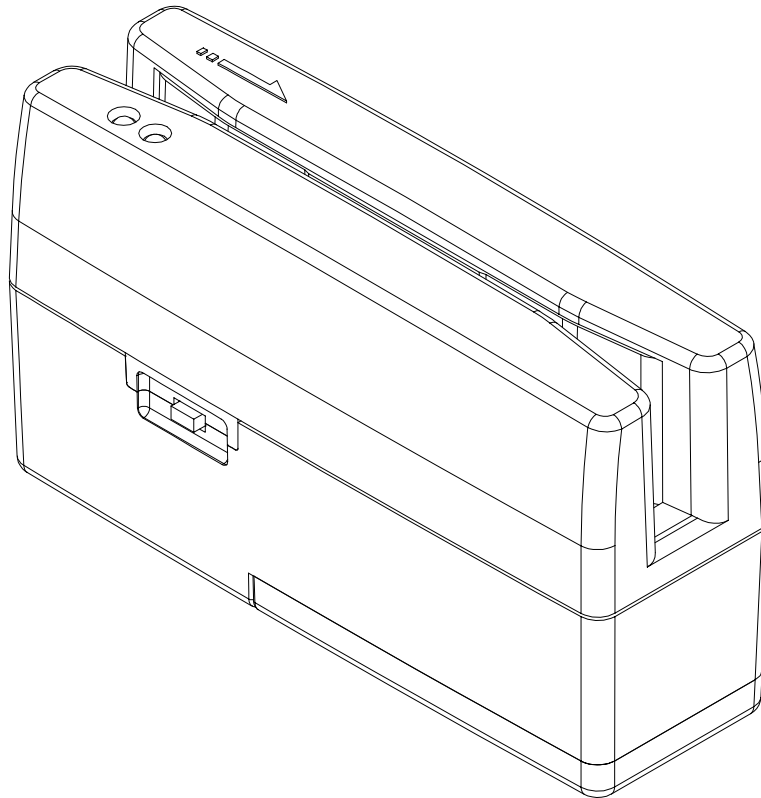


MSR - 500 Series



Portable Battery-Powered Magnetic Swipe Reader User's Manual

Contents

Information	1
Technical And Operational Description	3
Connections	5
Card Data Format	6
Demo Software	7
Specifications	10
Communication Protocol	11

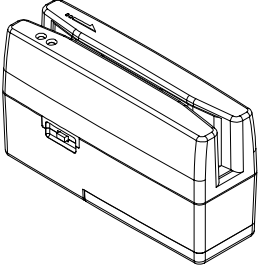
FCC COMPLIANCE STATEMENT

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communication.

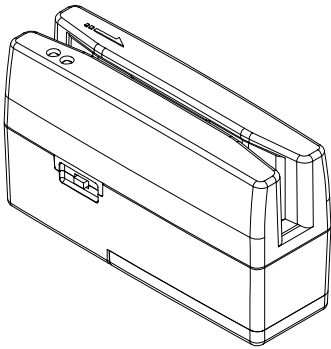
Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Information

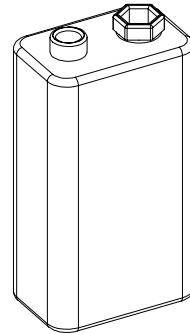
MSR-500 Series Magnetic Swipe Reader

MACHINE TYPE	FUNCTION
 <p data-bbox="277 804 555 882">MSR-500 Track 1 & 2 & 3</p>	<div data-bbox="778 519 890 584"> </div> <div data-bbox="933 519 1045 584"> </div> <div data-bbox="1088 519 1200 584"> </div> <div data-bbox="1243 519 1355 584"> </div> <div data-bbox="778 633 890 698"> </div> <div data-bbox="933 633 1045 698"> </div> <div data-bbox="1088 633 1200 698"> </div> <div data-bbox="1243 633 1355 698"> </div> <div data-bbox="778 748 890 813"> </div> <div data-bbox="933 748 1045 813"> </div>

■ Standard Package



Main unit
(MSR500)



Battery 9V
(BAT-1016)

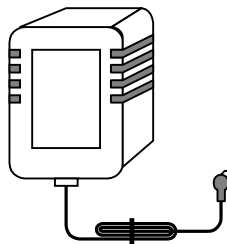


Cable
(WAS-1518)



Software Disk
(DISK5132Vx.xRx)

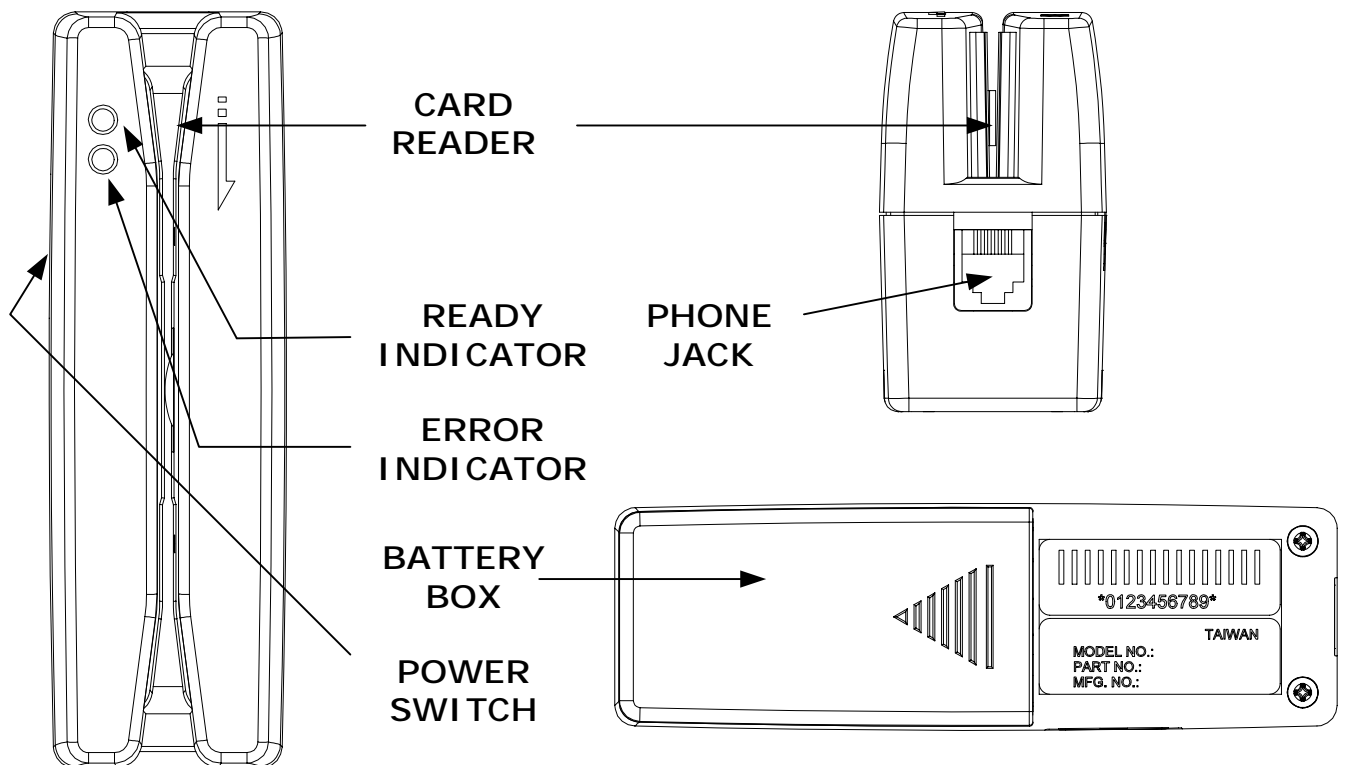
■ Optional



Power Adaptor
DC12V/120VAC (APR-1014A)
or DC12V/230VAC (APR-1015A)

Technical And Operational Description

Front Panel Display and Operations

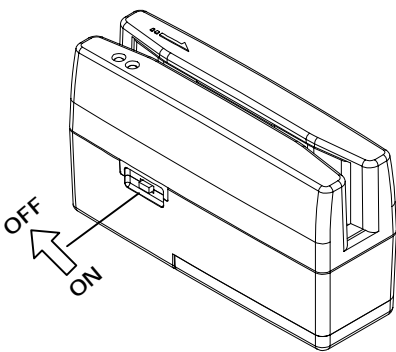


- **CARD READER**
Swipe the card through the entire length of the slot to read.
- **ERROR INDICATOR (Red color)**
When encountering erroneous input, defective card, misread, or incorrectly encoded data, the device will turn on the ERROR indicator .
- **READY INDICATOR (Green color)**
Indicating the reader is ready to accept new inputs.
- **PHONE JACK**
For connection to host computer and external Power .
- **BATTERY BOX**
Put the battery in box and hold battery .
- **POWER SWITCH**
Turn the MSR500 on/off power.

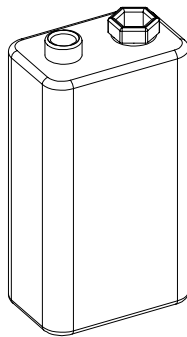
■ Display Information

STATUS	GREEN LED	RED LED	BUZZER	READ CARD
POWER ON	BLINK 2 TIMES	BLINK 2 TIMES	BEEP-BEEP	X
READY	ON	OFF	X	O
READ OK	OFF	OFF	BEEP	X
READ ERROR	OFF	ON	BEEP-BEEP-BEEP	X
LOW BATTERY	ON	BLINK	BOO	O
INACTIVE BATTERY	OFF	OFF	BOO-BOO-BOO	X
INACTIVE BATTERY (Power turn on)	BLINK	BLINK	BEEP.....	X
MEMORY FULL	BLINK	OFF	X	X
MEMORY BAD	OFF	ON	X	X

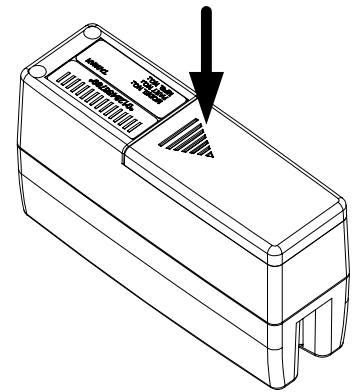
■ Replace Battery



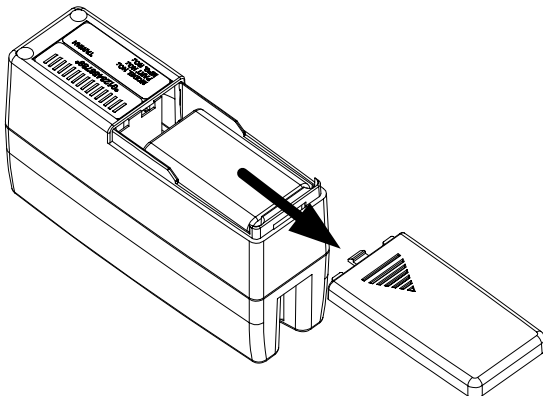
1. Power turn off



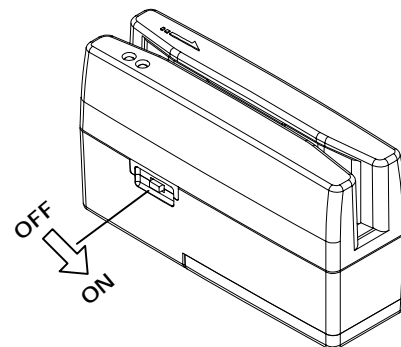
2. Take new battery



3. Press the cover down



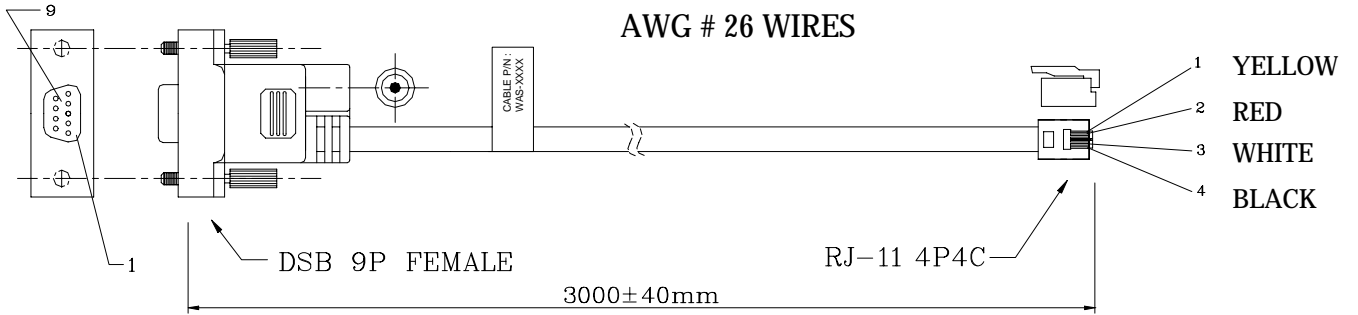
4. Pull the cover away and put battery in



5. Power turn on

Connections

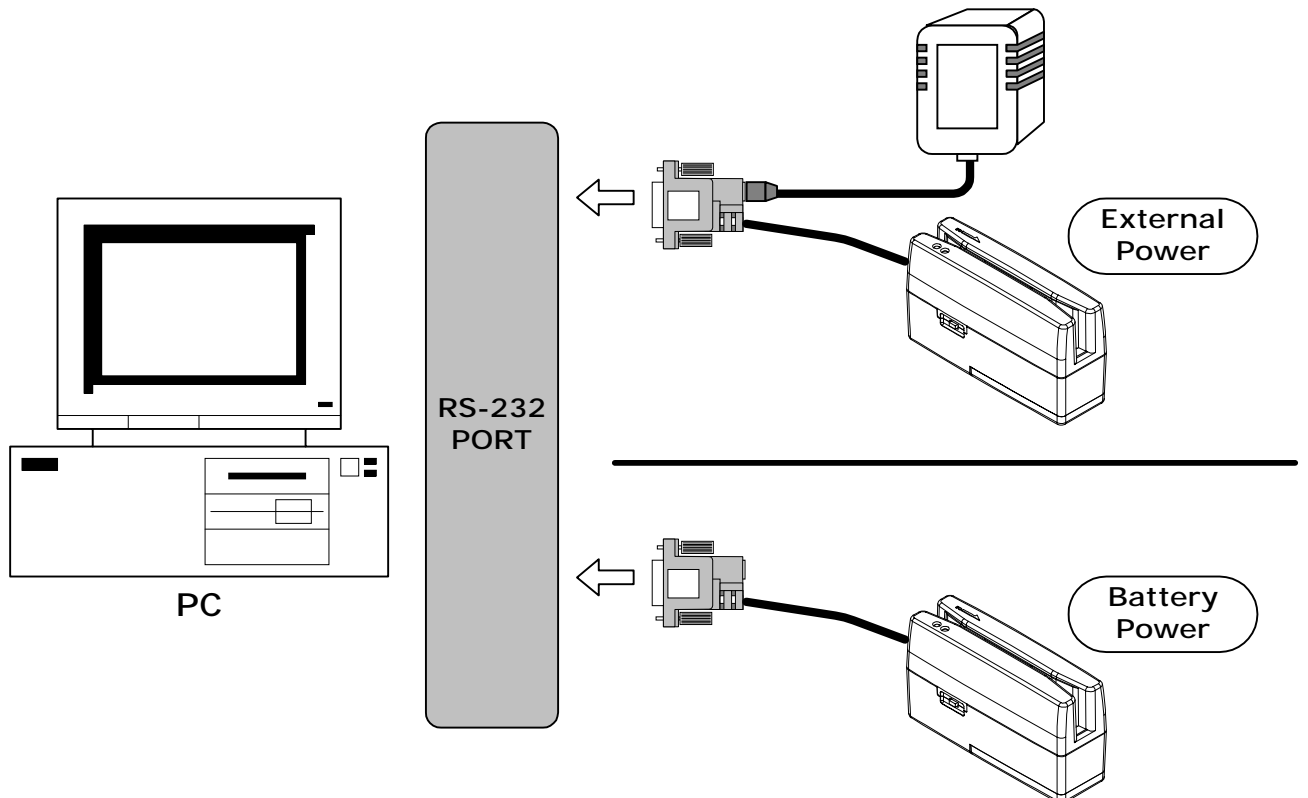
WAS-1518



DSB 9P FEMALE PIN *	COLOR	FUNCTION	RJ-11 4P4C PIN
3	BLACK	RXD	4
2	WRITE	TXD	3
-	RED	POWER	2
5	YELLOW	GND	1

* DSB 9P FEMALE Pin 1,4,6 connect together

Connect to PC



Card Data Format

CARD DATA STRING

TRACK 1			TRACK 2			TRACK 3			DATE & TIME					
SS	TRACK1 DATA	ES	SS	TRACK2 DATA	ES	SS	TRACK3 DATA	ES	SP	DATE	SP	TIME	SP	WEEK
%	TRACK1 DATA	?	;	TRACK2 DATA	?	+	TRACK3 DATA	?		DATE		TIME		WEEK

TRACK 1

%	CARD ID	?
---	---------	---

1. SS is the start sentinel (%).
2. ES is the end sentinel (?).
3. Card Id up to 76 alphanumeric data characters.

Track 1 IATA	
Bits Per Inch	210
Bits Per Character	7
Alphanumeric Characters	79

TRACK 2

;	CARD ID	?
---	---------	---

1. SS is the start sentinel (;).
2. ES is the end sentinel (?).
3. Card Id up to 37 numeric data characters.

Track 2 ABA	
Bits Per Inch	75
Bits Per Character	5
Numeric Characters	40

TRACK 3

+	CARD ID	?
---	---------	---

1. SS is the start sentinel (+).
2. ES is the end sentinel (?).
3. Card Id up to 104 numeric data characters.

Track 3 Thrift	
Bits Per Inch	210
Bits Per Character	5
Numeric Characters	107

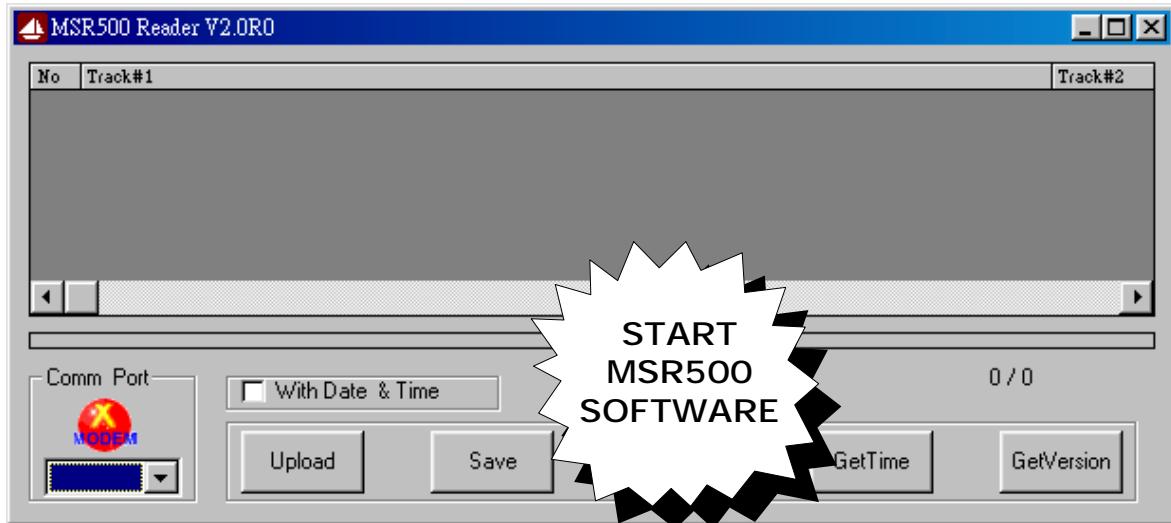
DATE&TIME&WEEK

SP	DATE	SP	TIME	SP	WEEK
	YYYY/MM/DD	SP	HH:MM:SS	SP	W

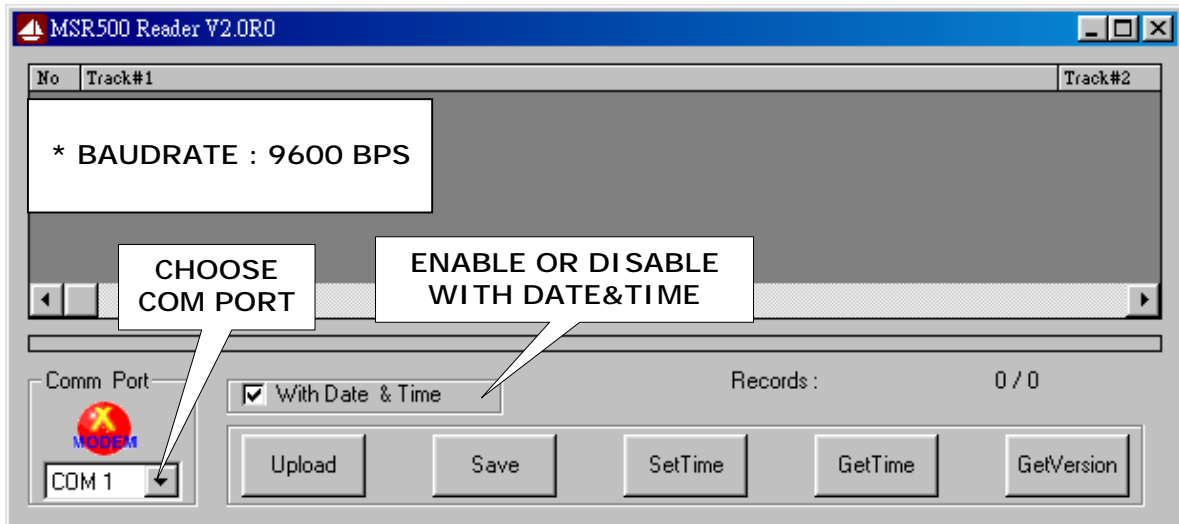
1. SP is the SPACE characters (20h).
2. TIME is 24hr .

WEEK	
SUN	1
MON	2
TUE	3
WED	4
THU	5
FRI	6
SAT	7

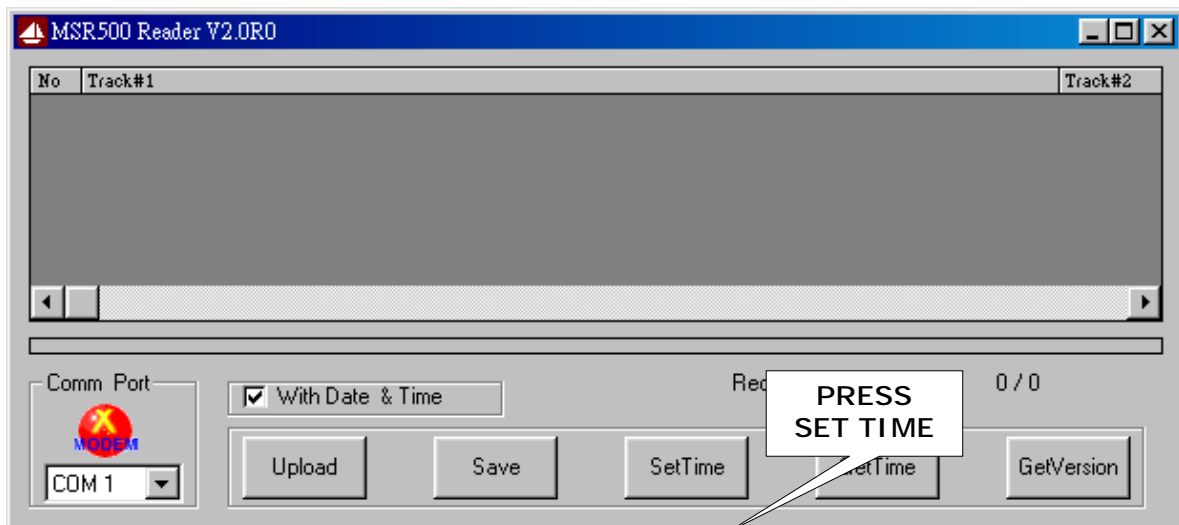
Demo Software



Step1 : RUN MSR500

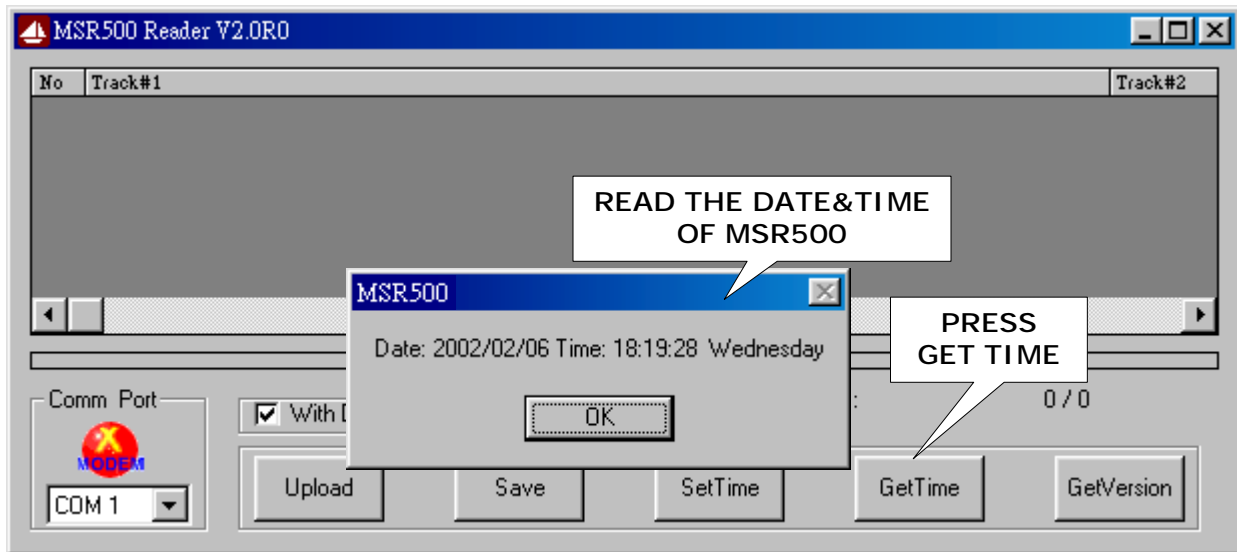


Step2 : CHOOSE COM PORT & ENABLE OR DISABLE WITH DATE&TIME

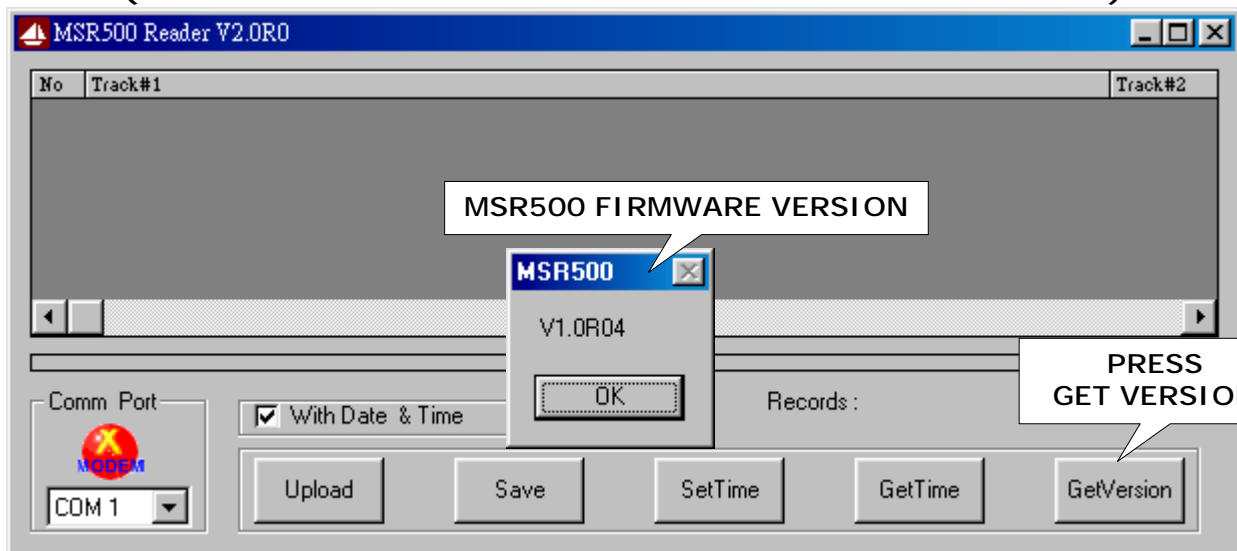


Step3 : PRESS SET TIME TO SET PC CURRENT TIME TO MSR500
(WHEN NEEDED)

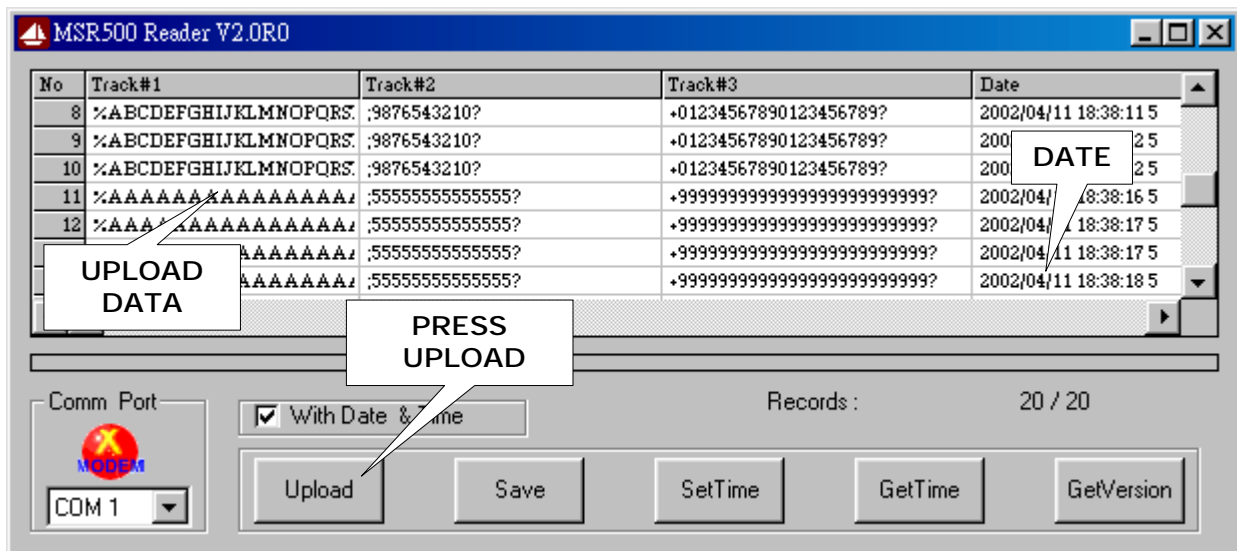
NOTE: Make sure your PC current time is correct before you set PC time to MSR500.



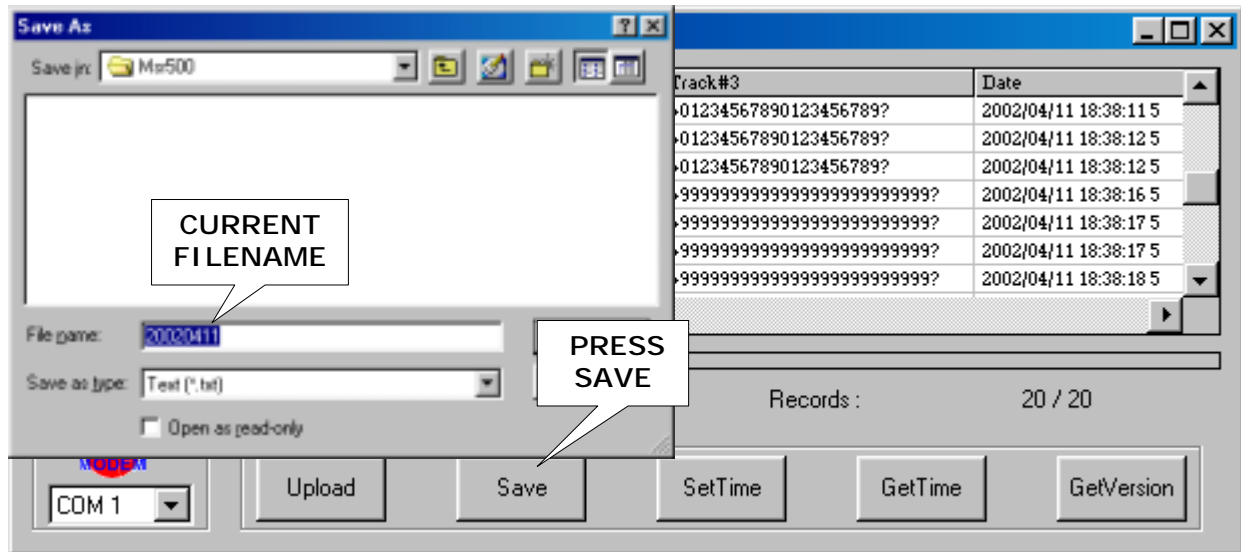
**Step4 : PRESS GET TIME
(TO READ THE DATE&TIME OF MSR500 WHEN NEEDED)**



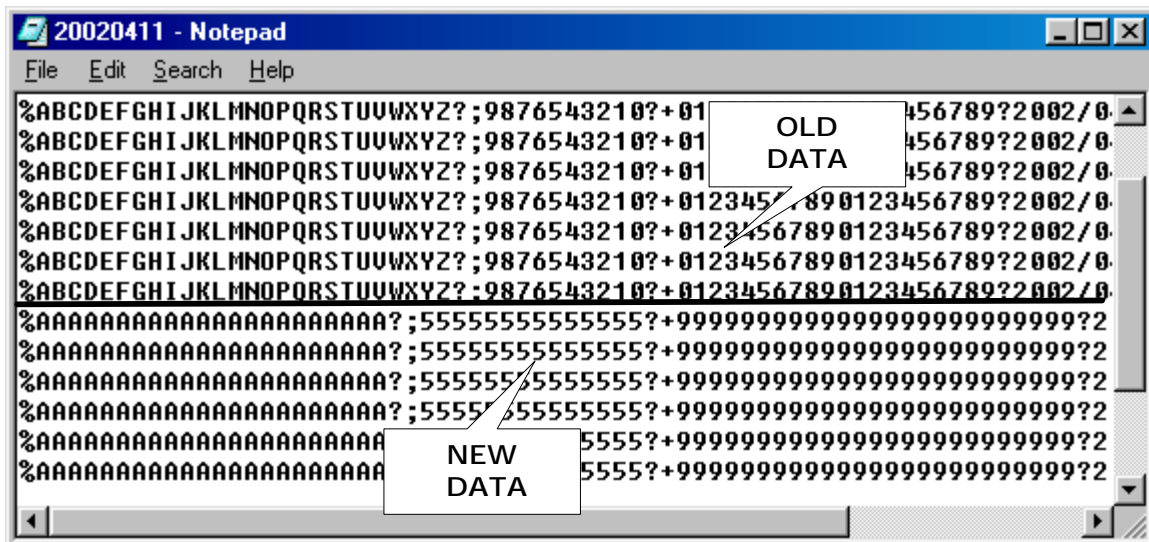
**Step5 : PRESS GET VERSION
(TO READ MSR500 FIRMWARE VERSION WHEN NEEDED)**



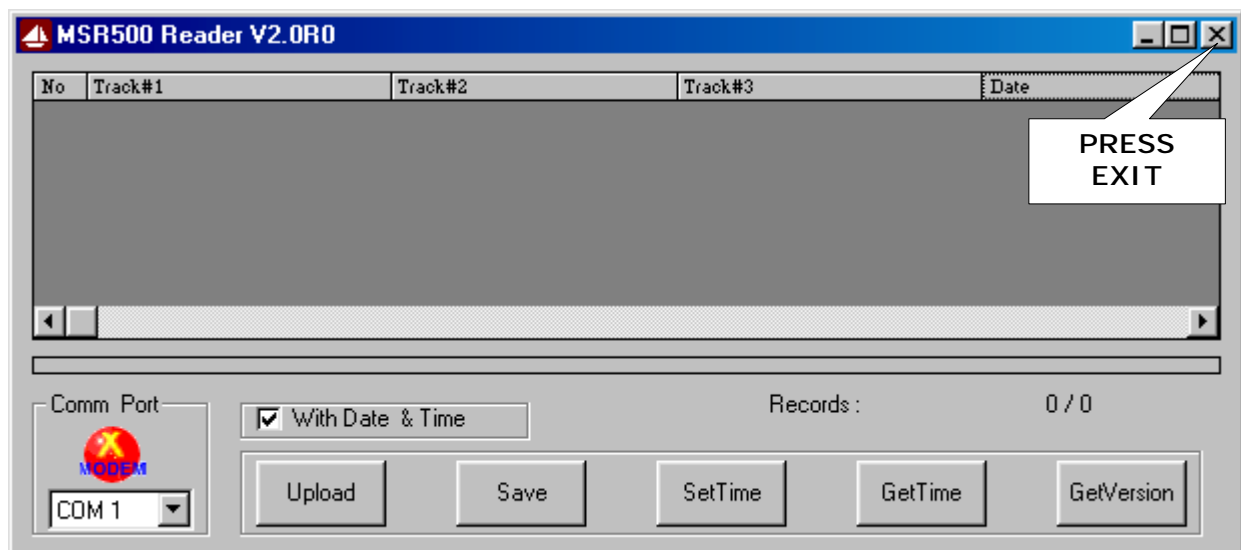
Step6 : PRESS UPLOAD TO UPLOAD DATA



Step7 : PRESS SAVE TO SAVE DATA



Step8 : SAVE DATA TO A FILE



Step9 : EXIT MSR500 SOFTWARE

Specifications



Magnetic Stripe Card :

TRACK 1 / IATA / 210 bpi / 79 Alphanumeric Characters
TRACK 2 / ABA / 75 bpi / 40 Numeric Characters
TRACK 3 / Thrift / 210 bpi / 107 Numeric Characters



RS232 Interface :

RS232 , Half-Duplex , 8N1 , 9600 bps



Communication Protocol :

GIGA-TMS Net Version 1.2 (GNET V1.2)



CLOCK :

Real Time Clock (RTC) module with built-in 10 year battery



Memory Size for Storing Data :

CMOS Serial DataFlash®* 512K bytes
Up to 2048 records (264 Bytes / Record)



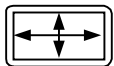
Battery Power :

6F22DN 9V / 006P and Low Battery Detect



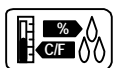
Power Supply :

DC 8V ~ 12V, 300mA



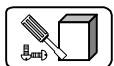
Dimensions :

D 40 x W 57 x H 97 mm



Environment :

Operating Temp : 0 ~ 55 Deg.C
Storage Temp : -10 ~ 55 Deg.C
Humidity : 10 ~ 90 % relative



Mounting :

Portable or Any surface

* DataFlash® is a registered trademark of Atmel.

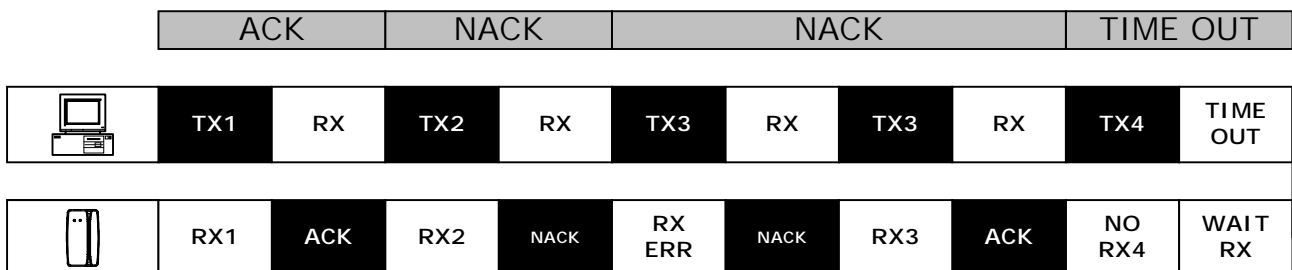
Communication Protocol

GNET FEATURES

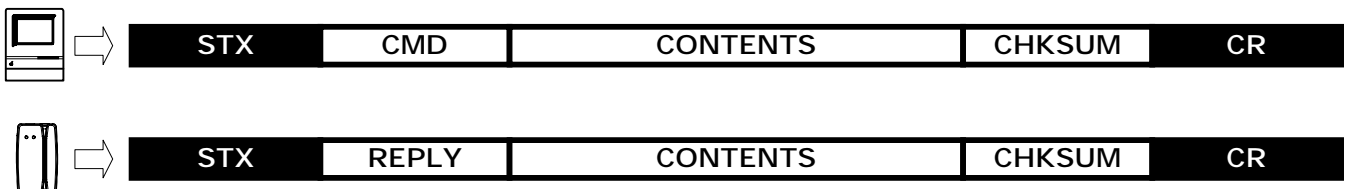
- Support TTY (TELE TYPE) OPERATION -
Use TTY to send commands and messages.
- Simple handshaking -
One enquiry one answer back.
- Multi-link capability
- Expandability -
GNET provides 4 major functions:
 1. POLLING
 2. LOGIN / LOGOUT
 3. DATABASE
 4. INFORMATION
 Also can be expandable.
- Simple format
Use ASCII value for each field and use Separator "," between two Fields.



GNET Handshaking



GNET PACKET



ITEM	Dec	Hex	Control Key	Function
STX	2	02	^B	Start of Text
CMD	Ascii	Ascii	Ascii	Command Code
CONTENTS	Ascii	Ascii	Ascii	Contents Data
CHKSUM	Ascii	Ascii	Ascii	Check Sum
CR	13	0d	^M	Carriage Return
REPLY	(78) 65	(4e) 41	(N) A	(Negative) Acknowledge

Command Index Table

Topic	Command	Contents	Description
SETTING	F	-	Get Product Version
	S	Date,Time,Week	Set Date,Time and Week
	T	-	Get Date and Time
DATABASE	N	-	Get Number of Record
	G	Number	Read Record by Number
	E	-	Erase All Record

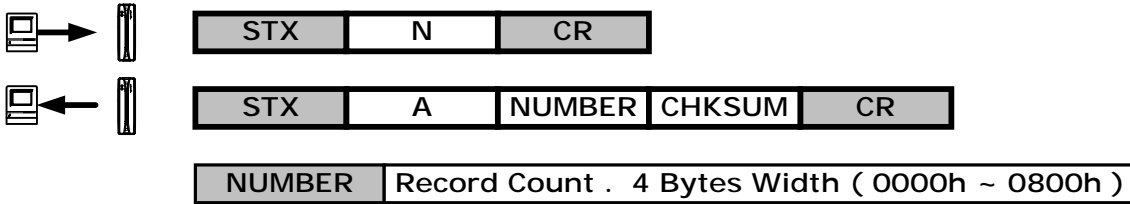
Reply Index Table

Topic	Reply	Contents	Description
ACK	A	Reply Information	ACK+Information
NAK	N	See Error Index Table	NAK+Information

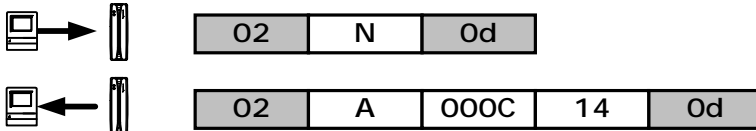
Error Index Table (For Reply NAK)

Topic	Error Index	Description
ACCESS LEVEL	00	Access Denied or Password Error
COMMAND CODE	01	Command packet is too long
	02	Command packet is empty
	03	Command code is out of range
	04	Illegal Command or Data
DATABASE	05	Database and Register is Empty
	06	Record number is out of range
	07	Check Sum Error
	08	Memory Not Enough
	09	Action Failure
FILE	0A	File Not Exist

1. GET NUMBER OF RECORD :

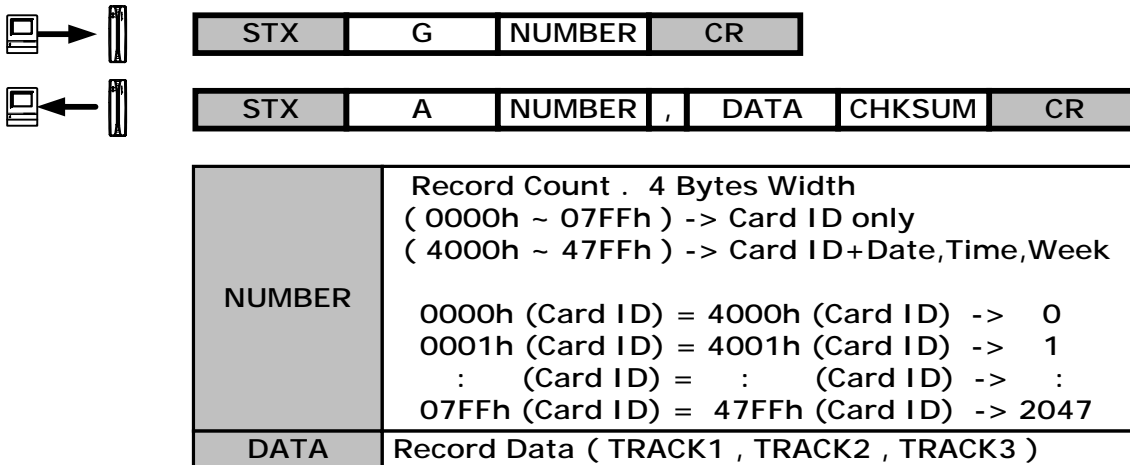


EXAMPLE

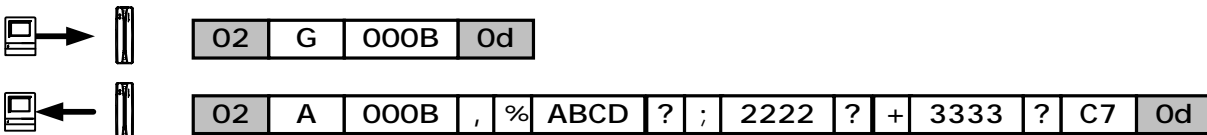


The Total of Record Count : 12

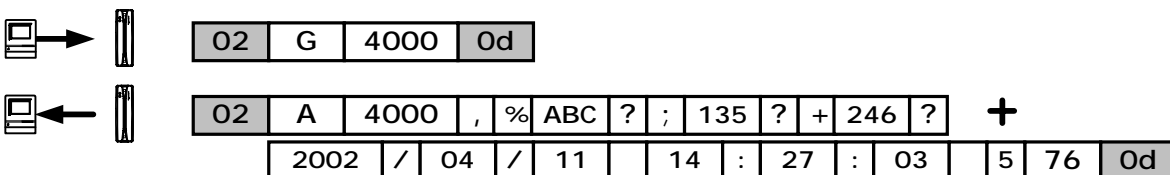
2. READ RECORD BY NUMBER :



EXAMPLE

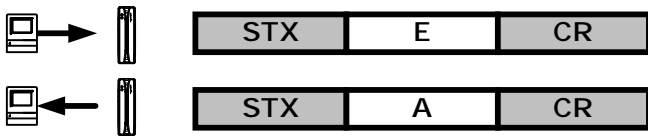


Read Record Number : 12
 TRACK1 ID : ABCD , TRACK2 ID : 2222 , TRACK3 ID : 3333

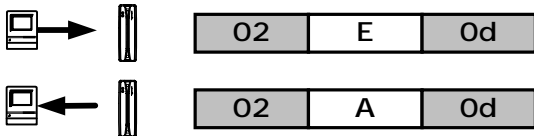


Read Record Number : 0
 TRACK1 ID : ABC , TRACK2 ID : 135 , TRACK3 ID : 246 2002/4/11 14:27:03 THUDAY

3. ERASE ALL RECORD :

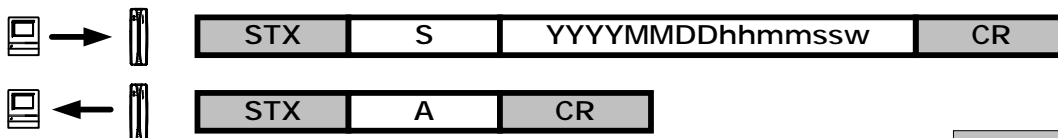


EXAMPLE



ERASE ALL RECORD

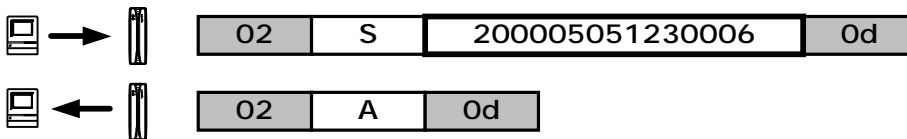
4. SET DATE AND TIME :



YYYY	Year (1980 - 20xx)
MM	Month (01 - 12)
DD	Date (01 - 31)
hh	Hour (00 - 23)
mm	Mintue (00 - 59)
ss	Second (00 - 59)
W	Week (1 - 7)

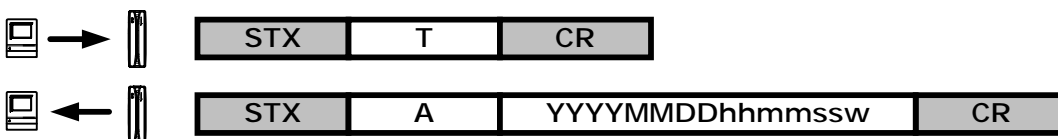
Week	
SUN	1
MON	2
TUE	3
WED	4
THU	5
FRI	6
SAT	7

EXAMPLE

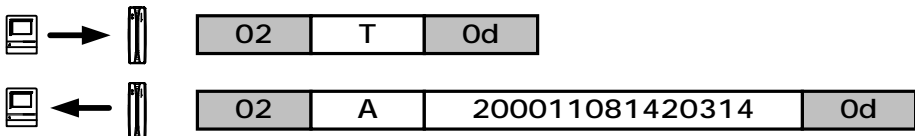


Set Date = 2000 / 5 / 5
 Set Time = 12 : 30 : 00 , Friday

5. GET DATE AND TIME:

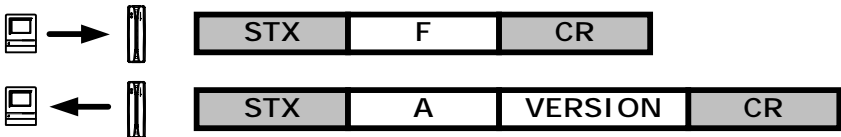


EXAMPLE



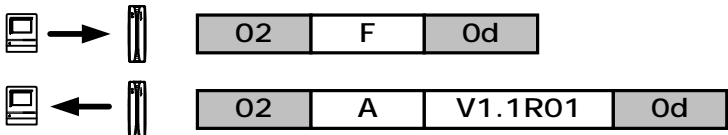
Get Date : 1999 / 11 / 8
Get Time : 14 : 20 : 31 , Wednesday

6. GET PRODUCT VERSION :



VERSION | VxxRmm , Vxx : Firmware Version x.x , Rmm : Modify mm Times

EXAMPLE



Firmware Version = 1.1
Modify times = 1