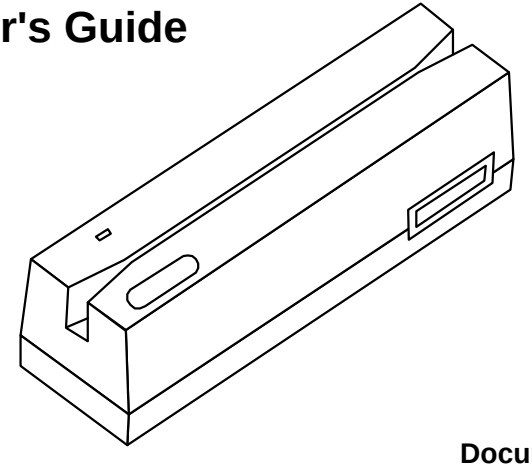
Cipher 1023

Magnetic Stripe Reader
Installation and User's Guide



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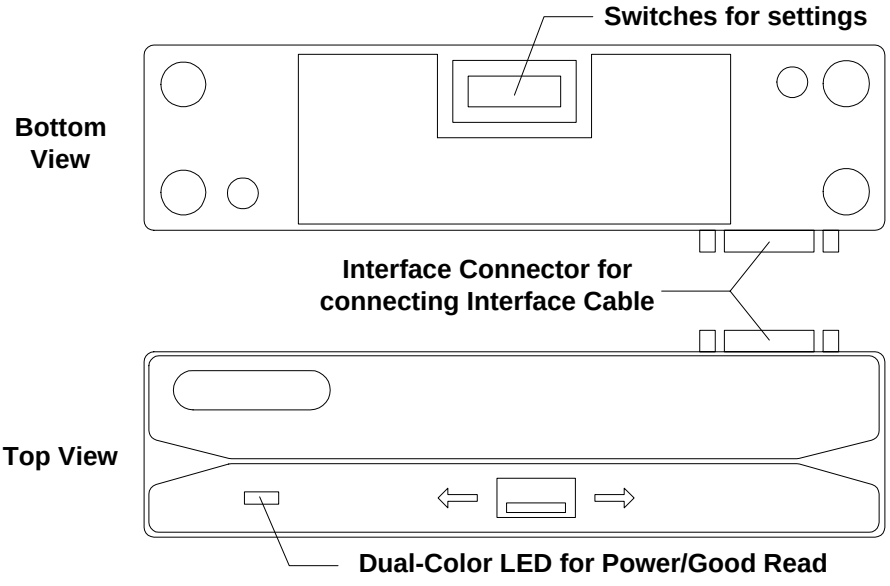
WARNING

Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of 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 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 on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Nomenclature



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1. Introduction

The Cipher 1023 is the ultimate solution for Magnetic Stripe Reading. The decoder, MSR reading heads and selection of output interfaces are included in a single unit. Support for up to 3 track reading and transmission of decoded data to the computer via RS232 or keyboard interface.

This reader is designed with features to provide the functionality and flexibility needed to meet even the most complex application needs, with emphasis on easy installation and configuration. For most MSR applications, it is only necessary to adjust the switches at the bottom of the 1023 to complete the configuration. For those applications that need more advanced features (such as prefix, postfix, and editing mode, etc.), by connecting the 1023 to a computer serial port in RS232 mode the user can then configure the unit using the MSR (optional) setup program.

*** IMPORTANT ***

Syntech Information has made every possible effort to make sure that the 1023 and this manual is complete and correct. However, Syntech Information shall not be liable for any technical or editorial error and omissions. Syntech reserves the right to change any specification at any time without prior notice.

2. 1023 Models

The 1023 MSR comes in 6 different models. The difference is in the magnetic reading head assembled inside the 1023 MSR. The following list shows which type of reading head is equipped in each model. Please check the model number upon ordering / receiving the 1023 MSR.

- 1023-01 : ISO Track 1
- 1023-02 : ISO Track 2
- 1023-03 : ISO Track 3
- 1023-12 : ISO Track 1 & 2
- 1023-23 : ISO Track 2 & 3
- 1023-123 : ISO Track 1, 2 & 3

Note: In this manual the phrase “first track” does not necessarily refer to ISO Track 1, but rather the *first* track of the reading head assembled in the 1023. For example, on 1023-23 the first track is the ISO Track 2, and the second track is the ISO Track 3.

3. Buzzer and LED Indicator

The 1023 has a dual color LED and a buzzer to indicate various operating states. The color of the LED indicator will be red when in normal state except for the following conditions.

- Power On: The LED will turn green and the buzzer will be on for 1 second to indicate successful power on. The LED will then turn to red normal status.
- Successful Reading : The LED will turn green and the buzzer will be on for 250 ms when there is a successful read. The LED will then turn to red normal status.
- Configuration Mode : There will be 6 beeps from the 1023 MSR when entering the configuration mode. The LED will stay green as long as it is in configuration mode.

4. Interface Connector and Interface Cable

The DB-15 female connector at the side of 1023 MSR is the Interface Connector. The interface connector when connected with the appropriate cable allows connection to various serial devices and keyboard types. The detailed description of each available interface cable is depicted in the section *"Available Interface Cables"*.

Note : When ordering / receiving Interface Cables, please be sure that the part number is correct.

Pin Assignment of the Interface Connector :

Pin 1 : No Connection
Pin 2 : RS232 RxD (port A)
Pin 3 : RS232 RxD (port B) / CTS (port A)
Pin 4 : RS232 TxD (port A)
Pin 5 : RS232 TxD (port B) / RTS (port A)
Pin 6 : +5V input
Pin 7 : PC CLK
Pin 8 : PC DATA
Pin 9 : KBD CLK
Pin 10 : KBD DATA
Pin 11 : KBD Aux
Pin 12 : Wyse CLK
Pin 13 : Wyse PC DATA
Pin 14 : Wyse KBD DATA
Pin 15 : Ground

5. Configuring Interface Parameters

The interface parameters are configured by selecting switches at the bottom of 1023 MSR. The switches are named from SW1 to SW9. Each switch can only be set to either ON or OFF position. Every time the switch settings are changed, the 1023 must be powered off and back to on again to make the new settings effective.

The 1023 MSR can transmit data to either a keyboard port or an RS232 port of the host computer. If configuring the 1023 MSR as a keyboard wedge reader, refer to section 5.1. Or refer to section 5.2, if the 1023 MSR is to be used as an RS232 reader.

5.1 Configuring Keyboard Interface Parameters

SW1 : This switch must be in **OFF** position.

SW2 : Capital Lock Status

The 1023 needs to know the capital lock status of the keyboard the user is using. If this switch is incorrectly set then the 1023 will transmit alphabetic letters in the opposite case.

ON	Capital Lock is in on position.
OFF	Capital Lock is in off position.

SW3 - SW8 : Keyboard Type

ON	**ON**	**ON**	**ON**	**ON**	**ON**	PCAT (US), IBM 001-2, 002-2, 003-2
OFF	**ON**	**ON**	**ON**	**ON**	**ON**	PCAT (French)
ON	**OFF**	**ON**	**ON**	**ON**	**ON**	PCAT (German)
OFF	**OFF**	**ON**	**ON**	**ON**	**ON**	PCAT (Italian)
ON	**ON**	**OFF**	**ON**	**ON**	**ON**	PCAT (Belgium)
OFF	**ON**	**OFF**	**ON**	**ON**	**ON**	PCAT (Norwegian/Swedish)
ON	**OFF**	**OFF**	**ON**	**ON**	**ON**	PCAT (UK)
OFF	**OFF**	**OFF**	**ON**	**ON**	**ON**	PCAT (Spanish)
ON	**ON**	**ON**	**OFF**	**ON**	**ON**	NEC 5200
OFF	**ON**	**ON**	**OFF**	**ON**	**ON**	NEC 9800
ON	**OFF**	**ON**	**OFF**	**ON**	**ON**	DEC VT220
OFF	**OFF**	**ON**	**OFF**	**ON**	**ON**	Macintosh ADB
ON	**ON**	**OFF**	**OFF**	**ON**	**ON**	Macintosh RJ
OFF	**ON**	**OFF**	**OFF**	**ON**	**ON**	Memorex Telex (IBM Terminals)
ON	**OFF**	**OFF**	**OFF**	**ON**	**ON**	Hitachi Elles
OFF	**OFF**	**OFF**	**OFF**	**ON**	**ON**	PCXT
ON	**ON**	**ON**	**ON**	**OFF**	**ON**	IBM A01-1
OFF	**ON**	**ON**	**ON**	**OFF**	**ON**	IBM A01-2
ON	**OFF**	**ON**	**ON**	**OFF**	**ON**	IBM A01-3
OFF	**OFF**	**ON**	**ON**	**OFF**	**ON**	IBM 001-1, 002-1, 003-1, PS2-30
ON	**ON**	**OFF**	**ON**	**OFF**	**ON**	IBM 001-81, 002-81, 003-81
OFF	**ON**	**OFF**	**ON**	**OFF**	**ON**	IBM 001-82, 002-82, 003-82

ON	**OFF**	**OFF**	**ON**	**OFF**	**ON**	IBM 001-8A, 002-8A, 003-8A
OFF	**OFF**	**OFF**	**ON**	**OFF**	**ON**	IBM 001-3
ON	**ON**	**ON**	**OFF**	**OFF**	**ON**	IBM 002-3, 003-3
OFF	**ON**	**ON**	**OFF**	**OFF**	**ON**	IBM 3477 Type 4 (Japanese Keyboard)
ON	**OFF**	**ON**	**OFF**	**OFF**	**ON**	IBM 5550
OFF	**OFF**	**ON**	**OFF**	**OFF**	**ON**	WYSE Enhance Keyboard (US)
ON	**ON**	**OFF**	**OFF**	**OFF**	**ON**	NEC Astra
OFF	**ON**	**OFF**	**OFF**	**OFF**	**ON**	Unisys
ON	**OFF**	**OFF**	**OFF**	**OFF**	**ON**	Televideo 965
OFF	**OFF**	**OFF**	**OFF**	**OFF**	**ON**	ADDS 1010
ON	**ON**	**ON**	**ON**	**ON**	**OFF**	PCAT (Portuguese)

SW9 : Inter-Character Delay

To slow down the transmission of data to the computer's keyboard interface, a 25 ms delay between each data character occurs.

ON 25 ms Inter-Character Delay
OFF **N**o Inter-Character Delay

5.2 Configuring RS232 Interface Parameters

SW1 : This switch must be in **ON** position.

SW2 : Data Bits

ON	8 Data Bits
OFF	7 Data Bits

SW3 - SW4 : Parity

ON	**ON**	No Parity
OFF	**ON**	Even Parity
ON	**OFF**	Odd Parity

SW5 - SW6 : Baud Rate

ON	**ON**	38400 bps
OFF	**ON**	19200 bps
ON	**OFF**	9600 bps
OFF	**OFF**	2400 bps

SW7 - SW9 : Transmission Mode

There are 6 transmission modes supported by the RS-232 interface. They are classified into two groups either Single Port or Dual Port mode. The Single Port operation is where the 1023 MSR is connected directly to the RS232 communication port of the computer. Whereas the Dual Port operation connects transparently in-line between the host computer and a terminal. The interface cable has two RS-232 connectors labeled A and B, one connects to the terminal and one connects to host cable.

The transmission modes supported for Single Port and Dual Port operation are grouped below.

Dual Ports Operation :

- Transmits data to Port A only.
- Transmits data to Port B only.
- Transmits data to both Port A and Port B.

Single Port Operation :

- No RTS/CTS hand-shaking.
- Data Ready Mode : The RTS/CTS hand-shaking is enabled, and the RTS signal will be ON only when there is data to be transmitted.

- Scanner Ready Mode : The RTS/CTS hand-shaking is enabled, and the RTS signal stays ON all the time (as long as the power is applied).

ON	**ON**	**ON**	Transmit data to RS-232 Port A only (Dual Ports Operation)
OFF	**ON**	**ON**	Transmit data to RS-232 Port B only (Dual Ports Operation)
ON	**OFF**	**ON**	Transmit data to Both RS-232 Port A and B (Dual Ports Operation)
OFF	**OFF**	**OFF**	No RTS/CTS Hand-Shake (Single Port Operation)
OFF	**OFF**	**ON**	Data Ready (Single Port Operation)
ON	**ON**	**OFF**	Scanner Ready (Single Port Operation)

6. Programmable Features

Besides the interface parameters, there are other programmable features that can be configured on the 1023 MSR. Most of these features are used to control the format of the output data, others are for controlling buzzer, inter-character delay, track decoding and others as listed below. All the programmable features described in this section can only be configured by using the optional setup program. This program runs under Microsoft Windows and communicates with the 1023 MSR through the RS232 (COM) port. Refer to section 7 for details on how to use the setup program.

6.1 Beeper Volume

There are four different beeper volumes to select from on 1023 MSR. The default beeper volume is set to maximum.

- No Beep
- Maximum Volume
- Medium Volume
- Minimum Volume

6.2 Auxiliary Inter-Character Delay

Besides the 25 ms inter-character delay which can be selected by setting SW9 (keyboard interface only), extra delay can be added by programming this setting. This setting works not only on the keyboard interface but also works on RS-232 interface. The default setting is 0 ms.

6.3 Capital Lock Auto-Detection (Keyboard Interface only)

The 1023 MSR can be configured to detect the capital lock status of the keyboard automatically upon transmission of data. This setting is effective only when the keyboard type is either PCAT (all languages), PS2-30, PS55, or Memorex Telex (IBM terminals). If one of the above keyboard types is selected and this setting is enabled, the 1023 MSR will auto-detect the capital lock status and ignore the setting of SW2. Otherwise, the 1023 MSR will assume the capital lock status configured by SW2 when transmitting data. The default setting is disable.

Note : There are some PCs or terminals that do not strictly conform to the standard PCAT keyboard interface. The 1023 MSR may fail to detect the capital lock status and lock the keyboard, when transmitting the data. If this happens then this setting must be disabled.

6.4 Transmit Start / Stop Characters

The 1023 MSR will transmit the start and stop character for each track of data by default. To stop the 1023 from transmitting these characters, this setting should be set to disable. The start and stop characters for each track are listed below.

	Start	Stop
ISO Track1	%	?
ISO Track2	;	?
ISO Track3	;	?

6.5 Reverse Track Alignment

The 1023 MSR by default will transmit the decoded data in the following sequence : first track, second track, and then the last track. If this setting is enabled, the 1023 will reverse this sequence. It will transmit the last track of data first and then the second track and finally the first track.

6.6 Direct Scan Code (Keyboard Interface only)

The 1023 MSR can be configured to treat all user programmable fields (strings) as scan codes and thus bypass the code re-mapping process. This setting is effective only when the keyboard type is either

PCAT, PS55, PS2-30 or Memorex Telex (IBM terminals). The user programmable fields/strings include prefix code, interfix code, postfix code, and additional fields of editing format. The default setting is disable.

6.7 No Read Message

Enable this setting will make the 1023 MSR transmit a "NO READ" message whenever there is a read failure. The default setting is disable.

6.8 Track Reading / Decoding

User can control the reading/decoding of all three tracks individually by configuring these settings. For example, if the setting of Track1 Reading is not enabled, the 1023 MSR will not decode the track1 and so data will not be transmitted for that track. The default settings are enable.

6.9 Prefix, Interfix, and Postfix Codes

The interfix code is inserted automatically by 1023 MSR between the tracks of data when more than 1 track of data is decoded. When decoding two tracks of data the 1023 MSR inserts the interfix code between the first and the second track. If all three tracks are decoded, the interfix code will be inserted between the first track and the second track, then between second track and the last track. Whereas, the

prefix code and the postfix code, as their names imply, are attached before the first track and after last track as data is transmitted.

Up to 4 characters can be configured for each of these user programmable fields. The default settings for prefix and interfix code are empty, with the postfix code being the Return (Enter) character.

6.10 Editing Mode

The 1023 MSR can be configured to re-arrange the data into another form before it is sent to the host computer. This is done by configuring an editing format for the 1023 MSR. The 1023 MSR transforms the decoded data (whenever applicable) according to the formats configured in the editing mode. Users can configure up to two co-existing editing formats and have the ability to enable or disable the formats individually.

Each editing format can have conditions set which allows the data to be manipulated into fields, these fields can then be added to and transmitted in the order specified by the user.

Note : The interfix code is inserted before processing the editing formats. That is, the interfix code is already inside the data being processed by the editing formats. Whereas the prefix and postfix codes are added after the editing formats have been applied.

6.10.1 Applicable Conditions

These conditions are used to qualify the data to be processed. Data must comply with the applicable conditions configured before the particular editing format can be applied. There are three applicable conditions that can be set for each editing format.

- **Data Type** : User can specify what kinds of data (single track, dual track, and/or three track) can be processed by this format. All of them can be enabled or disabled simultaneously or in any combination.

  Note : Here the phrase “single track”, “dual track”, and “three track” do not refer to the track number but rather the total number of tracks being decoded.

- **Data Length** : This setting specifies the maximum and minimum length (character count) of the data allowed for the editing format. If both maximum and minimum length is set at zero, the data length qualification is ignored.

- **Matching String and Matching Location** : User can specify a particular string (up to 3 characters) that must exist in the data to allow format processing. User can also specify the location of this string in the data by configuring the Matching Location. If the Matching Location is zero, the 1023 will only check for the existence of the Matching String (no matter where it is in the data).

6.10.2 Dividing Fields

Data can be divided up into 5 fields (they are numbered **Field1** to **Field5** accordingly, referred to by abbreviation as **F1** to **F5.** Although there can be a total of 5 fields, users only need to configure 4 fields as the last field is automatically assigned and sent. So the total number of fields is always one more than the number of fields actually configured.

There are two ways to divide the fields : by specifying field terminating string, or by specifying field length (character count). Which method is used to divide data is somewhat application dependent, and it is not necessary to configure all fields by the same method.

- **Dividing Fields by Field Terminating String :** Fields can be divided by specifying the field terminating string. The field will continue until the occurrence of the specified string and the user can also decide whether the field terminating string is to be **discarded** (not included in current field and not in the next field). Up to two characters can be specified for this string.
- **Dividing Fields by Field Length :** Fields can be divided by simply specifying the length of the field.

6.10.3 Additional Fields

User can create additional fields, up to 3 additional fields for each editing format (they are numbered from **Additional Field 1** to **Additional Field 3** accordingly, referred to by abbreviation as **AF1** to **AF3**. Each additional field can hold up to 3 characters.

6.10.4 Field Transmission Sequence

After applicable conditions, data fields, and additional fields are configured, user can now configure what fields (F1 to F5, and AF1 to AF3, if configured) are to be transmitted. These fields can be transmitted in any order and in any combination. It is not necessary to send all the fields of data as some may not be required, the same field can be transmitted more than once.

Up to 10 fields can be configured for this **Field Transmission Sequence** setting. The 1023 MSR will follow the field sequence configured and build the data string in that order when transmitting data.

6.10.5 Exclusive Data Editing

The 1023 MSR will try to apply editing formats to each string of decoded data. If the formats specified do not meet the data read from card, the data will be transmitted as is (the prefix, interfix,

and postfix are still added) by default. If the **Exclusive Data Editing** setting is enabled, no data will be transmitted if the data read from the MSR card does not match what is expected, this means a complete match is required to allow data to be output.

6.10.6 Examples

Example 1 : Extracts data from the 10th character to the 19th character.

Field 1 : Divide field by field length, set field length to 9
Field 2 : Divide field by field length, set field length to 10
Field Transmission Sequence : F2

Example 2 : Extract the ID number, employee name, and account number from ID card. Data is encoded in the magnetic card like this : From the first character to the 10th character is the ID number. From the 11th character is the employee name, it is a variable length but is delimited by a '^' character, after the '^' character is the account number.

Data should be transmitted like this : Employee name first, then a TAB character, followed by the ID number, then another TAB character and finally the account number.

Field 1 : Divide field by field length, set the field length to 10.
Field 2 : Divide field by field terminating string, set terminating string to '^' and clear the include terminating string check box.
Additional Field 1 : Set to one TAB character.
Field Transmission Sequence : F2 AF1 F1 AF1 F3

7. Setup Program

This section describes the optional setup program for configuring the 1023 MSR. This program must be run under Microsoft Windows (3.1 or 95). And there should be an available serial port on the PC for the setup program to communicate with 1023 MSR. What follows is a list of what is needed to perform the configuration.

- The setup program
- 1023 MSR Unit
- PC which is running Microsoft Windows with available serial port
- RS232 Interface cable for connecting 1023 to the serial port of PC
- Power adapter or a power sharing cable used to provide power to 1023 MSR.
- Master card to put the 1023 into configuration mode.

7.1 Installation

This setup program consists of the following four files. The first three are the program files, and the last one is the configuration file that stores the default settings of 1023.

- 1023V3.EXE : Main program
- BIVBX11.DLL : Dynamic link library

- MSCOMM.VBX : Custom control file for the setup program
- DEFAULT.MSR : Default configuration file

Create a new directory or folder and copy all the files from the floppy disk to the newly created directory on the hard disk.

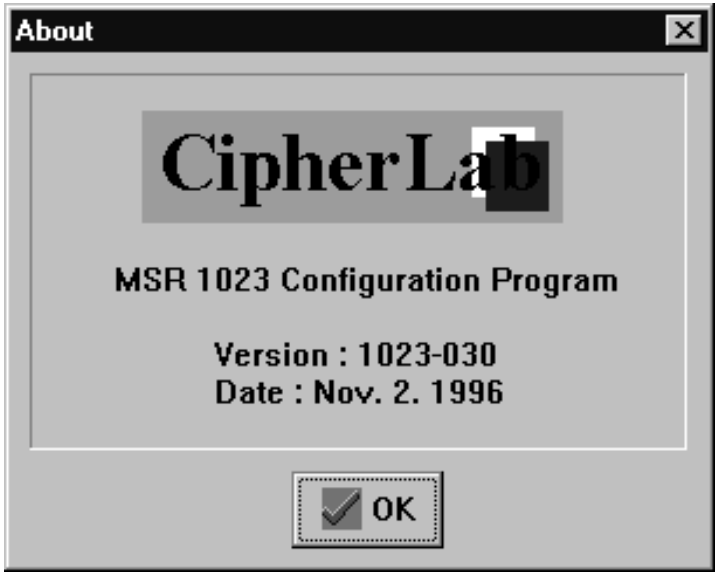
7.2 Start Up

The setup program is started from windows by clicking on File and select Run. Enter the directory and the "1023V3.EXE" program name. There should be an available serial port on the PC, or the following message will be showed.

This setup program tries to find the available serial port from COM1 to COM4, and it assumes the 1023 MSR is connected to the first available serial port it finds. If the 1023 MSR is not connected to that

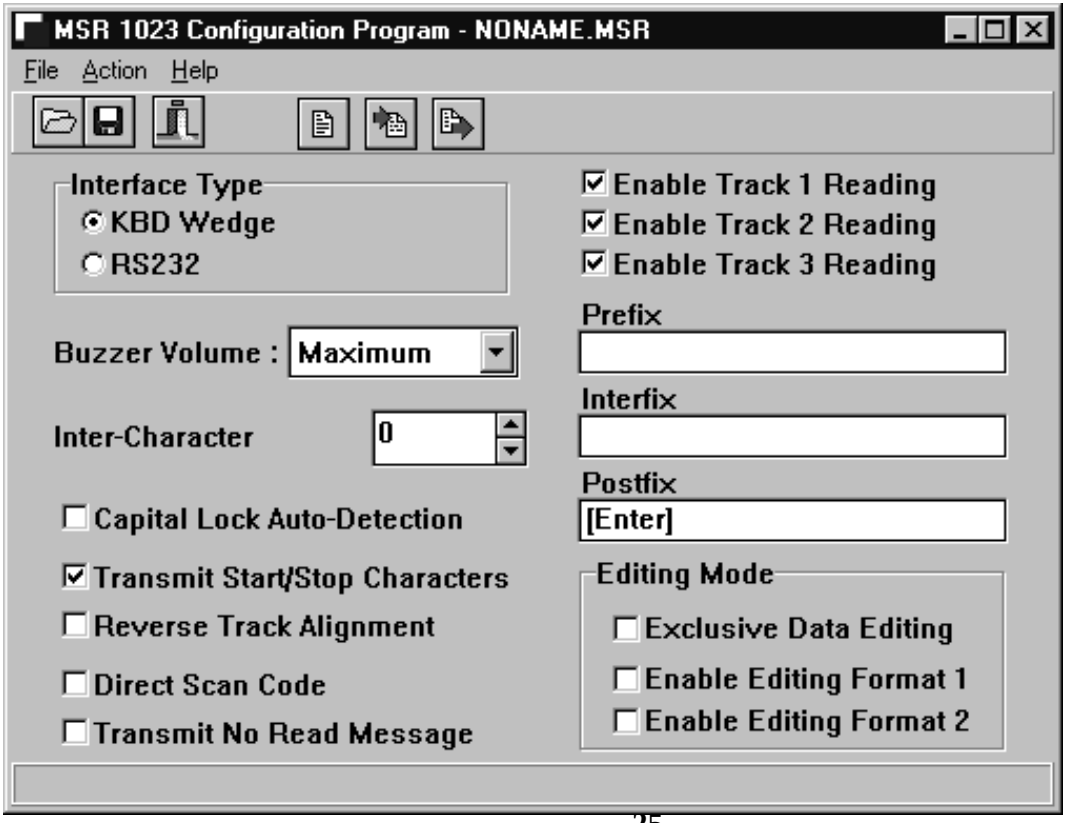
serial port or not in the configuration mode, the following message will be shown. To put the 1023 MSR into configuration mode, the master card must be swiped. The 1023 will beep six times on entering setup mode.

If the setup program successfully finds the 1023 MSR, the following message will be shown on the display (the 1023 MSR will also beep twice).



7.3 Main Window

The main window of the setup program is like this.


MSR 1023 Configuration Program - NONAME.MSR
File
Action
Help
Interface Type
KBD Wedge
RS232
Buzzer Volume :
Maximum
Inter-Character
0
Capital Lock Auto-Detection
Transmit Start/Stop Characters
Reverse Track Alignment
Direct Scan Code
Transmit No Read Message
Enable Track 1 Reading
Enable Track 2 Reading
Enable Track 3 Reading
Prefix
Interfix
Postfix
[Enter]
Editing Mode
Exclusive Data Editing
Enable Editing Format 1
Enable Editing Format 2

There is a tool bar below the menu with several command buttons that provide for easy selections. Alternatively the user can select from the menu bar options. This program will provide help when the mouse pointer is positioned on some of the settings or buttons.

7.4 Configuration File

Configuration settings can be saved into files which always have the file extension “MSR”. The setup program starts with the default configuration file “NONAME.MSR”. The file name of the active configuration file is shown on the caption of the main window. If a previously saved file is opened the screen displays the caption and the settings of that file. Do not modify the “DEFAULT.MSR” file as the default settings will be changed if the file is modified, it is recommended that the file attribute of this file be set to Read Only.

7.5 Restore Default Settings

To restore all settings on PC screen to their default values, press the Default button. The 1023 MSR is restored to default settings, by pressing the default button and then pressing the download button that loads the default settings.

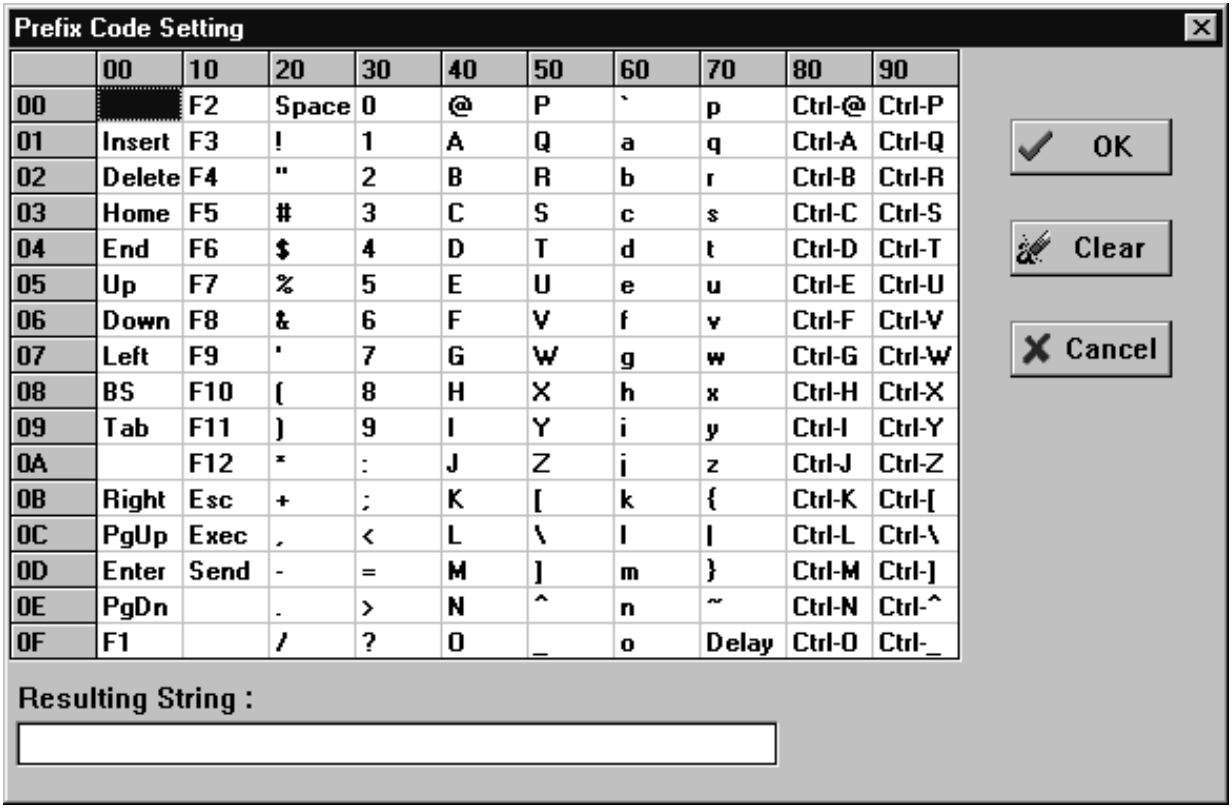
7.6 Select Interface Type

The setup program needs to know the interface type to be used on the target 1023 MSR. By selecting a different interface the screen displays a different configuration window. Make sure the correct interface type is selected before making any changes to the settings.

Note : Selecting the interface type only provides the screen to setup the relevant parameters. The switches on the bottom of the 1023 MSR actually select the interface type.

7.7 Configuring String Type Settings

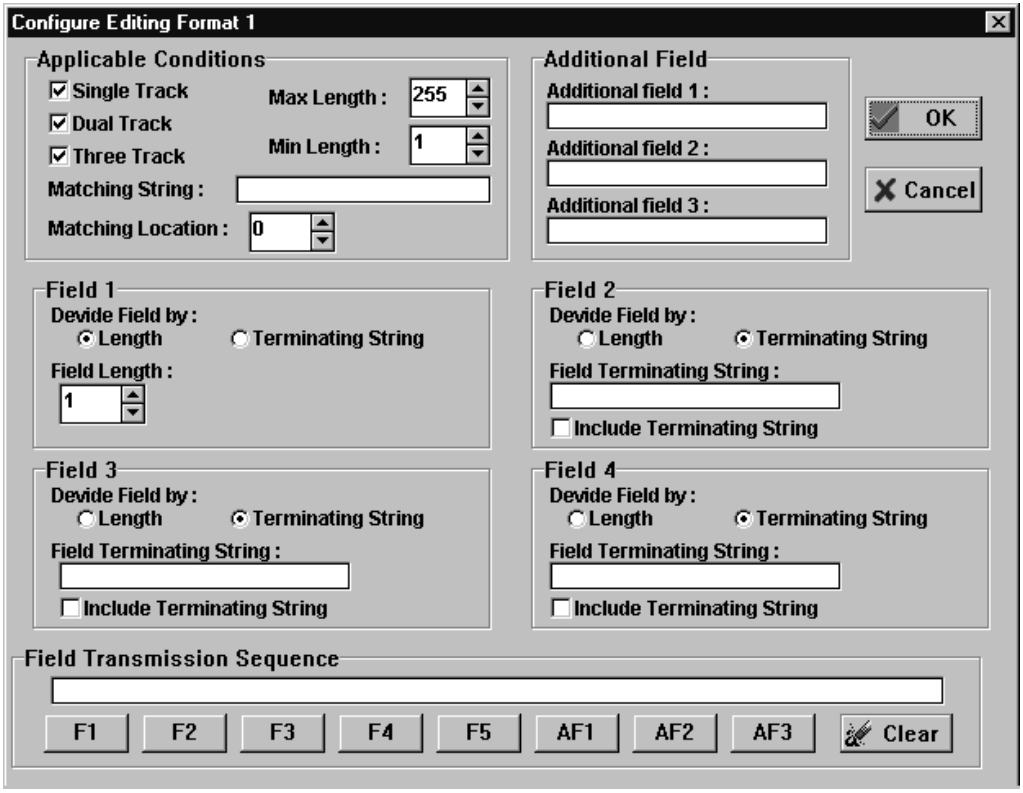
To configure string type settings (such as prefix code, interfix code, postfix code, additional fields, and field terminating string), point the mouse at the desired setting and double (left) click to bring up the configuration window. A sample of one of these windows is shown below.


Prefix Code Setting
00 10 20 30 40 50 60 70 80 90
00 F2 Space 0 @ P ` p Ctrl-@ Ctrl-P
01 Insert F3 ! 1 A Q a q Ctrl-A Ctrl-Q
02 Delete F4 " 2 B R b r Ctrl-B Ctrl-R
03 Home F5 # 3 C S c s Ctrl-C Ctrl-S
04 End F6 $ 4 D T d t Ctrl-D Ctrl-T
05 Up F7 % 5 E U e u Ctrl-E Ctrl-U
06 Down F8 & 6 F V f v Ctrl-F Ctrl-V
07 Left F9 ' 7 G W g w Ctrl-G Ctrl-W
08 BS F10 (8 H X h x Ctrl-H Ctrl-X
09 Tab F11) 9 I Y i y Ctrl-I Ctrl-Y
0A F12 * : J Z j z Ctrl-J Ctrl-Z
0B Right Esc + ; K [k { Ctrl-K Ctrl-[
0C PgUp Exec , < L \ l | Ctrl-L Ctrl-\
0D Enter Send - = M] m } Ctrl-M Ctrl-]
0E PgDn . > N ^ n ~ Ctrl-N Ctrl-^
0F F1 / ? O _ o Delay Ctrl-O Ctrl-_
OK
Clear
Cancel
Resulting String :

Characters are selected by double (left) clicking the mouse at the desired character shown on the table. The selected characters are shown at the bottom of the table.

7.8 Configuring Editing Mode

Configuring the editing format starts from right clicking the desired “Enable Editing Format” check box. This will bring up the configuration window of the editing format.


Configure Editing Format 1
Applicable Conditions
Single Track
Dual Track
Three Track
Max Length :
255
Min Length :
1
Matching String :
Matching Location :
0
Additional Field
Additional field 1 :
Additional field 2 :
Additional field 3 :
OK
Cancel
Field 1
Devide Field by :
Length
Terminating String
Field Length :
1
Field 2
Devide Field by :
Length
Terminating String
Field Terminating String :
Include Terminating String
Field 3
Devide Field by :
Length
Terminating String
Field Terminating String :
Include Terminating String
Field 4
Devide Field by :
Length
Terminating String
Field Terminating String :
Include Terminating String
Field Transmission Sequence
F1
F2
F3
F4
F5
AF1
AF2
AF3
Clear

7.9 Upload Configuration from 1023

The current settings of the 1023 MSR can be read back to the PC by pressing the upload button. When the setup program completes the upload to the PC the following message is displayed.

7.10 Download Configuration to 1023

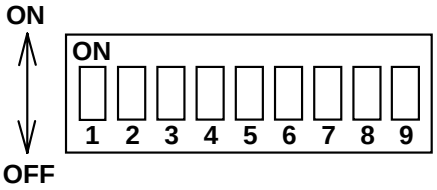
A download of the settings to 1023 MSR is done by pressing the download button. On completion the following message is displayed and the 1023 MSR exits the configuration mode with four beeps (three short beeps and one long beep) when the process is complete. To re-enter configuration mode the 1023 MSR master card must be swiped on the 1023 MSR again.


Information
Download Complete!
OK

8. Available Interface Cables

Parts Number	Description	Apply to
SD5	DIN5 connectors, 120 cm straight cable	PCAT
SM6	Mini DIN6 connectors, 120 cm straight cable	PS2, PS55, PCAT
SM4	ADB (Mini DIN4) connectors, 120 cm straight cable	Macintosh
S4P4C	Phone Jack 4P4C connectors, 120 cm straight cable	DEC VT220,320,420
SDB9F	Female DB9 connector, 120 cm straight cable	RS-232 single port operation
SDB9S	DB9 connectors, 120 cm straight cable	RS-232 dual ports operation
SDB25S	DB25 connectors, 120 cm straight cable	RS-232 dual ports operation
S4PW	Phone Jack 4P4C, 120 cm straight cable	Wyse Keyboard Wedge Cable
S8PI	Phone Jack 8P8C, 120 cm straight cable	IBM 3486
SDB25W	DB25 connectors, 120 cm straight cable	RS-232 dual ports for Wyse

9. Dip Switch Quick Look-up



Keyboard Interface :

SW 1 OFF----This switch must be set to OFF position.

SW 2 OFF----Capital Lock Off
ON ----Capital Lock On

SW 3 - 8	ON	ON	ON	ON	ON	ON	-------PCAT (US), IBM 001-2, 002-2, 003-2
	OFF	ON	ON	ON	ON	ON	-------PCAT (French)
	ON	OFF	ON	ON	ON	ON	-------PCAT (German)
	OFF	OFF	ON	ON	ON	ON	-------PCAT (Italian)
	ON	ON	OFF	ON	ON	ON	-------PCAT (Belgium)
	OFF	ON	OFF	ON	ON	ON	-------PCAT (Norwegian/Swedish)
	ON	OFF	OFF	ON	ON	ON	-------PCAT (UK)
	OFF	OFF	OFF	ON	ON	ON	-------PCAT (Spanish)
	ON	ON	ON	OFF	ON	ON	-------NEC 5200
	OFF	ON	ON	OFF	ON	ON	-------NEC 9800
	ON	OFF	ON	OFF	ON	ON	-------DEC VT220
	OFF	OFF	ON	OFF	ON	ON	-------Macintosh ADB
	ON	ON	OFF	OFF	ON	ON	-------Macintosh RJ
	OFF	ON	OFF	OFF	ON	ON	-------Memorex Telex (IBM Terminals)
	ON	OFF	OFF	OFF	ON	ON	-------Hitachi Elles

OFF OFF OFF OFF ON ON-------PCXT
ON ON ON ON OFF ON-------IBM A01-1
OFF ON ON ON OFF ON-------IBM A01-2
ON OFF ON ON OFF ON-------IBM A01-3
OFF OFF ON ON OFF ON-------IBM 001-1, 002-1, 003-1, PS2-30
ON ON OFF ON OFF ON-------IBM 001-81, 002-81, 003-81
OFF ON OFF ON OFF ON-------IBM 001-82, 002-82, 003-82
ON OFF OFF ON OFF ON-------IBM 001-8A, 002-8A, 003-8A
OFF OFF OFF ON OFF ON-------IBM 001-3
ON ON ON OFF OFF ON-------IBM 002-3, 003-3
OFF ON ON OFF OFF ON-------IBM 3477 Type 4 (Japanese Keyboard)
ON OFF ON OFF OFF ON-------IBM 5550
OFF OFF ON OFF OFF ON-------WYSE Enhance Keyboard (US)
ON ON OFF OFF OFF ON-------NEC Astra
OFF ON OFF OFF OFF ON-------Unisys
ON OFF OFF OFF OFF ON-------Televideo 965
OFF OFF OFF OFF OFF ON-------ADDS 1010
ON ON ON ON ON OFF ------PCAT (Portuguese)

SW 9 ON ----25 ms Inter-character Delay
OFF----No Inter-character Delay

RS-232 Interface:

SW 1	ON		----	This switch must be set to ON position.
SW 2	ON		----	8 Data Bits
	OFF		----	7 Data Bits
SW 3 - 4	ON	ON	----	No Parity
	OFF	ON	----	Even Parity
	ON	OFF	----	Odd Parity
SW 5 - 6	ON	ON	----	38400 Baud Rate
	OFF	ON	----	19200 Baud Rate
	ON	OFF	----	9600 Baud Rate
	OFF	OFF	----	2400 Baud Rate
SW 7 - 9	ON	ON	ON ----	Transmit data to RS-232 Port A only (Dual Ports Operation)
	OFF	ON	ON ----	Transmit data to RS-232 Port B only (Dual Ports Operation)
	ON	OFF	ON ----	Transmit data to Both RS-232 Port A and B (Dual Ports Operation)
	OFF	OFF	OFF	No RTS/CTS Hand-Shake (Single Port Operation)
	OFF	OFF	ON ----	Data Ready (Single Port Operation)
	ON	ON	OFF ---	Scanner Ready (Single Port Operation)

10. Physical Specification

Dimension	163mm (L), 44mm (W), 47mm (H)
Weight	180g excluding Interface Cable
Power Supply	5VDC ± 5%
Power Consumption	35mA Max
Humidity	20% to 95% for operation, 10% - 95% for storage
Temperature	0 to 55°C for operation, -20 to 70°C for storage
EMC Regulations	This device complies with part 15 of FCC rules. Operation is subject to the following two conditions : (1) this device may not cause harmful interference, and (2) this device must accept any interference received including interference that may cause undesired operation.

11. Packing List

Standard Items:

- 1023 Magnetic Stripe Reader
- This manual

Optional Accessories:

- Interface Cable
- Master Card
- Setup Program Disk
- Setup Cable (same cable as RS232 cable)
- +5V Regulated Power Adapter