VisiSet 中文操作手册_V1.0

Matrix 210

何光文

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- 一、 调试工具及界面介绍
- 1、 打开调试软件 VisiSet

正确安装读码器后,打开 VisiSet 软件。有两种方法:

1) 点击桌面上的快捷方式,如下图:



2) 从开始菜单启动,点击开始->程序->Datalogic

->VisiSet->VisiSet.exe。

2、 连接 VisiSet 与读码器

打开 VisiSet 后,程序窗口如下图所示:



点击工具栏中的 Options 按钮,会出现下面的窗口:

USB Serial Port (COM3) 属性	VisiSet Options
常规 端口设置 驱动程序 详细信息	Log Environment Communication
每秒位数 (B): 115200 🔻	Communication channel © Serial port C Ethermet
数据位 (D): 8	Autoconnect ports Starting port configuration for auto search
奇偶校验 (P): 无	COM1 C 2400 C 1
停止位 (S): 1 🗨	
流控制 (F): 元 ▼	
高级 (A) 还原默认值 (R)	COM4 ▼ COM4 C 38400 Parity C 38400
	O 57600
	© 115200 C Even
	C Odd
	Exit

此窗口用来设置读码器与电脑通讯所用的串口的设置。电脑端口、波特率、停止位、校验方式应保持一致。然后点击 Save 关闭此窗口。出厂时的设定为: 115200-8-N-1

如下图,点击Connect:

≥ VisiSet	
File Edit Connect Disconnect Reader parameters Options Tools Help	
Press <connect> to configure the reader.</connect>	
Connection: none. Reader status: NOT_CONNECTED	LOG : OFF

大约2秒钟, VisiSet 与读码器连接成功, 连上后的状态如下图: 左边的一列按钮为调试工具, 用于调试读码器; 右边为数据显示 窗口, 可以显示读到的条码的内容。

	🛟 VisiSet rel. 6.62			
	File Edit Connect Disconnec	t Device Options Tools Help		
	MAIN MENU	Device: Matrix 200	•	
	M. Setup Wizard	Model: 213-000 Communication Port: Main		
	F. Calibration Tool	Standard Application Drogram for Matrix	Pamilu Dol 5 5th	居显示窗口
调试工具	V. Symbol Verification	Standard Application Frogram for Matrix	ramily Rel. 5.2.	
	A. Run Mode			
	B. Capture Image			
	C. Decode Last Image			
	D. View Last Image			
	E. Download Last Image			
	H. Upload Bitmap Image			
	Q. Image Buffer			
	3. Button Function Menu			
			·	
	Connection: C09D02999 on COM	3 at 115200,N,8,1 Reader Status: OFF LINE MODE	Log : OFF	

3、 调试读码器

VisiSet 与读码器成功连接后,我们就可以对读码器进行调试。

点击左边调试工具里的 F. Calibration Tool 按钮,如下图所示:



则会出现下面两个窗口:

Calibration Tool		Parameter Setup	
Top,Left	-Stop Image Acquisition	File Device Mode	
Bottom,Right	Circle Angle Content of Cont	Get Send Send Defaul 2D Codes 1D Codes Postal Code Data Collection Match Code Reading System Layout CBX Ga Operating Modes Calibration I Department Modes Departing Mode Operating Mode Acquisition Trigger Image Acquisition Buffer Size ACQUISITION TRIGGER DELAY Status Status Status Status Status	ts Temporary Interactive s Image Processing Miscellaneous Symbol Verification Communication teway Display Diagnostics Digital //O LEDs And Keypad One Shot Ext. Trig. Leading Edge 2 1 Disabled
Image Acquisition Information Acquisition Setting: Decoding Results Symbology. Code Data: Code Center: Image Lighting Quality Statistic Info On Last 0 Samples: Decode %: Dz	ie: 1 ÷		

左边的窗口是**校准工具**,右边的窗口是**参数设置工具**。我们主要

通过这两个工具来完成对读码器的调试。

参数设置工具主要构成如下图所示:

Parameter Setup							
File Device Mode							
Get Send Send Defaul	ts Temporary Interactive						
2D Codes 1D Codes Postal Code	s Image Processing Miscellaneous						
Data Collection Match Code	Symbol Verification Communication						
Reading System Layout CBX Gat	teway Display Diagnostics						
Operating Modes Calibration	Digital I/O LEDs And Keypad						
OPERATING MODE							
Operating Mode	One Shot						
Acquisition Trigger	Ext. Trig. Leading Edge						
Image Acquisition Buffer Size	2						
ACQUISITION TRIGGER DELAY	1						
Status	Disabled						
2							

a、 参数文件工具:	: 用来上传、下载、保存参数
文件	
Get	自读码器内上传参数配置到
	电脑
Send	把当前的参数配置下载到读
	码器内
Send Defaults	恢复读码器的参数为出厂设
	置
Temporary	暂时存储/永久存储。暂时存
	储: 如果读码器重新通电,
	修改后的参数不会保存; 永
	久存储:读码器重新通电后,
	参数永久存储在读码器内。
Interactive	是否修改后立即有效。如果
$\sim \sim \gamma'$	是红色,则代表参数修改后
	立即生效;如果是黑色,则
	代表参数修改后需要下载到
	读码器内才生效。
b、 参数组:把不	司作用的参数分组
Operating Mode	运行模式设置
Calibration	读码特性校准设置

Communication	通讯设置
2DCodes、1DCode、	2 维码、1 维条码、邮政码的
Postal Codes	相关设置
Data Collection	数据采集
Digital I/O	数字量输入/输出设置
Miscellaneous	杂项设置
c、参数:各个参数	设置

二、 参数调试

1) 修改参数设置工具中的 Operating Mode 为 Continuous。读码器 开始连续拍图。我们可

以在校准工具的图片区内看到读码器拍取的图片,如下图所示:

Calibration Tool			Parameter Setup	
Top,Left	Stop Image	e Acquisition	File Device Mode	
	© Disable C After A C On No On De Screen Mc © Decoc	led Any Capture D Decode ecode ded Image	Get Send Send Default Data Collection Match Code Reading System Layout CBX Gat Operating Modes Calibration 2 Codes 1 D Codes 2D Codes 1 D Codes 1 D Codes Postal Codes 2D CODES SETURE Codes SETURE Codes Codes	s Temporary Interactive Symbol Verification Communication way Display Diagnostics Digital I/O LEDs And Keypad is Image Processing Miscellaneous
	C Code F	Position Only	Code Color	Black
and all the second second second	C Camer	ra Mode	Code Contrast	Standard
	Trigge	er Armed	DATA MATRIX ECC 200	
and the second se	View	v Image	Status	Enabled
and the second se			Decoding Method	Standard
	Bottom,Right	oad Image	Rectangular Formats	Disabled
Image Acquisition Information			QR CODE	
Acquisition Setting: 1	Self Tuning: Dis	abled	Status	Disabled
Exposure Time (x10us): 150			MICRO QR CODE	
Gain: 20			Status	Disabled
Decoding Results			AZTEC CODE	
Symbology: QR Code	Selected Code: 1		Status	Disabled
Code Data: 5357451352115436F			MAXICODE	
Code Center: (X,Y) = (511,205)			Status	Disabled
Code Orientation: 247	Quality Index: 100	0%		
Image Lighting Quality Exposure Index Underexposed OK	Lighting Index: 83	<u></u>		
Statistical information on the last 10 samples Decode %: 802		Close		به

 一边观察图片区,一边调整读码器的位置,使条码完整的出现在 图片区,如下图:

Calibration Tool				Parameter Setup	- • •
Top,Left			Stop Image Acquisition	File Device Mode	
Y			Disabled After Any Capture On No Decode On Decode On Decode Code Position Only Camera Mode Trigger Armed View Image	Get Send Send Defau Data Collection Match Code Reading System Layout CBX Ga Operating Modes Calibration 2D Codes Calibration 2D Codes 1D Codes Postal Code 2D CODES SETUP Code Color Code Contrast DATA MATRIX ECC 200 Status Decoding Method	Its Temporary Interactive Symbol Verification Communication steway Display Diagnostics Digital I/O LEDs And Keypad es Image Processing Miscellaneous Black Standard Enabled Standard Standard
		Bottom,Right	Download Image	Rectangular Formats	Disabled
Image Acquisition Inform	hation			QR CODE	
Acquisition Setting:	1	Self Tuning:	Disabled	Status	Disabled
Exposure Time (x10us):	150			MICRO QR CODE	
Gain:	20			Status	Disabled
Decoding Results				AZTEC CODE	
Symbology:	QR Code	Selected Code	: 1 -	Status	Disabled
Code Data:	5357451352115436F			MAXICODE	
Code Center:	(X,Y)=(511,205)			Status	Disabled
Code Orientation:	247	Quality Index:	100%	[
Image Lighting Quality Exposure Index: Un	derexposed OK Overexpose	Lighting Index ed	83%		
Statistical information on Decode %:	the last 10 samples 80%		Close		له

 点击参数设置工具里的 2DCodes 参数组,修改 QR Code 的 Decoding为Enable。如下图所示:

Calibration Tool		Parameter Setup	
Top,Left	Stop Image Acquisition	File Device Mode	
iter	Clisabled Cher Any Capture On No Decode Screen Mode O Decode Decode	Get Send Send Default Data Collection Match Code Reading System Layout CBX Ga CBX Ga Operating Modes Calibration 20 Codes 1D Codes Postal Code	ts Temporary Interactive Symbol Verification Communication Usplay Display Display Display Display LEDs And Keypad Image Processing Miscellaneous
- W	C Code Position Only	2D CODES SETUP	Disati
And the second s	C Camera Mode	Code Color	Diack
[1] J. M. BRANK, P. J. 1998.	Trigger Armed	DATA MATRIX ECC 200	stanualu
A CONTRACTOR OF A CONTRACTOR A CONTR	View Image	Status	Enabled
CONTRACTOR AND ADDRESS OF	view mage	Decoding Method	Standard
R	Download Image	Rectangular Formats	Disabled
Image Acquisition Information	Second right	QR CODE	
Acquisition Setting: 1 S	Self Tuning: Disabled	Status	Enabled
Exposure Time (x10us): 150		Decoding Method	Disabled
Gain: 20		MICRO QR CODE	Enabled
Decoding Results		Status	Disabled
Symbology: QR Code S	elected Code: 1	AZTEC CODE	
Code Data: 5357451352115436F	,	Status	Disabled
Code Center: (X,Y)=(511,204)		MAXICODE	
Code Orientation: 247 G	Quality Index: 100%	Status	Disabled
Exposure Index Lighting Quality Lighting	ighting Index: 83%	<u></u>	
Statistical information on the last 10 samples Decode %. 100%	TX/RX Close		

这时,我们可以看到,在左边的校准工具的图片区,条码上方有

一个"1",这表示条码此时被成功解码

如果条码不能被成功解码,可以设置其它种类条码的 Decoding 为Enable,例如,PDF417,EAN 128等,直到条码可以读取。确定条 码种类后,把其他条码的 Decoding 全部设置为 Disable。

4) 下图中,红框内容从上到下,依次为条码质量、亮度及曝光质量、

解码成功率					
Calibration Tool					
Top,Left		.Å			Stop Image Acquisition © Disabled © After Any Capture © On No Decode © On Decode Screen Mode © Decoded Image © Code Position Only © Camera Mode Trigger Armed View Image
				Bottom,Right	Download Image
Image Acquisition Inform Acquisition Setting: Exposure Time (x10us): Gain:	ation 1 150 20			Self Tuning:	Disabled
Decoding Results Symbology: Code Data:	QR Code 53574513521	15436F		Selected Code:	1 :
Code Center: Code Orientation:	(X,Y)=(510 247	U , 203)		Quality Index:	100%
Image Lighting Quality Exposure Index: Und	derexposed	ОК	Overexposed	Lighting Index:	100%
Statistical information on Decode %:	the last 10 sam 10	ples)0%		TX/RX-	Close

解码成功率、条码质量和亮度以及曝光质量是调节读码器读码特

性的标准。我们要做到:尽量让这三个参数接近 100%,让亮度接近 0K 处。

注:在读取镭刻码时,只要使解码成功率和条码质量尽量接近 100%即可。

5) 点击参数设置窗口的 Calibration 参数集,如下图所示:

其中,**曝光时间**和增益最为关键。修改这两个参数,直接确定图 片的效果。

Exposure Time: 曝光时间

曝光时间,范围是 1-200,此值设置的越高,图片对比度就越高,越亮;此值设置越低,图片对比度就越低,越暗。如果是读取运动中的条码,此值越小越好,来保持图像的清晰,避免图片模糊不清(与照相的原理一样),推荐设置此值小于 50;如果是静止读取条码,此值越大越好,推荐设置此值大于 100。

	Parameter Setup			
	File Device Mode			
	Get Send Send Defaults Temporary			
	Data Collection Match Code Reading System Layout CBX Ga 2D Codes 1D Codes Postal Code Operating Modes Calibration	Symbol Verification Communication teway Display Diagnostics s Image Processing Miscellaneous Digital I/O LEDs And Keypad		
	IMAGE ACQUISITION SETTING	1		
	Status	Enabled		
曝光时间	Self Tuning	Disabled		
	Internal Lighting Mode	High-Power Strobed		
	Exposure Time (x100us)	15		
增益	Gain	20		
	Gain Increasing	x2		
增益倍数	Image Polarity Inversion	Disabled		
	Region Of Interest: Top	0		
	Region Of Interest: Bottom	479		
	Region Of Interest: Left	0		
	Region Of Interest: Right	751		
	Image Filter	Disabled		

Gain: 增益

用来调节图像的亮度。此值设置的越高,图片对比度就越高,越亮;此值设置越低,图片对比度就越低,越暗。

Gain Multiplier: 增益倍数,用来成倍的增加增益。X1表示当前增益值乘1,既保持不变; X2表示当前的Gain 值乘2; X4表示当前的Gain 值乘4。

曝光时间和增益的关系是成反比的,当其中一个的数值偏低而造 成影像不清,可以通过另外一个参数来补偿。曝光时间和增益配合使 用,可以使图像达到最佳对比度效果。

6) 把 Operating Mode 改为 Phase Mode。如下图:

Parameter Setup				
File Device Mode				
Get Send Send Defau	Its Temporary Interactive			
Data Collection Match Code	Symbol Verification Communication			
Reading System Layout CBX G	ateway Display Diagnostics			
2D Codes 1D Codes Postal Cod	les Image Processing Miscellaneous			
Operating Modes Calibration	Digital I/O LEDs And Keypad			
UPERATING MODE				
Operating Mode	Phase Mode			
Reading Phase ON	Ext. Trig. Leading Edge			
Acquisition Trigger	Ext. Trig. Trailing Edge Main Port String			
Acquisition Trigger Status	Auxiliary Port String			
Reading Phase OFF	Input 2 Leading Edge			
Image Acquisition Buffer Size	Ethernet String			
ACQUISITION TRIGGER DELAY	Fieldbus Input Leading Edge			
Status	 Fieldbus Input Trailing Edge ID-NET String 			
l				

其中 Reading Phase On, Reading Phase Off 表示触发模式的开始和 结束。下拉框为条件选择,可复选

7) 数据模式设置

Parameter Setup		1
File Device Mode		
Get Send Send Defau	Its Temporary Interactive	
Reading System Layout CBX Ga 2D Codes 1D Codes Postal Code Operating Modes Calibration Data Collection Match Code Match Code	ateway Display Diagnostics es Image Processing Miscellaneous Digital I/O LEDs And Keypad Symbol Verification Communication	
CODE COLLECTION		
Code Collection Mode	Within A Reading Phase	
Number Of Codes	1	
Code Collection Filters	Disabled	
DATA FORMAT		
Code Field Justification	Disabled	
Code Field Cutting	Disabled	No read 近回信
No Read Message	<24>	
Phase-Overrun Message		┃ 息,可修改
Data Packet Format	%2	
Statistics Field Separator String	<13><10>	
Statistics Field Format	81	
Symbology Identifiers	Disabled	
DATA TRANSMISSION		() / / / / / / / / / / / / / / / / / /
Message TX Trigger	On Complete Read	[信息上传卫点
Output Lines Activation	On Complete Read	
STATISTICS		
Chatua	Disabled	

Parameter Setup		
File Device Mode		
Get Send Send Defa	aults Temporary Interactive	-
Reading System Layout CBX 2D Codes 1D Codes Postal Ca Operating Modes Calibration Data Collection Match Code	Gateway Display Diagnostics odes Image Processing Miscellaneous Digital I/O LEDs And Keypad Symbol Verification Communication	
MAIN PORT		
Data TX	Enabled	
Serial Interface Type	RS232	串口通信协议 波特
Communication Protocol	None	中口题情防风、极利
Baud Rate	115200	│
Parity	None	
Data Bits	8	JE J
Stop Bits	1	
Handshake	None	
Header String	<2>	
Terminator String		
AUXILIARY PORT		
Communication Mode	Local Echo	
Search For CBX At Device Startup	Enabled	
Baud Rate	115200	
Parity	None	→ 星字符, 可修改
Data Bits	8	
Stop Bits	4	
Handshake	None	
Header String	<2>	

9)参数调节完毕后,关闭校准工具,点击参数设置工具内的 Iterative,使之变为黑色,点击 Send,传输参数设置到读码器 中,我们会在数据窗口内看到提示"Configuration saved in permanent memory!"表示当前的参数配置已经成功永久下载到读 码器中。

三、 参数保存

为了方便维护,我们可以把当前配置存储为文件,保存在电脑硬 盘里,如果其它工位有相似应用,可以把存储文件直接下载到读 码器中,而不用在重新设置参数。

保存参数到电脑:点击参数调试工具栏中的 file,点击下拉菜 单中的 Save parameters to file,如下图:



选择桌面,设置文件名为 Matrix,点击 Save,配置就被成功存储在 硬盘里。



下载参数到读码器中:

点击参数设置工具的 File, 点击 Load Pars From file



点击桌面上的 Matrix 文件,点击 Open。参数设置工具当前的配置就变为 Matrix 文件的配置。点击 Send,把当前配置永久存储到读码器里。如下图:

PARAMETER SETUP						×
File Parameters Mode				/		
Get Send Re	store Def	s. Per	m. M	em.	Interactive	
Decoding 2DCo	des	1DCodes	5	Pos	stal Codes	
Data Collection D	igital I/O	Verifier Miscell			cellaneous	
Operating Mode	Calit	pration		Comm	unication	
OPERATING MODE						
Operating Mode		Phase Mo	de			
Phase-ON		Ext. Trig. L	ead	ing Edg	ge	
Acquisition Trigger		Continuou	5			
Phase-OFF		Ext. Trig. T	raili	ng Edg	е	
Number of Image Slots		2				
READING SYSTEM LAYO	TUC					
Device Assignment		Alone				
~		-				