operation even after communication and power lines are entirely connected.

A2. Check exclusive cables provided are used.

Check addressing is properly set.

Supply power again.

Check they are in regulated command format.

Q3. Error occurs even though tag is located within valid distance for reading.

A3. Supply power again.

Check operation mode.

If they are tags that error occurred during write operation, perform proper writing operation once again.

Q4. Writing fail or Verify fail occurs.

A4. Supply power again.

Check proper reading is performed.

Check that distance between tag and antenna is appropriate.

If problems are not solved in above methods, consult Ceyon Technology Co., Ltd. (+82-31-267-1163) after immediately removing cables from the power input port.

Attachment

Attachment 1: Communication with the Host

1. Reader Operation

1.1. RF mode

1.1.1. Verbose mode

The Reader recognizes and reads the tag by operating only one channel from those in waiting mode through the host command (CVR). The channel that is operated in Verbose mode is activated only the specific scanning duration. If the tag is read within that duration, the channel stops its operation and returns to the waiting mode. If the tag is not recognized during the scanning duration, it is also returned to the waiting mode.

1.1.2. Continuous mode

All channels of the Reader operate for the specific duration (scan weight) set for the channel and then return to the waiting mode. The next channel is then activated and goes through the cycle. If there is only one channel, it continuously searches the tag.

1.2. Event report mode

1.2.1. First talk mode(FT)

In this mode, the data is immediately sent to the host when the even (tag read) occurs to the reader.

1.2.2. Listen & talk mode(LT)

The Reader stores the data in its own memory when the event occurs and sends it to the host only when requested (CTR). In this case the data is stored in the reader until the host request.

2. Frame

The communication between the reader and the host occurs through two types of frames. The type of frame is determined by the transmitting device. The data in the frame consists of ASCII code. For the numeric data, its hex value is changed to 2byte ASCII code. The frames are described in detail below.

2.1. Command Frame(Host to Reader)

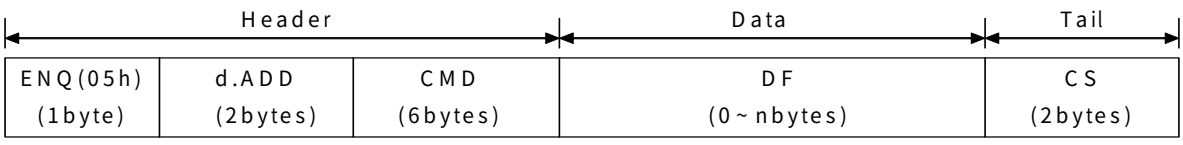

Figure 2.1

ENQ (Enquiry): It signifies the beginning of the frame and is the ASCII 05H control character.
d.ADD (Destination Address): It is the reader address to send the data and can be within 00H ~ FFH. 00H and FFH are designated for broadcasting. (Currently only 1 through 16 are used.)
CMD (Command): Please refer to Section 3.
DF (Data Field): data
CS (Checksum): The lowest 1 byte value of the sum excluding CS is changed to 2 byte ASCII code.

2.2. Response Frame(Reader to Host)

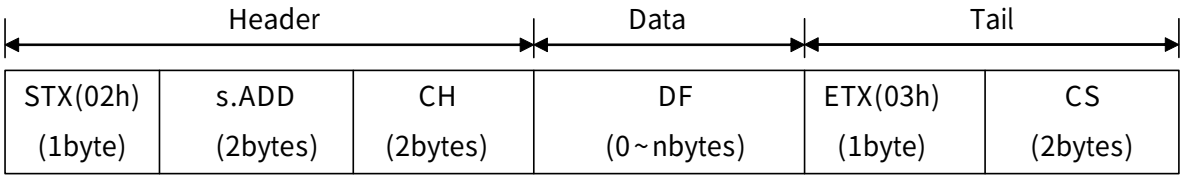

Figure 2.2

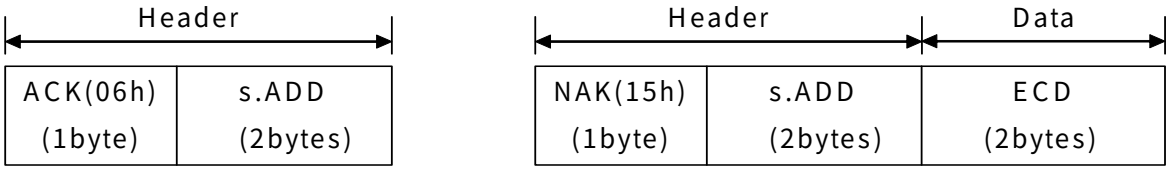

Figure 2.3

Figure 2.2 shows the response frame form the reader to the host. This frame is the response to the tag Read/Write (CTR/CTW) related command can be used to send the data or control information as the response to the various host requests. The control information must be preceded by a specific request. Therefore, there is always a set of request/response communication. If there is no data to respond or error after the request is normally received and processed, the ACK or NAK is sent as shown in Figure 2.3. The frames are described in more detail below. .

STX (Start TX): It signifies the beginning of the frame and is the 02H ASCII 02H control character.
ACK(Acknowledgement): This is sent when the request was normally processed and is 06H ASCII control character.
NAK(Negative ACK): This is sent when the request was failed to be processed and is 15H ASCII 15H control character.
s.ADD (Source Address): This is the address of the reader that sends the data.
CH (channel): This is the channel number of the reader. (Since a reader can have the multiple

antennas, each antenna is designated with a channel number. If there is only one antenna, the channel is always 1.) FFh is used to send the control information.
DF (Data Field): data
ETX (End TX): This signifies the end of data and is 02H ASCII control character.
CS (Checksum): The lowest 1 byte value of the sum excluding CS is changed to 2 byte ASCII code.
ECD: The 1 byte error code is changed to 2 byte ASCII code.

A0H: Writing failed,
A8H: Reading failed,
80H: Checksum incorrect
88H: Overflow
40H: EEPROM WRITING FAIL
20H: RF Mode error
28H:Event Mode error
10H : Unknown command
18H : Time Out

3. Command

REM125 and WIM125 models support the commands listed in the following table. Each command is named as Cxx with C standing for Command.
As shown in the table, the commands consist of 3 bytes and can include the data. One thing to note is that, as mentioned in the previous section, the one byte long hex value is changed to 2 byte ASCII code for data transmission. Therefore, the transmitted frame becomes 6 byte long..

For example:
When sending CCS (08h 03h 01h), it is expressed as '0' '8' '0' '3' '0' '1' and then changed to 30h 38h 30h 33h 30h 31h as the frame data to be sent.

The above data expression is applied to all fields except the ASCI control characters such as ENQ, STX and ETX.

Command name	Command	Data	Description

code			
CCS (Ch. Status)	08h 03h 01h	None	This CCE related command checks the enabled ch. The data in the response is 1 byte in the same format as CCE data byte with the bit position of the enabled ch. set. .
CRA (Read Address)	08h 17h 01h	None	It reads the 1 byte address of the reader.
CMI (Manufacturer Info.)	08h 20h 08h	None	It reads the 8 byte manufacturer information.
CPI (Protocol ver. Info.)	08h 28h 08h	None	It reads the 8 byte protocol version information.
CFI (F/W ver. Info)	08h 30h 08h	None	It reads the 8 byte firmware version information.
CVM (Verbose Mode)	10h 0Bh 01h	00h – Continuous 01h - Verbose	In the verbose mode, only the channel that was activated by the CVR command scans the tag and returns to the waiting mode after tag reading. In the continuous mode, the channels activated by CCE command take the turn to scan the tag.
CFT (First Talk)	10h 0Bh 02h	00h – Listen & talk 01h – First talk	In the LT mode, the tag information is stored into the reader memory until the host requests it through CTR command. In the FT mode the tag information is immediately sent to the host.
CRTC (Reset Tag in Continuous mode)	10h 0Bh 03h	00h – Disable 01h - Enable	This command is valid only for the continuous mode. If RTC is enabled, the same tag data is continuously sent as long as the tag remains within the recognition distance. If it is disabled, the same tag information is sent only at first.
CVTL (Verbose Time Limit)	10h 0Bh 06h	01h – Enable Time out	In the verbose mode, the tag is scanned when the CVR command is received for the duration set in the CTT mode. If it is timed out without tag recognition, time out error is sent.
CBS (Buzzer Set)	10h 0Bh 07h	00h – Buzzer off 01h – Buzzer on	It activates or deactivates the buzzer operations for successful tag read or write.
CDC	10h 18h 03h	01h	It checks the reader condition according to

(Device Check)			ACK, NAK or no response.
CSE (Save setting to Eeprom)	10h 18h 05h	01h	The reader parameter settings are stored in EEPROM so that the values remain the same even when the power is turned off. Without this command, the parameters are reset to default values when the power is turned on.
CGB (Good Beep)	10h 19h 05h	01h	A good beep is activated.
CEB (Error Beep)	10h 19h 06h	01h	An error beep is activated.
CLB (Long Beep)	10h 19h 07h	01h	A long beep is activated.
CCE (Ch. Enable)	18h 03h 01h	01h(0000 0001) – ch1 02h(0000 0010) – ch2 04h(0000 0100) – ch3 08h(0000 1000) – ch4 10h(0001 0000) – ch5	Each channel is enabled or disabled.
CSI (Serial Interface)	18h 0Ch 01h	상위 4bits: type 0 – RS422 1 – RS485 2 – RS232 하위 4bits: BPS 6 – 9600bps 7 – 19.2kbps 8 – 38.4kbps 9 – 56kbps	Set serial interface and transmition speed between Host and reader. Changed information will be applied after sending Ack response . Ex) RS422, 9600bps Data – 06h
CTT (Tag Time)	18h 1Dh 01h	00h – 0초 01h (0.5 second) ~ 0Ah(5 seconds) * Increment of 0.5 seconds.	It sets the channel scanning duration when activated by CVR command. *It is recommended that at least 3 second duration is set before timeout for data stability.
CSA (Set Address)	18h 17h 01h	The device address between 1 and 16 (01h~10h)	It sets the 1 byte device address. The change is completed after the Ack response is sent.
CVR (Verbose ch.	18h 19h 01h	Channel 1 ~ 5 -00h deactivates all channels.	It sets the channel to activate for the verbose mode. The channel must have been enabled by the CCE command, and

Read)			only one channel can be activated at a time. Once the reader receives this command, it responds with the Ack and then scans the tag for the scanning duration before sending the tag information to the host in response to the CTR command depending upon FT or LT mode. If the tag is not recognized within the scanning duration, the time out error response is sent to the host, and the channel is turned into the waiting mode.
CTRn (n ch Tag data Read)	2nh 47h 17h	None	The tag of the specific channel is read. This command is valid for only Listen and Talk mode. The valid range of n is 0 ~ 8. When n = 0(CTR0, 20h), all channels read the tag data. * In case of CTR0, data of all channels recognizing the tag is sent through one frame as shown in Figure 3.1
CTWn (n ch Tag data Write)	3nh 47h 17h	Tag data	The valid range of N is 1~8.

As shown in the table, the command that starts with 08h is used to read the specific control data from the reader. In that case no data field is used. The command that starts with 2nh is used to read the tag data. In that case the third byte is the length of the tag data and is the same as the data length of the frame. The command that starts with 10h is used to turn On/Off the reader parameters. 1 means on and 0 means off. The command that starts with 18h is used to send the specific data to the reader or tag. The last byte signifies the data length. The 3nh command is used to write the data to the tag. The tag data length is same as the third byte of the command. For the data field, the 1 byte hex value is changed to 2 byte ASCII code like other fields before transmission/reception. In other words, the data length of the actual frame is twice that of the number of bytes expressed in the last byte of 08h/18h/2n/3n commands.

Figure 3.1 shows the response frame of CTR0 command. It is used to send all valid channel tag data. The channel data format in the frame is same as 2 byte channel information data

field (DF). The length of DF is same as the last byte of the CTR command.

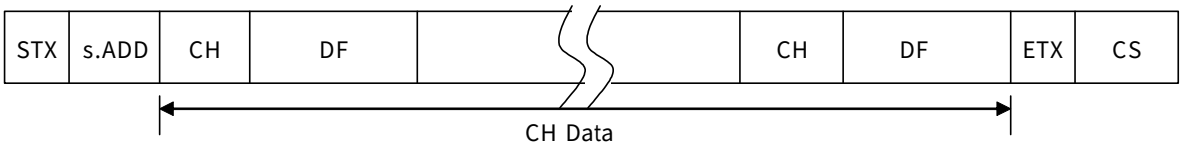

Figure 3.1

4. Frame Communication

The following shows the response of the reader for each command.

4.1. READ Command Format (08h/2nh command)

Host		Reader
ENQ d.ADD CMD DF CS	----------→	
Process successful	←----------	STX s.ADD ch DF ETX CS
Tag data가 없을 때(2nh)	←----------	ACK s.ADD
Process failed	←----------	NAK s.ADD ECD

4.2. WRITE Command Format (10h/18h/3nh command)

Host		Reader
ENQ d.ADD CMD DF CS	----------→	
Process successful	←----------	ACK s.ADD
Process failed	←----------	NAK s.ADD ECD

Attachment 2: Device Check list

Evaluation: OK – Pass
NOK – Fail
POK – Partially OK (Conditions are recorded in the note section)

Category	Sub-category	Detailed Category	Description	Evaluation	Notes
Reader / Writer	Power Supply	WIM125 series	Are all LED's lighted, buzzer sounds activated and LCD shows the product model name when the power is turned on?		
		REM125 series	Are all LED's except the power LED turned off and LCD show ">>Read" or ">>Run" 1 second after power on?		
		WIM125, REM125 series	Is the red LED on the external antenna of WIM125 lighted or flashed?		
	Reading	WIM125 series REM125 series	Is the correct ID displayed on LCD with the buzzer sound when the tag is placed within the recognition distance? Is the Read LED or the correct channel LED lighted for 5 seconds?		
		WIM125, REM125 series	Is the orange Led on the external antenna lighted when the ID is recognized?		
		WIM125 series REM125 series	When the same tag remains in the recognition distance, is the ID read only once? (Only when RTC mode is disabled.)		
		WIM125 series	Is the ID displayed on LCD up to 11 character long?		
			Is the reading activity performed when F1 key on the keyboard is pressed?		
Writer	Writing	WIM125 series	Is the writing activity performed when F2 key on the keyboard is pressed?		
			In the writing mode, the ID read in the reading mode is displayed and the cursor is placed at the last character?		

			Can the keyboard entry support up to 11 characters?		
			When the Enter key on the keyboard is pressed, is the entered ID written and the mode is changed to reading mode to correctly display the entered ID?		
			In the writing mode, are all previous entry erased and the cursor moved to the first character when the F3 key is pressed?		
			In the reading mode, is the previous ID erased and 0 is displayed when the F3 key is pressed?		
Reader /Writer	Setting	WIM125 series, REM12 series	Is the mode changed to the configuration mode when the switch key is pressed for 3 seconds?		
			After the parameters are changed, are the new values remain the same after the mode is changed to the reading mode and then back to the configuration mode?		
			When the power is turned back on, are all the parameters reset to the default values? (Except when the new parameters values are stored by the CSE command from the host in which case the new values must be retained.)		
			When the address is changed, does the host recognize the new address?		
			When the checksum is turned off, is the communication enabled even when there is no or wrong checksum?		
			When the event report is set as the First talk, is the tag information sent to the host immediately after recognizing the tag?		
			When the CTR command is received during the first talk mode, is the event mode error (28h) sent to the host?		
			When the event report is set as the listen & talk mode, does the tag information stay with the reader until the CTR command is received?		

			In the listen & talk mode, is the tag information (if there is unsent information remaining) or ACK (if there is no remaining tag information) sent to the host when the CTR command is received?		
			If the RF is set in continuous mode, is that tag immediately recognized when it is within the recognition distance?		
			If the CVR command is received during the continuous mode, is the RF mode error (20h) message sent?		
			In the verbose mode, is the tag ignored even if it is within the recognition distance? (For WIM125, is the external antenna LED lighted off?)		
			In the verbose mode, is ID recognized when the CVR command is received?		
			When the CVR command is received with no tag in the recognition distance, does time out occur after the scanning duration time and the time out error (18h) message sent?		
			If the buzzer is activated, is it sounded during read or write?		
			If the buzzer is deactivated, is there no sound during read or write?		
			When the serial interface protocol or baudrate is changed, is the response sent in the old mode and the new mode becomes effective?		
	Communication	WIM125 series REM125 series	When reading, is the recognized ID corrected sent to the host?		
			Does the reader ignore the command when it is sent using the wrong device address?		
			Does the ACK or NAK response sent when the command is received?		
Writer		WIM125 series	Is the tag ID sent to the host after writing operation?		

U.S.A.

U.S.FEDERAL COMMUNICATIONS COMMISSION RADIO FREQUENCY INTERFERENCE STATEMENT INFORMATION TO THE USER

NOTE : This equipment has been tested and found to comply with the limits for a Class B digital device pursuant to Part 15 of the FCC Rules.

These limits are designed to provide reasonable protection against harmful Interference in a residential installation.
This equipment generates, uses, and can radiate radio frequency energy and, if Not installed and used in accordance with the instructions, may cause harmful Interference to radio communications.
However, there is no guarantee that interference will not occur in a particular Installation.
If this equipment does cause harmful interference to radio or television reception, Which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet of a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for assistance.

Changes or modification not expressly approved by the party responsible for Compliance could void the user's authority to operate the equipment.
Connecting of peripherals requires the use of grounded shielded signal cables.