# **Card Data Format**

## CARD DATA STRING

TRACK 1			TRACK 2		TRACK 3			
SS	TRACK1 DATA	ES	SS	TRACK2 DATA	ES	SS	TRACK3 DATA	ES
%	TRACK1 DATA	?	;	TRACK2 DATA	?	+	TRACK3 DATA	?

?

?

?

### 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 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 3

+

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

- 1. SS is the start sentinel (+).
- 2. ES is the end sentinel (  $\ref{eq:sentence}$  ).

3. Card Id up to 104 numeric data characters.

CARD ID

Note: Track 3 can read both ISO TK3 format and ISO TK1 format.

## Option

## **iBUTTON DATA STRING:**

STATUS		DS1990A 48-Bit Serial Number	
STATUS	] 61 75	5 : iButton Press 5 : iButton Release	
а	@	DS1990A 48-Bit Serial Number	?
u	@	DS1990A 48-Bit Serial Number	?

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

Track 2 ABA

75

5

40

**Bits Per Inch** 

**Bits Per Character** 

**Numeric Characters** 

## **Demo Software**

Apply the bundled disk no. 5296 to begin with the demo software.

■ MSR Configure V1.1R3	
Product Name Firmware Serial Number Firmware Version COM Port	
MARD	Cache Mode for speed up
START MSR	Vrite
CONFIGURE SOFTWARE	Read
	Test Mode
	Scan
	Exit

STEP 1 : Run MSR Configure

STEP 2 : Choose PS/2 or COM port and press "Scan" ,connect the MSR220/250 reader.

Firmware Serial Nume Firmware Versi COM Pe	me MSR250-50-P,05A er ROM-T0742 lon V1.02r5 FF PS/2		
Magnetic Card	iButton	Package	
General	R\$232(UART)	Keyboard	Open
Interface			Save
Buzzer		•	
Feed Back	K -	NAK	Cache Mode
			Write
			Read
			Default
			Test Mode
		(	Test Mode
9:04:40 - Begin PS/2 9:04:41 - Found MSP2	communication	(	Test Mode

### STEP3 : Click "Read" ,scan the MSR220/250 reader parameter.

General : Interface : MSR Interface is being detecter Buzzer : Choose buzzer enable or disable Feed Back : Set MSR output data ,waiting f Show 'Error' message if no r	ed. le. For feedback from the terminal. reaction from MSR
m MSR Configure V1.1R3	
Product Name MSR250-50-P,USA Firmware Serial Number ROM-T0742 Firmware Version V1.02r5 COM Port PS/2 Magnetic Card iButton Pack.	age
General RS232(UART) Keyboar	d Open
Interface PS/2 Buzzer On Feed Back ACK None NAK None	Save Read the MSR parameter
	Read Default Test Mode
19:08:38 - Begin PS/2 communication 19:08:41 - Read OK! 19:08:41 - End PS/2 communication	Scan Exit

RS232(UART) : Setting MSR communication parameter , when RS232 and serial USB enable .

📾 MSR Configure	V1.1R3		
Product Firmware Serial Nu Firmware Ver COM Magnetic Card	Name MSR250-50-R,USA mber ROM-T0742 sion V1.02r5 Port COM3 iButton	Package	
General	RS232(UART)	Keyboard	Open
Baudrate	19200 bps	•	Save
Parity	None	<b>x</b>	Cache Mode
Data bits	8 data bits	<b>*</b>	Write
Stop bits	1 stop bit	<b>v</b>	
Handshaking	RTSX0nX0/f	v.	Read
			Default
			Test Mode
			соиз 🗸
19:16:05 - Scan COM 19:16:05 - Found MS	3, BaudRate=19200 R250-50-R,USA		Scan
19:16:07 - Begin Re 19:16:09 - Read OK!	ad Register		- Exit

Magnetic Card	iButton	Package	
General	RS232(UART)	Keyboard	Open
Language	USA		Save
Termai Type	IDM PE/AT PS/2	<b>_</b>	Cache Mo
Upper/Lower case	Upper case	×	Write
Send character	Send by Alt method	<b>Y</b>	
Numberical Pad	On	*	Read
Typing speed	Fastest	Ŧ	Default
			Test Mod

Keyboard : Setting MSR language , when keybpard enable .

Package : Setting MSR & iButton data output package .

Data Format :



iButton : Set iButton data format .





- SS : Start Sentinel
- ES : End Sentinel

**PS**: iButton present prompt character.

**RS** : iButton Release prompt character.

Present ID format : Set present iButton output ID format .

Release ID format : Set release iButton output ID format .

Family Code : Terms for iButton series.

🖮 MSR Configure V	1.1R3		
Product N Firmware Serial Num Firmware Vers COM P	ame MSR250-50-P,USA ber ROM-T0742 ion V1.02r5 brt PS/2		
General	RS232(UART)	Keyboard	]
Magnetic Card	iButton	Package	Open
	SS ES	PS RS	Save
iButton [@	• 17 • 18	- ju -	Cache Mode
Present ID format ID 0	nly 💌		Write
Release ID format  ID 0	nly 💌		Read
			Default
			Test Mode
			PS/2 ~
19:19:02 - Begin PS/: 19:19:06 - Read OK!	communication	×	Scan
19:19:06 - End PS/2	communication		Exit

Magnetic Card : Set MSR data format and data output parameter .



Mark Code : Leading character to set up output data.

**Decode Mode** : To decode magstripe data.

Decode Standard : To decode magstripe format.

**7Bit** : 7 Bits Per Character data.

ABA: 5 Bits Per Character data .

JIS2 : JIS2 data format.

AAMVA : AAMVA data format .

IBM : IBM data format .

SS : Start Sentinel

ES : End Sentinel

TK ESO : Ending prompt character .

TK ES1 : Ending prompt character .

Track Output Order : To set up track data in turn.

Track Length : To set up track data length.

Swipe Card Direction : To set up prompt character for direct/reverse side card swipe prompt character.

 $\ensuremath{\textbf{FF}}$  : To set up direct side cardswipe prompt character.

 $\ensuremath{\textbf{RR}}$  : To set up reverse side cardswipe prompt character.

Head Compatible : To set up the decoding work for IBM or JIS2 data output at one time only.

📾 MSR Configure VI	.1R3				
Product Na Firmware Serial Numb Firmware Versi COM Po	me MSR250- er ROM-T07 on V1.02r5 rt PS/2	50-P,USA 42			
General	RS232(UART)		Keyboard		
Magnetic Card	iButton		Package		Open
Mark Code I	Decode Mode	Decode Standard			
TKI None 💌 En	able 💌	7Bit ABA	JIS2 AAM	IBM	Save
TK2 None En	able 💌	7Bit ABA	JIS2 AAN	IBM	Cache Mode
TK3 None TK3	able 💌	7Bit ABA	JIS2 AAN	IVA IBM	Write
7Bit TKI TK2 T	K3 TK1 7	BA TK2 TK3	JIS2 AAI	WVA IBM	
SS 2 • 4 • 4	• ; • ;	<b>•</b> + •			Read
2 • 2 • 2 TK ES0 None • TK E	▼ 2 ▼ 2	▼ 2 ▼ Sw	2 2 2	▼ < _	Default
Track Output Order TK1-T Track Length TK1	K2-TK3 •	FF N	one <b>v RE</b>	None_▼	Test Mode
			() () () () () () () () () () () () () (		PS/2 -
19:20:08 - Begin PS/2 19:20:11 - Read OK!	Scan				
19:20:11 - End PS/2 c	ommunicatio)	n			Exit

STEP4 : Click "Write", write the parameter to MSR220/250 reader. Click "Open or Save" open or save your choose parameter to file.

PS. Same as to when MSR220/250 reader is in RS232 interface mode, Keyboard function will be in disable mode .When MSR220/250 reader is in Keyboard function, RS232 interface will be in disable mode.



STEP5 : Click "Test Mode" can test the MSR220/250 .

STEP6 : Click "Default" can reset MSR220/250 parameter.

■ MSR Configure V1.1R3		
Product Name MSR250-50-P,USA		
Firmware Serial Number ROM-T0742		
Firmware Version V1.02r5		
COM Port PS/2		
%B9999991234567890^STERLING/JOANNE^	1	
04121011445?;9999991234567890=04121011445?+	Open	
019999991234567890=		
0010122010000509501602000005030001041210123456789?	Save	Reset
<pre>%B9999991234567890^STERLING/JOANNE^</pre>	MS	R220/250
04121011445?;9999991234567890=04121011445?+	Cache no	ramotor
019999991234567890=	pa pa	arameter
0010122010000509501602000005030001041210123456789?	Write	7
		· /
*11111111111111111111111111111111111111	Read	
11111111111111111111111;222222222222222	Reau	Enter test
333333333333333333333333333333333333333		mode
	Default	mode
*11111111111111111111111111111111111111		
111111111111111111111;22222222222222222		
333333333333333333333333333333333333333	Test Mode	5
333333333333333333333333333333333333333		
	PS/2	
	Scan	
	Exit	

# **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 , 1200~19200 bps



USB Interface : RS232 , Half-Duplex , 8N1 , 1200~19200 bps



USB to PS/2 Interface : USB Human Interface Device (HID) for PS/2



PS/2 Interface : PC keyboard interface , Scan code

AC DC

Power Supply : DC 5V, 300mA



### Dimensions :

D 23 x W 90 x H 24 mm (MSR220 without cover) D 33 x W 100 x H 31 mm (MSR250 with cover)



#### Environment :

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



### Mounting :

Portable or Any surface