EVOLIS CARD PRINTERS

Programming Guide

P/N: A5013- Rev. E

Table of Contents

1. Communication Interface

The printer uses by default a standard parallel with a Centronics cable wiring as described below:

Pin number	Signal	Direction
1	STROBE	IN
2	Data 0	IN
3	Data 1	IN
4	Data 2	IN
5	Data 3	IN
6	Data 4	IN
7	Data 5	IN
8	Data 6	IN
9	Data 7	IN
10	ACK	OUT
11	BUSY	OUT
12	PAPER-END	OUT
13	SELECT	OUT
14	AUTO-FEED	IN
31	INIT	IN
32	FAULT	OUT
36	SELECT IN	IN
19-30	Ground	#

The communication is standard using the 8 data entries (DATA0 to DATA7) as well as the BUSY and STROBE signals.
The INIT signal of the Centronics allows resetting the printer.

Error Cases:

1- All the minor errors (syntax error, command errors) will not be reported to the printer.

2- The media errors (No cards or End of Ribbon) will be reported via the BUSY and PAPER-END signals.

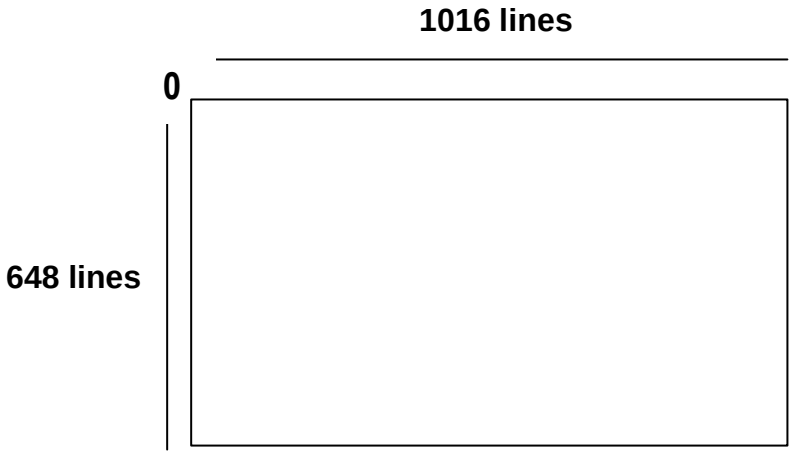
3- The mechanical errors (jam or other) will be reported via the BUSY and FAULT signals.

Information from the printer:

The printer is able to return a string of characters using the NIBBLE protocol mode.

2- General Working

The printer is equipped with 5 different Bitmaps which allow re-printing a card further to a media error.
These Bitmaps memorize the following image size with a resolution of 300 DPI:



3- Communication Protocol

The Evolis Pebble Card Printers have an internal programming language.
The command syntax is defined as follow:

(Start Character) Command (Stop Character)

The commands can get parameters and can be finished by a character string or data.
Each element of the command must be separated by a separator character:

(Start Character) Command (separator) parameter 1 (separator) parameter n (Stop Character)

Start Character:	ESC
Separator:	;
Stop Character:	CR

Note: the Start Character is not compulsory after the CR character.

4- Data compression

In order to optimize the downloading time, Evolis has added a new transmission mode with compression of the data.

Definition of the compression:

Compression of the YMC Panels:
The (MSB) bit of each byte is reserved for the interpretation of a counter or not.

- If the bit is set to 1, the other 7 bits will indicate the weight of the bit to be applied. The following byte indicates a value of repetitive counter. If the value of this counter is equal to zero, we consider the line as blank. If the value of the counter is different to 0, we repeat the byte the number of time of the counter. In the case of the modes with 6 bits or 5 bits, the bits 6 and 5 of the first bytes are used to increase the counter value.
- If this bit is equal to 0, the other 7 bits will indicate the weight of the bit to be applied. This is an isolated dot in the line.

Bit8 at zero

Writing 1 point Y, M or C.

0	Value on 5,6 or 7 bits

Bit8 at one

Writing counter point Y,M or C.

In 7 bits (128 levels) counter max= 255

1	Value to be repeated x counter times	Counter

In 6 bits (64 levels) counter max= 256+255

1	If 1 ctp+256	Value to be repeated x counter times	Counter

In 5 bits (32 levels) counter max= 256+256+255

1	If 1 ctp+256	If 1 ctp+256	Value to be repeated x counter times	Counter

Writing of a white line for Y,M or C

1	Counter = 0	0x 00

Compression of K and O:
The compression is done line per line.
If the first byte describing a line is equal to 0, it means that the line is white.
If the first byte describing a line is equal to 255, it means that the line is black.
If the line is not white and not black, the first byte indicates the number of byte(s) useful of the line.
This counter is followed by the useful bytes. The counter corresponds to the index of the last byte of the line.

Byte equal to 0. White line

0x00

Byte equal to 255. Black line

0xFF

Byte with value between 1 & 81. Indicates the number of useful bytes of the line.

1 to 81 (N)	Byte1	Byte2	…..	ByteN

Downloading Command:

(ESC)Dbc ;panel ;resol ;nb_car;xxxx(CR)

With panel : y → Yellow Panel
m → Magenta Panel
c → Cyan Panel
k → Black Panel
o → Overlay Panel

With resol: 2 → 2 levels of grey
32 → 32 levels of grey
64 → 64 levels of grey
128 → 128 levels of grey

With nb_car: Number of bytes to follow

5- Programming the Serial Port

As default, the printer serial port is disabled.
The following commands will set the serial port configuration and will memorize the protocol of communication, even after turning printer power on/off.

(ESC)Pcom;p1;p2;p3;p4;p5;o1;o2(CR)

p1:	1	Serial Port #1 of the printer
	2	Serial port #2 of the printer
p2:	From 2400 to 115200	Port Speed
p3:	N	No parity
	O	Odd parity
	E	Even parity
p4:	1 or 2	Number of Stop Bit
o1:	0 or NONE	No protocol (default value)
	XON/XOFF	Soft Protocol
	RTS/CTS	Material Protocol
	BOTH	Soft and Material Protocols
	ACK/NACK	Ack/Nack Protocol with simplified answer
o2:	0 or E	Enable Port
	R	Enable Port for reception and disables transmission (except for Xon/Xoff characters)
	D	Disable Port

CAUTION:
- The Com2 of the printer can not get the Material Protocol.
- If the Printer Port Com1 is set with the Material Protocol, therefore the Com2 will automatically be disabled.
- In case of using the ACK/NACK Protocol, the printer will automatically become a SLAVE (Computer = MASTER).

Example: (ESC)Pcom;1;9600;N;8;1(CR)
→ Com1 is set to 9600,N,8,1, enable without any protocol.

(ESC)Pcom;2;115200;N;8;1;XON/XOFF;R(CR)
→ Com2 is set to 115200,N,8,1 with a XON/XOFF protocol without feed back of character on the serial port.

Command to read the configuration of the port: (ESC)Rcom;com(CR)

Definition of the ACK/NACK Protocol:

As soon as this protocol is set, the printer will answer in the following way:

When a command is sent correctly, the printer will answer the character: ACK
If the string of characters has been transmitted, the ACK character is transmitted to indicate that the command has been properly sent.
In case of error, the printer returns the following: NACK code

When code is:		
	1	Command Error
	2	Parameter Error
	T	Time-Out Error, Mechanical Error
	C	Cover Open Error
	F	Feeder Error
	R	Ribbon Error
	K	Magnetic Checksum Error
	D	Magnetic Data Error
	W	Writing Magnetic Data Error

6 – Printer Command Summary Table

A – Adjustment Commands

Syntax	# Parameter(s)/Option(s)	Description	Page #
Ase	p1;p2	Adjusts the potentiometer sensors	Page 10

D – Downloading Commands

Syntax	# Parameter(s)/Option(s)	Description	Page #
Db	p1 ;p2 ;data	Downloads a Bitmap	Page 12
Dbc	P1;p2;p3;p4	Downloads a compressed color Bitmap	Page
Dbp	p1;p2;p3;p4	Partial downloads of a color Bitmap	Page 11
Dbpc	p1;p2;p3;p4	Partial downloads of a compressed color Bitmap	Page 11
Dbmp	p1;p2;p3;p4;Bitmap file	Downloads a logo in the Monochrome Bitmap	Page 11

M - Motor Commands

Syntax	# Parameter(s)/Option(s)	Description	Page #
Mc	p1;p2	Runs Step Motor	Page 13
Mf	p1	Runs Feeder Motor	Page 13
Mh	P1	Runs Up & Down Motor	Page 13
Mr	p1	Runs Ribbon Motor	Page 13

P - Parameter Commands

Syntax	# Parameter(s)/Option(s)	Description	Page #
Pbm	p1	Sets Monochrome Bitmap Printing Mode	Page 14
Pc	p1;p2;p3	Sets Color Contrast Value	Page 14
Pem	p1 ;o1	Sets Errors Management	Page 15
Pkn	p1	Sets Print Head Kit Number	Page 15
Pl	p1;p2;p3	Sets Color Luminosity Value	Page 16
Pmi	p1	Sets the card insertion mode	Page 16
Pmk	p1;o1	Sets the speed for card insert/eject	Page 16
Pms	p1 ;p2	Sets Speed Motor Parameter	Page 16
Pnl	p1 ;p2	Sets Number of Lines to be printed	Page 17
Pnw	val	Sets Number of Lines to be printed in Y Orientation	Page 17
Ppk	p1	Sets the monochrome heating mode	Page 17
Ppn	p1	Sets Bi-directional Parallel Mode	Page 17
Pr	p1	Sets Ribbon Type	Page 17
Prm	p1	Sets Ribbon Synchronization Management	Page 18
Pro	p1	Sets Ribbon Offset	Page 18
Prs	p1;p2	Sets Rinbon Size	Page 18
Ps	p1;p2;p3	Sets Printing Speed Parameter	Page 18
Psc	Start;Sep;End	Sets Characters to be used for command definition	Page 18
Psp	p1 ;o1	Sets start printing position for ½ YMCKO	Page 18
Px	p1;p2	Sets Horizontal Offset Parameter	Page 19
Py	p1;p2	Sets Vertical Offset Parameter	Page 19
Pwb	p1	Sets Monochrome Bitmap	Page 19
Pwcs	p1	Sets the checking text position mode	Page 19
Pwjs	p1	Sets the writing justification mode	Page 19
Pwm	p1	Sets the Printing Mode	Page 19
Pwr	p1	Sets Text Orientation	Page 20

R - Read Commands

S - Sequence Commands

S - Sequence Commands

Syntax	# Parameter/Option	Description	Page #
Stt	o1	Prints a Technical Test Card	Page 27
Sv		Sequence Verso	Page 27

W - Write Commands

Syntax	# Parameter/Option	Description	Page #
Wb	p1;p2;p3;p4;p5;p6;p7;Data	Writes barcode	Page 28
Wcb	p1,o1	Fills bitmap with data (clear bitmap)	Page 28
Wl	P1;p2;p3;p4;p5	Writes Monochrome Line	Page 28
Wt		Writes Monochrome Text	Page 29

7 – Command per Printer Summary Table

Commands	Tattoo	New Pebble	Dualys	Quantum	Kiosk
Ase					
Db					
Dbc					
Dbmp					
Dbp					
Dbpc					
Dm					
Mc					
Mf					
Mh					
Mr					
Pbm					
Pc					
Pem					
Pfm					
Piem					
Pkn					
Pl					
Pmc					
Pmi					
Pmk					
Pms					
Pmtc					
Pnl					
Pnw					
Poc					
Ppk					
Ppn					
Pr					
Prm					
Pro					
Prs					
Ps					
Psc					
Psm					
Psp					
Pwb					
Pwcs					
Pwj					
Pwm					
Pwr					
Px					
Py					
Rbm					
Rc					
Rck					
Rco					
Rcom					
Rcr					
Rcs					
Rem					
Rfm					
Rfn					
Riem					
Rkn					
Rks					
Rl					
Rlr					
Rmbs					
Rmc					

Commands	Tattoo	New Pebble	Dualys	Quantum	Kiosk
Rmi					
Rmk					
Rms					
Rms					
Rnl					
Rnw					
Roc					
Rpk					
Rpn					
Rps					
Rr					
Rrm					
Rro					
Rrs					
Rs					
Rsm					
Rsn					
Rsp					
Rtp					
Rx					
Ry					
Sa					
Sc					
Scom					
Scs					
Sdm					
Sds					
Se					
Seb					
Ser					
Si					
Sib					
Sic					
Sie					
Sk					
Sp					
Sr					
Srs					
Ss					
Ssd					
St					
Stt					
Sv					
Wb					
Wcb					
Wl					
Wt					

8 – Printer Command Definition

A – Adjust Commands

Ase;p1;p2 (Adjust sensor)

Tattoo	New Pebble	Dualys	Quantum	Kiosk
✓	✓	✓	✓	✓

Adjusts the value of the potentiometers to set the current emission.

p1:

c	Color Sensor (Blue LED) – Not to be used with the Tattoo printer
m	Magnetic or Feeder Stop (first sensor with forks)
o	Cover opening
p	Card presence (second sensor with forks)
r	Perforated disk rotation
f	Input feeder sensor for Dualys and Tattoo

p2: Value from 0 to 255

Example: (ESC)Ase;c;150(CR) for the Color Sensor.

D – Downloading Commands

Db;p1;p2;data (Downloading bitmap)

Tattoo	New Pebble	Dualys	Quantum	Kiosk
✓	✓	✓	✓	✓

Downloads a color of a Bitmap.

Each time the total size of a Bitmap is downloaded (1016 * 648).Three different compression format exist to perform it : 5, 6 or 7 bits.

p1 (color):
- y : Yellow.
- m : Magenta.
- c: Cyan.
- k: Black Resin
- o: Overlay

p2:
- 2 : 2 bits (2 levels)
- 32 : 5 bits (each color is coded on 5 bits)
- 64 : 6 bits (each color is coded on 6 bits)
- 128 : 7 bits (each color is coded on 7 bits).

Depending on the p2 parameter, the data will be concatenated in a way that each bit is useful.

For the Panels K and O:	2 levels of gray	1 byte = 8 pixels
For the Panels Y, M and C:	128 levels of gray	7 byte = 8 pixels

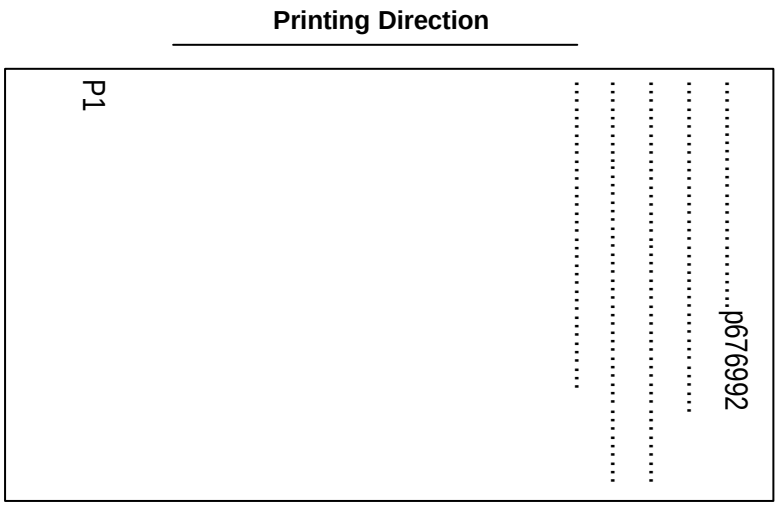
Note: the downloading will always be of 648 pixels by 1016 pixels.

Depending on the used concatenation, you will obtain the following:

Nb_= 648 * 1016 * (nb_pixel_useful) /8

For 2 levels of gray	84 624 bytes
For 32 levels of gray	423 120 bytes
For 64 levels of gray	507 744 octets
For 128 levels of gray	592 368 octets

The downloading will be performed in the following order:



This is a representation of the downloading of 648x1016 points = 676992 pixels (p1 being the first transmitted pixel).

Example: Db ;y ;6 ;xxxxxxxxxxxxxxx……. downloads the Yellow Panel.

D – Downloading Commands

Dbc;p1;p2;p3;p4 (Downloading bitmap compressed)

Tattoo	New Pebble	Dualys	Quantum	Kiosk
✓	✓	✓	✓	✓

Download of Compressed Color Bitmap.

Compressed Download Mode:

p1:
- y — Yellow Panel
- m — Magenta Panel
- c — Cyan Panel
- k — kResin Panel
- o — Overlay Panel

p2:
- 2 — 2 Levels (kresin & overlay)
- 32 — 32 Levels (yellow, magenta, cyan)
- 64 — 64 Levels (yellow, magenta, cyan)
- 128 — 128 Levels (yellow, magenta, cyan)

p3: From 0 to 1015 (first line to print, start of printing)

p4: Number of bytes to download

Dbmp;p1;p2;p3;p4;Bmp file (Downloading mono bitmap)

Tattoo	New Pebble	Dualys	Quantum	Kiosk
✓	✓	✓	✓	✓

Downloads a monochrome Bitmap.

p1:	Destination of the Bitmap :	k for black monochrome Bitmap o for overlay Bitmap
p2:	Position of the logo in x	
p3:	Position of the logo in y	
p4:	Parameter for future application – always input 0	
Bmp File:	transmit the full Bmp file	

Note: the rotation command (ESC)Pwr;90(CR) is available for the logo.

D – Downloading Commands

Dbp;p1;p2;p3;p4 (Downloading bitmap partial)

Tattoo	New Pebble	Dualys	Quantum	Kiosk
	✓	✓	✓	✓

Partial Download of a Color Bitmap.

For the 5 Half-Panel Color Ribbon Printing.

Standard Download Mode:

p1:
- y — Yellow Panel
- m — Magenta Panel
- c — Cyan Panel

p2:
- 32 — 32 Levels
- 65 — 64 Levels
- 128 — 128 Levels

p3: From 0 to 1015 (Start of printing)

p4: Max 420 (number of lines to download)

Dbpc;p1;p2;p3;p4 (Downloading bitmap partial compressed)

Tattoo	New Pebble	Dualys	Quantum	Kiosk
	✓	✓	✓	✓

Partial Download of a Compressed Color Bitmap.

For the 5 Half-Panel Color Ribbon Printing.

Compressed Download Mode:

p1:
- y — Yellow Panel
- m — Magenta Panel
- c — Cyan Panel

p2:
- 32 — 32 Levels
- 66 — 64 Levels
- 128 — 128 Levels

p3: from 0 to 1015 (Start of printing)

p4: Number of bytes to download

M – Motor Commands

Mc;p1;p2 (Motor card)

Tattoo	New Pebble	Dualys	Quantum	Kiosk
✓	✓	✓	✓	✓

Runs Step Motor.

p1: Orientation Direction

+	Card Movement from Feeder via Output Hopper
-	Card Movement from Output Hopper to Feeder

p2: Number of performed steps

Mf;p1 (Motor feeder)

Tattoo	New Pebble	Dualys	Quantum	Kiosk
✓	✓	✓	✓	✓

Runs Feeder Motor.

p1: Orientation Direction

+	Clockwise
-	Anti-clockwise
!	Stops Motor

Mh;p1 (Motor head)

Tattoo	New Pebble	Dualys	Quantum	Kiosk
✓	✓	✓	✓	✓

Runs Print Head Motor.

p1: Orientation Direction

+	Print Head in High Position
-	Print Head in Low Position
=	Magnetic Head or Smart Card Contacts position for encoding

M – Motor Commands

Mr;p1;o1 (Motor ribbon)

Tattoo	New Pebble	Dualys	Quantum	Kiosk
✓	✓	✓	✓	✓

Runs Ribbon Motor

p1: Orientation Direction

-	Rewinds Ribbon
+	Unwinds Ribbon
!	Stops Motor
i	Sets Ribbon Position at the beginning of the Yellow Panel
n	Moves to the beginning of the next Panel
=	Advances ribbon with the number of flags defines by o1

o1: Number of flags (144 = 1 complete turn)

P – Parameter Commands

Pbm;p1 (Parameter bitmap mode)

Tattoo	New Pebble	Dualys	Quantum	Kiosk
✓	✓	✓	✓	✓

Sets Monochrome Bitmap Printing Mode.

p1:

p	Standard Printing Mode
p2	Specific Mode for Picture Printing
b	Barcode Printing Mode

Pc;p1;p2;p3 (Parameter contrast)

Tattoo	New Pebble	Dualys	Quantum	Kiosk
✓	✓	✓	✓	✓

Sets Color Contrast Value to be printed.

p1:

y	Yellow
m	Magenta
c	Cyan
kb	Black Monochrome
kw	White Monochrome
kr	Red Monochrome
kbl	Blue Monochrome
kgr	Green Monochrome
kgo	Gold Monochrome
ksi	Silver Monochrome
ksc	Scratch Off Monochrome
o	Overlay
a	All the colors

Default Contrast Value: 10

p2:

+	Increase the current value
-	Decrease the current value
=	Value to be applied if p2 present. If not, factory default value will be applied

p3: Optional
Increased Value / Decreased Value or Value to apply

Example: Pc;m;+ (increases of 1 the magenta contrast value)

P – Parameter Commands

Pem;p1;o1 (Parameter error management)

Tattoo	New Pebble	Dualys	Quantum	Kiosk
✓	✓	✓	✓	✓

Sets the error management on the Parallel Port.

p1:

0	Printer manages itself its error.(BUSY stay high on an error).
1	Host Computer + opening cover detection disable
2	Host Computer
3	Host Computer + BUSY Signal not forced in case of error (Centronics) + Status line managed
4	Does not change the previous Pem value but it sets the ACK/NACK Mode
5	Does not change the previous Pem value but the job is not stopped on a magnetic error.
16	Printer manages itself the error without recovery try (three times for Quantum only)
18	Host computer + without recovery try (three times for Quantum only)

If p1 is equal to some other values, different modes are allowed as described below:

bit1	0 Host Printer / 1 Host Computer
bit2	0 detection of cover opening / 1 cover opening not managed
bit3	0 BUSY Centronic is forced to 1 in case of error / 1 BUSY non forced
bit4	0 Standard Protocol / 1 ACK/NACK Protocol
bit5	0 Standard Error Management / 1 Error Retrieve on ERR_MAGN

Further a switch ON/OFF of the printer, the following parameter becomes null:
- Host Printer, opening cover enable, BUSY forced, Standard Protocol

o1:

s	The memorized value is downloaded in the saved memory and will be therefore re-loaded each time the printer power will be switch on.

Pfm;p1 (Parameter Feeder Type)

Tattoo	New Pebble	Dualys	Quantum	Kiosk
			✓	✓

Set the feeder type.

p1:

K	Sets the 1000 card capacity feeder
S2	Sets the 500 card capacity feeder with finish sensor detection ON
S3	Sets the 500 card capacity feeder with finish sensor detection OFF

P – Parameter Commands

Piem;p1;p2 (Parameter insertion/ejection mode)

Tattoo	New Pebble	Dualys	Quantum	Kiosk
			✓	✓

Sets the card ejection and insertion mode.

p1:
0 Insert card automatically.(take card from the faster feeder).
1 Insert card from feeder 1.(take card from feeder 1 only)
2 Insert card from feeder 2.(take card from feeder2 only).
3 Insert card alternatively. (1/2/1/2/1…)

p2:
0 Eject card automatically (fill 1 and then fill 2)
1 Eject card to output hopper 1.(fill only 1)
2 Eject card to output hopper 2. (fill only 2)
3 Eject card alternatively. (1/2/1/2/1…)

Pkn;p1 (Parameter kit number)

Tattoo	New Pebble	Dualys	Quantum	Kiosk
✓	✓	✓	✓	✓

Sets Print Head Kit Number

p1: XXXYYYYYY
XXX = Print Head Resistance Value x 10
YYYYYY = Serial Number

This value is only considered if the first three digits are numeric. If not numeric, the management will be made by the **Phr** command.

P – Parameter Commands

Pl;p1;p2;p3 (Parameter luminosity)

Tattoo	New Pebble	Dualys	Quantum	Kiosk
✓	✓	✓	✓	✓

Sets Luminosity Value for the printing.

p1:

y	yellow
m	magenta
c	cyan
a	all 3 colors

p2:

+	increases the resident value
-	decreases the resident value
=	Value to be applied if p3 is present.

p3: Optional
Increasing Value / Decreasing Value or Value to apply

Pmi;p1 (Parameter mode insertion)

Tattoo	New Pebble	Dualys	Quantum	Kiosk
	✓	✓	✓	✓

Sets the card ejection and insertion mode.

p1:

F	Insert card from feeder only
M	Insert card from manual entry.
B	Insert card from feeder if there is no card inside the printer.

P – Parameter Commands

Pmk;p1;o2 (Parameter mode black) – printing speed

Tattoo	New Pebble	Dualys	Quantum	Kiosk
	✓	✓	✓	✓

Sets Monochrome Printing Speed Mode Types.

p1: s Standard Printing Speed Mode
f Fast Printing Speed Mode
(Synchronization of the card inside the printer and card movements are optimised)

o1: s Standard Card ejection
i New card is inserted when a card is ejected

By default, the =printer is set in Standard Printing Speed Mode, with Card ejection standard and with enable ribbon detection.

Pms;p1;p2 (Parameter motor speed)

Tattoo	New Pebble	Dualys	Quantum	Kiosk
✓	✓	✓	✓	✓

Sets Step Motor Speed Parameter.

p1: + Increases the current value
- Decreases the current value
= Sets the value

p2: Value to be added, deducted or set

Pnl;p1;p2 (Parameter number line)

Tattoo	New Pebble	Dualys	Quantum	Kiosk
✓	✓	✓	✓	✓

Sets the Number of lines to be printed

p1: + Increases the current value
- Decreases the current value
= Sets the value

p2: Value to add, to deduct or to set

P – Parameter Commands

Pnw;val (Parameter number write)

Tattoo	New Pebble	Dualys	Quantum	Kiosk
✓	✓	✓	✓	✓

Sets the Number of lines to be printed in Y orientation.

Example: (ESC)Pnw;val(CR)

Ppk;p1 (Parameter printing kresin)

Tattoo	New Pebble	Dualys	Quantum	Kiosk
	✓	✓	✓	✓

Set the monochrome heating management mode

p1:	s	Standard monochrome heating management mode
	f	Fast monochrome heating mode/

Ppn;p1 (Parameter parallel negotiation)

Tattoo	New Pebble	Dualys	Quantum	Kiosk
✓	✓	✓	✓	✓

Enables and disables the bi-directional parallel mode.

p1:	0	Standard Mode – Authorized Negotiation - Init line management
	1	No Negotiation
	2	Authorized Negotiation – No init line management

P – Parameter Commands

Pr;p1;o1 (Parameter ribbon)

Tattoo	New Pebble	Dualys	Quantum	Kiosk
✓	✓	✓	✓	✓

Sets the Ribbon Type.

p1:	ymcko	5 Panel Color Ribbon
	ymckos	Half-Panel Color Ribbon
	ymckok	6 Panel Color Ribbon
	kb	Black Monochrome
	kw	White Monochrome
	kr	Red Monochrome
	kbl	Blue Monochrome
	kgr	Green Monochrome
	kgo	Gold Monochrome
	ksi	Silver Monochrome
	ksc	Scratch Off Monochrome
	ko	Two Panel Ribbon (Black TT + Varnish)
	h	Hologram Ribbon (full Bitmap)
	ho	Hologram Ribbon using the B&W Bitmap
	Ktc	Print directly on thermal card
	Ktp	Print directly on the thermal label card
	Ka	Black monochrome Wax ribbon for cardboard polyester & ABS cards.

o1:	0	Hologram full area printing
	1	Bitmap hologram printing

Prm;p1 (Parameter ribbon management)

Tattoo	New Pebble	Dualys	Quantum	Kiosk
✓	✓	✓	✓	✓

Sets Ribbon Synchronization Management.

p1:	0	Standard Ribbon Synchronization Management (Each time cover is closed when power ON)
	1	No ribbon auto-synchronization when closing the cover. Done only when printing.
	2	Ribbon will synchronize when turning power ON and after a printing is required
	3	(p1=1) + (p1=2)

P – Parameter Commands

Pro ;p1 (Parameter offset ribbon)

Tattoo	New Pebble	Dualys	Quantum	Kiosk
✓	✓	✓	✓	✓

Sets the Offset Ribbon Parameter.

p1: Distance of the ribbon offset in dots (Default Setting Parameter: 552)

Prs;p1;p2 (Parameter ribbon size)

Tattoo	New Pebble	Dualys	Quantum	Kiosk
			✓	✓

Sets the card ribbon size. Useful to have the correct ribbon pulling voltage

p1:
- L — Ribbon 1000 cards
- S — Ribbon 200 card

o1:
- A — Automatic detection
- M — Manual detection

Ps ;p1;p2;p3 (Parameter speed)

Tattoo	New Pebble	Dualys	Quantum	Kiosk
✓	✓	✓	✓	✓

Sets Printing Speed Value

p1:
- y — yellow
- m — magenta
- c — cyan
- k — monochrome
- o — overlay

p2:
- \+ — Increases the current value
- \- — Decreases the current value
- = — Value to apply if p3 is present.

p3: Optional Increasing Value / Decreasing Value or Value to apply

P – Parameter Commands

Psc ;Start;Sep;End (Parameter sequence command)

Tattoo	New Pebble	Dualys	Quantum	Kiosk
✓	✓	✓	✓	✓

Sets Characters to be used for command definition.

Start: The new Start Character
Sep: The new Separator Character
End: The new End Character

To come back to the default parameters, send command: (ESC)Psc(CR)

Default Setting Values: Start: 27 (ESC)
Separator: 59 (;)
End : 13 (CR)

Example: When: (ESC)Psc;60;47 ;62(CR)
Result : <Pco/=/10> instead of (ESC)Pco;=;10(CR)

Psm;p1;o1 (Parameter smart mode) – signal level

Tattoo	New Pebble	Dualys	Quantum	Kiosk
	✓	✓	✓	✓

Sets the smart card signal insertion level

p1: 0 Open collector when card is present
1 Close collector when card is present

o1: u unlock (the signal change)
l lock (no signal)

Psp;p1;o1 (Set start printing position for half panel ribbon)

Tattoo	New Pebble	Dualys	Quantum	Kiosk
	✓	✓	✓	✓

Sets the card ejection and insertion mode.

p1: Value of the starting position for the current picture

o1: Saves the value for all the printed picture

P – Parameter Commands

Pwb ;p1 (Parameter write bitmap)

Tattoo	New Pebble	Dualys	Quantum	Kiosk
✓	✓	✓	✓	✓

Writes Monochrome Bitmap

p1: k Writes the Black & White Bitmap.
o Writes the Overlay (varnish) Bitmap.

Note: each time the printer is switched ON, the the Black & White Bitmap becomes the current one.

Pwcs;p1 (Parameter writing check size mode)

Tattoo	New Pebble	Dualys	Quantum	Kiosk
✓	✓	✓	✓	✓

Check the text writing size.

p1: 0 Writes Text even if the position is out of the card limit.
1 Returns an error if the text is outside the card.

Pwj;p1 (Parameter writing justification mode)

Tattoo	New Pebble	Dualys	Quantum	Kiosk
✓	✓	✓	✓	✓

Sets the writing justification mode for the Wt, Wb … commands.

p1: r right justification
l left justification
c center justification

P – Parameter Commands

Pwm;p1 (Parameter write mode)

Tattoo	New Pebble	Dualys	Quantum	Kiosk
			✓	✓

Sets Monochrome Printing Mode.

p1: s Standard Mode
n Video Inverse Mode

Further a changing of mode, all the texts and logos commands will be memorized according to the new mode.

Pwr;p1 (Parameter write rotation)

Tattoo	New Pebble	Dualys	Quantum	Kiosk
✓	✓	✓	✓	✓

Sets Monochrome Text Rotation.

p1:
0 Rotates 0° the text clockwise
90 Rotates 90° the text clockwise
180 Rotates 180° the text clockwise
270 Rotates 270° the text clockwise

Example:

```
Wcb;k
Ss
Pwr;0
Wt;100;300;0;10;Test Rotations
Wt;500;250;0;50;0
Pwr;90
Wt;500;250;0;50;90
Pwr;180
Wt;500;250;0;50;180
Pwr;270
Wt;500;250;0;50;270
```

P – Parameter Commands

Px;p1;p2 (Parameter X offset)

Tattoo	New Pebble	Dualys	Quantum	Kiosk
✓	✓	✓	✓	✓

Sets the X Offset Value

p1:
+ Increases the current value
- Decreases the current value
= Set the value

p2: Value to add, to subtract or to set

Py;p1;p2 (Parameter Y offset)

Tattoo	New Pebble	Dualys	Quantum	Kiosk
✓	✓	✓	✓	✓

Sets the Y Offset Value

p1:
+ Increases the current offset value
- Decreases the current offset value
= Sets the value

p2: Value to add, to subtract or to set

R – Read Commands

Rbm (Read black mode)

Tattoo	New Pebble	Dualys	Quantum	Kiosk
✓	✓	✓	✓	✓

Reads the selected Monochrome Printing Mode Type.

Rc ;p1 (Read contrast parameter)

Tattoo	New Pebble	Dualys	Quantum	Kiosk
✓	✓	✓	✓	✓

Reads the Contrast Value.

p1:	y	Yellow
	m	Magenta
	c	Cyan
	k	Current selected Monochrome Ribbon
	o	Overlay
	a	All colors

Rck (Read checksum firmware)

Tattoo	New Pebble	Dualys	Quantum	Kiosk
✓	✓	✓	✓	✓

Reads Firmware Checksum Value.

Rco;p1 (Read counter)

Tattoo	New Pebble	Dualys	Quantum	Kiosk
✓	✓	✓	✓	✓

Reads the Counters Values.

p1:	p	Number of printed panels
	c	Number of inserted cards
	a	Average cleaning frequency
	m	Maximum frequency between two cleanings
	n	Number of performed cleanings
	I	Return the number of card that we can print with the ribbon present inside the printer. This value is not accurate.

R – Read Commands

Rcr (Read current ribbon black mark)

Tattoo	New Pebble	Dualys	Quantum	Kiosk
	✓	✓	✓	✓

Return OK if we are not on the black mark for a color ribbon). Black mark of the ribbon means that we are at the end. Useful to check before sending a new job.

Rem (Read error management)

Tattoo	New Pebble	Dualys	Quantum	Kiosk
✓	✓	✓	✓	✓

Read the Error Management Mode.

It returns two values:

First value: Current Mode
Second value: Saved Mode which is re-loaded each time the printer power is switch on.

Rfv (Read firmware version)

Tattoo	New Pebble	Dualys	Quantum	Kiosk
			✓	✓

Reads Firmware Version.

Rfm;p1 (Parameter Feeder Type)

Tattoo	New Pebble	Dualys	Quantum	Kiosk
			✓	✓

Read the feeder type.

R – Read Commands

Rfn (Read font name)

Tattoo	New Pebble	Dualys	Quantum	Kiosk
✓	✓	✓	✓	✓

Reads the resident font name.

When: 0 Arial Normal 100 (in dots)
1 Arial Bold 100 (in dots)

Reminder: 1mm = 11.8 dots

Riem (Read parameter insertion/ejection mode)

Tattoo	New Pebble	Dualys	Quantum	Kiosk
			✓	✓

Read the ejection and insertion mode.

Rkn (Read kit number)

Tattoo	New Pebble	Dualys	Quantum	Kiosk
✓	✓	✓	✓	✓

Reads Print Head Kit Number.

Rks (Read kresin Shift)

Tattoo	New Pebble	Dualys	Quantum	Kiosk
	✓	✓	✓	✓

Reads Black Resin Compensation Value.

R – Read Commands

Rl;p1 (Read luminosity)

Tattoo	New Pebble	Dualys	Quantum	Kiosk
✓	✓	✓	✓	✓

Reads Luminosity Value for each color.

p1:

y	Yellow
m	Magenta
c	Cyan

Rlr;o1 (Read last reply from printer)

Tattoo	New Pebble	Dualys	Quantum	Kiosk
✓	✓	✓	✓	✓

Reads the last answer of the printer.

o1:

p	Returns “NO CARD” or “ERR CARD” if card present inside the printing module or card present inside the feeder.
r	Returns “ERR NEED CLEANING” if last answer is positive and the cleaning counter is out.

Rmi (Read mode insertion)

Tattoo	New Pebble	Dualys	Quantum	Kiosk
✓	✓	✓	✓	✓

Reads the ejection and insertion mode.

Rmk (Read mode black)

Tattoo	New Pebble	Dualys	Quantum	Kiosk
	✓	✓	✓	✓

Reads Monochrome Printing Speed Mode.

R – Read Commands

Rms (Read motor speed)

Tattoo	New Pebble	Dualys	Quantum	Kiosk
✓	✓	✓	✓	✓

Reads Step Motor Speed.

Rnl (Read number line)

Tattoo	New Pebble	Dualys	Quantum	Kiosk
✓	✓	✓	✓	✓

Reads the number of printed lines.

Rnw (Read number write)

Tattoo	New Pebble	Dualys	Quantum	Kiosk
✓	✓	✓	✓	✓

Reads the number of printed lines in the Y orientation.

Rpk (Read printing Kresin)

Tattoo	New Pebble	Dualys	Quantum	Kiosk
	✓	✓	✓	✓

Reads the monochrome heating management mode.

Rpn (Read parallel negotiation)

Tattoo	New Pebble	Dualys	Quantum	Kiosk
✓	✓	✓	✓	✓

Reads if the parallel bi-directional mode is enable or disable.

When answer :

0 = Standard – Authorized Negotiation –Init Line management
1 = No Negotiation
2 = Authorized Negotiation – No Init line management

R – Read Commands

Rps;p1 (Read potentiometer sensibility)

Tattoo	New Pebble	Dualys	Quantum	Kiosk
✓	✓	✓	✓	✓

Reads Potentiometer Sensors Value.

p1:

c	Color Sensor (Blue LED)
m	Magnetic or Stop of the Feeder (first sensor with forks)
o	Cover Opening
p	Card Present (second sensor with forks)
r	Coded Disk rotation

Rr (Read ribbon type)

Tattoo	New Pebble	Dualys	Quantum	Kiosk
✓	✓	✓	✓	✓

Reads the ribbon type set in the printer memory.

Rrm (Read ribbon management)

Tattoo	New Pebble	Dualys	Quantum	Kiosk
✓	✓	✓	✓	✓

Reads the Ribbon Synchronization Management

If reading:

0	Standard Ribbon Synchronization Management (each time cover is closed when power ON)
1	No ribbon auto-synchronization when closing the cover. Done only when printing.
2	Ribbon will synchronize when turning power ON and after a printing is required
3	(p1=1) + (p1=2)

Rro (Read ribbon offset)

Tattoo	New Pebble	Dualys	Quantum	Kiosk
✓	✓	✓	✓	✓

Reads the Offset Ribbon Value.

R – Read Commands

Rrs (Read parameter ribbon size)

Tattoo	New Pebble	Dualys	Quantum	Kiosk
			✓	✓

Reads the ribbon size management. Useful to have the correct ribbon pulling voltage.

Rs;p1 (Read speed)

Tattoo	New Pebble	Dualys	Quantum	Kiosk
✓	✓	✓	✓	✓

Reads the Printing Speed Value for one color

p1:

y	Yellow
m	Magenta
c	Cyan
k	Monochrome
o	Overlay

Rsc (Read sequence command)

Tattoo	New Pebble	Dualys	Quantum	Kiosk
			✓	✓

Reads the characters used for command definition.

Rse;p1 (Read sensor)

Tattoo	New Pebble	Dualys	Quantum	Kiosk
			✓	✓

Reads the Sensors Voltage.

p1:

c	Color Sensor (Blue LED)
m	Magnetic Sensor or Feeder Stop Sensor (first sensor with forks)
o	Cover Opening Sensor
p	Presence Card Sensor (second sensor with forks)
r	Coded Disk Rotation Sensor

R – Read Commands

Rsm (Read parameter smart mode) – signal level

Tattoo	New Pebble	Dualys	Quantum	Kiosk
	✓	✓	✓	✓

Reads the signal level mode for smart card insertion.

Rsn (Read serial number)

Tattoo	New Pebble	Dualys	Quantum	Kiosk
✓	✓	✓	✓	✓

Reads the Printer Serial Number.

Rsp (Read start printing position for half panel ribbon)

Tattoo	New Pebble	Dualys	Quantum	Kiosk
	✓	✓	✓	✓

Reads the starting printing position.

Rtp (Read type printer)

Tattoo	New Pebble	Dualys	Quantum	Kiosk
✓	✓	✓	✓	✓

Reads the printer type (model).

Rx (Read X offset)

Tattoo	New Pebble	Dualys	Quantum	Kiosk
✓	✓	✓	✓	✓

Reads the X Offset Value (Horizontal).

R – Read Commands

Ry (Read Y offset)

Tattoo	New Pebble	Dualys	Quantum	Kiosk
✓	✓	✓	✓	✓

Reads the Y Offset Value (Vertical).

S – Sequence Commands

Sa;o1 (Self adjustment)

Tattoo	New Pebble	Dualys	Quantum	Kiosk
✓	✓	✓	✓	✓

Runs the Printer Self Adjustment.

Without adding optional parameters after the Sa command, the printer will adjust the functionalities in the following order:

1	Card Positioning
2	Ribbon Rotating
3	Cover Opening (not for Tattoo printer)
4	Color Sensors
5	Magnetic Board (if a MAG Encoder has been detected)
6	Feeder detection (for Dualys and Tattoo printers only)

The functionalities can also be adjusted one by one adding an optional parameter after the **Sa** command:

o1:	p	Card Positioning
	r	Ribbon Rotating
	o	Cover Opening
	c	Color Sensors
	m	Magnetic Board (if a MAG Encoder has been detected)
	h	Checks Head Up/Down sensor
	f	Adjusts the exit feeder sensor (for Dualys printer) and the presence card feeder sensor (for Tattoo printer).

Sc (Sequence copy)

Tattoo	New Pebble	Dualys	Quantum	Kiosk
✓	✓	✓	✓	✓

Runs a copy of the latest list of commands included between Ss and Se.

Scom;p1;p2;p3 (Sequence transmit through serial port)

Tattoo	New Pebble	Dualys	Quantum	Kiosk
✓	✓	✓	✓	✓

Allows sending escape command through the serial port.

p1:	1	COM1
	2	COM2
p2:	0	No answer returned
	1	Answer returned
p3:	Escape command to send.	

S – Sequence Commands

Scp (Sequence clean printer)

Tattoo	New Pebble	Dualys	Quantum	Kiosk
✓	✓	✓	✓	✓

Runs a printer cleaning cycle.

- Checks if there is no ribbon in printer
- Inserts a cleaning card and moves it five times forward and backward underneath the transport rollers and the print head
- If a magnetic encoder is detected, a cleaning of the magnetic head will be performed
- Ejects the cleaning card

Scs (Sequence clear status)

Tattoo	New Pebble	Dualys	Quantum	Kiosk
		✓	✓	

Clears the status of the error line on the parallel port. Useful when the Pem;3 mode is set.

Sdm;m (Sequence delay in milliseconds)

Tattoo	New Pebble	Dualys	Quantum	Kiosk
✓	✓	✓	✓	✓

Sleeps the printer during the x milliseconds.

p1: time time in milliseconds.

Sdm;u (Sequence delay in microseconds)

Tattoo	New Pebble	Dualys	Quantum	Kiosk
✓	✓	✓	✓	✓

Sleeps the printer during the x microseconds.

p1: time time in microseconds.

S – Sequence Commands

Se (Sequence end)

Tattoo	New Pebble	Dualys	Quantum	Kiosk
✓	✓	✓	✓	✓

Indicates the end of a command started by a Ss, a Si or a Sr. The card is ejected.

Seb (Sequence ejection card in rejection box under Feeder)

Tattoo	New Pebble	Dualys	Quantum	Kiosk
✓	✓	✓	✓	✓

Ejects the card under the input feeder into the reject box.

Ser (Sequence ejection card inside rejection box)

Tattoo	New Pebble	Dualys	Quantum	Kiosk
✓	✓	✓	✓	✓

Ejects the card under the output hopper into the reject box.

Si (Sequence insertion)

Tattoo	New Pebble	Dualys	Quantum	Kiosk
✓	✓	✓	✓	✓

Inserts a card into the printer.

The card is placed in the position of synchronization before a printing.

Sib (Sequence insertion back)

Tattoo	New Pebble	Dualys	Quantum	Kiosk
✓	✓	✓	✓	✓

Inserts a card from the back of the printer

The card is placed in the position of synchronization before a printing.

S – Sequence Commands

Sic (Sequence insertion contact less card)

Tattoo	New Pebble	Dualys	Quantum	Kiosk
	✓	✓	✓	✓

Inserts a card in the printer. Further detection by the card sensor, the card moves to the Contacless Card Station with an offset value defined by the Poc command. The Contactless Card Station has not the same position depending on the printer model.

Sie (Sequence insertion ejection)

Tattoo	New Pebble	Dualys	Quantum	Kiosk
✓	✓	✓	✓	✓

Inserts a card in the printer and then eject it. This command is used to check the card movement inside the printer.

Sp;p1 (Sequence Print)

Tattoo	New Pebble	Dualys	Quantum	Kiosk
✓	✓	✓	✓	✓

Prints a Panel

p1:	y	Yellow Panel
	m	Magenta Panel
	c	Cyan Panel
	k	Black Resin Panel
	o	Overlay Panel

Sr (Sequence recto)

Tattoo	New Pebble	Dualys	Quantum	Kiosk
		✓	✓	

Sets the card side for the downloading commands.

S – Sequence Commands

Srs (Sequence reset software)

Tattoo	New Pebble	Dualys	Quantum	Kiosk
✓	✓	✓	✓	✓

Resets the printer like when we restart it.

Ss (Sequence start)

Tattoo	New Pebble	Dualys	Quantum	Kiosk
✓	✓	✓	✓	✓

Indicates the beginning of a command sequence.

Ssd (Sequence simulation downloading)

Tattoo	New Pebble	Dualys	Quantum	Kiosk
✓	✓	✓	✓	✓

Runs the simulation of the downloading of a panel.

p1:	y	Yellow Panel
	m	Magenta Panel
	c	Cyan Panel
	k	Black Resin Panel
	o	Overlay Panel

This command is useful when it is necessary to print one panel without downloading it.

Below an example which allows to print a color card using 4 panels (YMCO). In case of error during the printing process, the printer re-starts the printing job once before releasing the parallel port.

Example:

```
Ss
Ssd;y
Ssd;m
Ssd;c
Ssd;o
Se
```

S – Sequence Commands

St (Sequence test)

Tattoo	New Pebble	Dualys	Quantum	Kiosk
✓	✓	✓	✓	✓

Runs a printing of the Printer Test Card

Stt;o1 (Sequence technical test)

Tattoo	New Pebble	Dualys	Quantum	Kiosk
✓	✓	✓	✓	✓

Runs a printing of the Printer Technical Test Card

o1: m Runs a Magnetic Encoder Technical Test Card (if a MAG Encoder is present)

Sv (Sequence verso)

Tattoo	New Pebble	Dualys	Quantum	Kiosk
	✓	✓	✓	✓

Sets the card side for the downloading commands.

W – Write Commands

Wb;p1;p2;p3;p4:p5;p6;p7;data (Write Barcode)

Tattoo	New Pebble	Dualys	Quantum	Kiosk
✓	✓	✓	✓	✓

Write a barcode.

p1: position of the barcode on x
p2: position of the barcode on y
p3: Barcode type: c39 = code 39 barcode
2/5 = 2/5 interleaved barcode
p4: Ratio of the barcode: 12 = ration 12
13 = ratio 13
25 = ratio 25
p5: Multiplier coefficient of the bars
p6: Height of the barcode
p7: Activation of the data value 0 = no visible value
1 = visible value (standard size, 3mm high)
Other value = the value input will be the high of the value
Data: Data to be input for the barcode

Example: Wb;300;300;c39;12;4;100;1;TEST

Application note: the barcode can be used in any orientations as well as in video inverse.

Wcb;p1;p2 (Write clear bitmap)

Tattoo	New Pebble	Dualys	Quantum	Kiosk
✓	✓	✓	✓	✓

Clears a bitmap.

p1:
y	Yellow Bitmap
m	Magenta Bitmap
c	Cyan Bitmap
k	Black Resin Bitmap
o	Overlay Bitmap
a	All Bitmaps

p2: Optional parameter
From 0 to 255 (all the bytes are set according to the defined value).

Application Note: Wcb;o;255 Allows to print full Varnish Panel.

This command can not be used between Ss … and Se command for the error recovery in Pem;0 mode.

W – Write Commands

Wl;p1;p2;p3;p4;p5 (Write line)

Tattoo	New Pebble	Dualys	Quantum	Kiosk
✓	✓	✓	✓	✓

Writes Monochrome Line in Bitmap.

p1: Position in x of the line
p2: Position in y of the line
p3: Length of the line in dots (in the x direction)
p4: Width of the line in dots (in the y direction)
p5: 0 to erase the line
1 to write the line

Reminder: 1mm = 11.8 dots

Note: the command of rotation can not be used with this command.

Wt (Write text)

Tattoo	New Pebble	Dualys	Quantum	Kiosk
✓	✓	✓	✓	✓

Writes Monochrome Text in Bitmap.

Syntax: (ESC)Wt ;x ;y ;p ;h;data(CR)

x : Position of the text in x
y : Position of the text in y
p: Font Type : 0 = Arial Normal 100 (in dots)
1 = Arial Bold 100 (in dots)
h: Font Height in dots

Reminder: 1mm = 11.8 dots

9 – Mag. Encoding Command Summary Table

D – Downloading Commands

Syntax	Parameter/Option	Description	Page #
Dm	p1; data	Downloads Magnetic Data	Page 31

P – Parameter Commands

Syntax	Parameter/Option	Description	Page #
Pmbs	p1	Sets Start Coding Value for all three tracks	Page 32
Pmc	p1	Sets Coercivity Value	Page 32
Pmd	p1	Sets Track Density Value (in BPI)	Page 32
Pml		Sets Magnetic Encoding Length	Page 32
Pmt	p1 ; p2	Sets the ISO Track Format	Page 32
Pmtc	p1;p2;p3;p4	Sets Start, Stop and LRC for each track	Page
Pmts	p1 ; p2	Sets Coding Start value for one track	Page 33

R – Read Commands

Syntax	Parameter/Option	Description	Page #
Rmbs		Reads Start Magnetic Coding Default Value	Page 34
Rmc		Reads Coercivity Value	Page 34
Rmd		Reads Track Density Value (in BPI)	Page 34
Rml		Reads Magnetic Encoding Length	Page 34
Rmms		Reads Encoding Speed	Page 34
Rmt	p1	Reads the ISO track format	Page 34
Rmtc		Reads Start, Stop and LRC for each track	Page
Rmts	p1	Reads the coding Start value	Page 34

S - Sequence Commands

Syntax	# Parameter/Option	Description	Page #
Smr	p1	Reads Magnetic Tracks	Page 35
Smw	p1	Writes Magnetic Tracks	Page 35

10 – Mag. Encoding Command Definition

D – Downloading Commands

Dm;p1;data (Downloading magnetic)

Tattoo	New Pebble	Dualys	Quantum	Kiosk
✓	✓	✓	✓	✓

Downloads the data to be encoded.

p1: 1 Track 1
2 Track 2
3 Track 3

Data: ASCII Data to be encoded

P – Parameter Commands

Pmbs;p1 (Parameter magnetic base start)

Tattoo	New Pebble	Dualys	Quantum	Kiosk
✓	✓	✓	✓	✓

Sets the magnetic distance parameter from the card sensor before an encoding

p1: Distance in dot (Default: 512)

Pmc;p1 (Parameter magnetic coercivity)

Tattoo	New Pebble	Dualys	Quantum	Kiosk
✓	✓	✓	✓	✓

Sets the Coercivity Value

p1:	h	High Coercivity
	l	Low Coercivity

Pmd;p1 (Parameter magnetic density)

Tattoo	New Pebble	Dualys	Quantum	Kiosk
✓	✓	✓	✓	✓

Sets the Track Density Value

p1:	75	75 bits per inch
	210	210 bits per inch

Pml;p1 (Parameter magnetic length)

Tattoo	New Pebble	Dualys	Quantum	Kiosk
✓	✓	✓	✓	✓

Sets the length parameter of the magnetic encoding

p1: Length in dots (Default 1032)

P – Parameter Commands

Pmt;p1;p2 (Parameter magnetic track)

Tattoo	New Pebble	Dualys	Quantum	Kiosk
✓	✓	✓	✓	✓

Sets the ISO Format per track

p1:

1	Track 1
2	Track 2
3	Track 3

p2:

1	ISO 1
2	ISO 2
3	ISO 3
4 or C1	SIPASS
5 or C2	CUSTOM 8 bits
6 or C4	CUSTOM 4 bits/reverse

The 4 bits reverse Mode works in the same way as the 8 bits one but it will encode the 4 bits in the inverse way (4,3,2,1 instead of 1,2,3,4).

Pmtc;p1;p2;p3;p4 (Parameter magnetic type control)

Tattoo	New Pebble	Dualys	Quantum	Kiosk
✓	✓	✓	✓	✓

Sets the magnetic control type.

p1:

1	Track 1
2	Track 2
3	Track 3

p2: Start sentinel value in decimal
p3: End Sentinel value in decimal

p4:

ON	Checksum enable
OFF	Checksum disable

P – Parameter Commands

Pmts;p1;p2 (Parameter magnetic track start)

Tattoo	New Pebble	Dualys	Quantum	Kiosk
✓	✓	✓	✓	✓

Sets the start distance value of the track coding (per track)

p1:
1 Track 1
2 Track 2
3 Track 3

p2: Value in dot(s) for the start of the coding (default value: 24)

R – Read Commands

Rmbs (Read magnetic base start)

Tattoo	New Pebble	Dualys	Quantum	Kiosk
✓	✓	✓	✓	✓

Reads the advance distance value after the detection of the card before an encoding.

Rmc (Read magnetic coercivity)

Tattoo	New Pebble	Dualys	Quantum	Kiosk
			✓	✓

Reads the coercivity value.

Rmd;p1 (Read magnetic density)

Tattoo	New Pebble	Dualys	Quantum	Kiosk
			✓	✓

Reads the Track Density

p1:
1 Reads Density for Track Number 1
2 Reads Density for Track Number 2
3 Reads Density for Track Number 3

Rml (Read magnetic length)

Tattoo	New Pebble	Dualys	Quantum	Kiosk
			✓	✓

Reads the Magnetic Encoding Length.

Rmms (Read magnetic motor speed)

Tattoo	New Pebble	Dualys	Quantum	Kiosk
			✓	✓

Reads the Step Motor Value for the Magnetic Encoding.

R – Read Commands

Rmt,p1 (Read magnetic track)

Tattoo	New Pebble	Dualys	Quantum	Kiosk
			✓	✓

Reads the ISO Track Format (if ISO1, ISO 2 or ISO 3)

p1:
1 Reads Format for Track 1
2 Reads Format for Track 2
3 Reads Format for Track 3

Rmtc (Read magnetic type control)

Tattoo	New Pebble	Dualys	Quantum	Kiosk
✓	✓	✓	✓	✓

Read the Start, Stop and Checksum setting for each track.

Rmts,p1 (Read magnetic track start)

Tattoo	New Pebble	Dualys	Quantum	Kiosk
			✓	✓

Reads the start distance value of track coding.

p1:
1 Reads Distance for Track 1
2 Reads Distance for Track 2
3 Reads Distance for Track 3

S – Sequence Commands

Smr;p1 (Sequence magnetic read)

Tattoo	New Pebble	Dualys	Quantum	Kiosk
			✓	✓

Reads the Magnetic Tracks.

p1:
1 Reads Track Number 1
2 Reads Track Number 2
3 Reads Track Number 3

Smw (Sequence magnetic write)

Tattoo	New Pebble	Dualys	Quantum	Kiosk
			✓	✓

Writes the Magnetic Tracks.

The track(s) is/are encoded depending on the Dm command sent previously.

11 – Smart Card Command Summary Table

P – Parameter Commands

Syntax	Parameter/Option	Description	Page #
Pos	p1 ;p2	Sets Offset for Smart Card Position	Page 37
Psm	p1 ;o1	Sets Smart Card Signal Level	Page 37

R – Read Commands

Syntax	Parameter/Option	Description	Page #
Ros		Reads Smart Card Offset Value	Page 38
Rsm		Reads Smart Card Signal Level	Page 38

S – Sequence Commands

Syntax	Parameter/Option	Description	Page #
Sis		Inserts a Smart Card under Smart Card Contact Station	Page 39

12 – Smart Card Command Definition

P – Parameter Commands

Pos;p1;p2 (Parameter offset smart)

Tattoo	New Pebble	Dualys	Quantum	Kiosk
			✓	✓

Defines the Offset for Smart Card position under the Smart Card Contact Station. The card moves with this determinable value to the Smart Card Contact Station when sending the Sis command.

The Offset default value is 1158 dots.

p1: -
+
=

p2: Value of incremental or value to apply

Ex: **Pos;+;12** (12 dots will be added to the original value)
Pos;=;1400 (the original value will become 1400 dots)

Psm;p1;o1 (Parameter smart mode) – signal level

Tattoo	New Pebble	Dualys	Quantum	Kiosk
	✓	✓	✓	✓

Sets the smart card signal insertion level.

p1: 0 Open collector when card is present
1 Close collector when card is present

o1: u Unlock (the signal change).
l Lock (no signal)

R – Read Commands

Ros (Read offset smart)

Tattoo	New Pebble	Dualys	Quantum	Kiosk
			✓	✓

Reads the smart card offset value.

Rsm (Read parameter smart mode) – signal level

Tattoo	New Pebble	Dualys	Quantum	Kiosk
	✓	✓	✓	✓

Read the signal level mode for smart card insertion.

S – Sequence Commands

Sis (Sequence insertion smart)

Tattoo	New Pebble	Dualys	Quantum	Kiosk
			✓	✓

Insert a card in the printer. After detection by the card sensor, the card moves to the Smart Card Contact Station with a determinable offset value defined by the Pos command .
When the card is stopped under the Smart Card Contact Station, the printer activates a contact on PIN 9 of the DB-9 connector to inform the external reader/encoder that a card is connected to the Smart Card Contact Station.

13 – Contactless Card Command Summary Table

P – Parameter Commands

Syntax	Parameter/Option	Description	Page #
Poc	p1 ;p2	Sets the Contactless Card Offset Value	Page 37

R – Read Commands

Syntax	Parameter/Option	Description	Page #
Roc		Reads the Contactless Card Offset Value	Page 38

14 – Contactless Card Command Definition

P – Parameter Commands

Poc ;p1 ;p2 (Parameter offset contactless card)

Tattoo	New Pebble	Dualys	Quantum	Kiosk
	✓	✓	✓	✓

Sets the Contactless Card Offset Value

p1:
+ Increases the current value
- Decreases the current value
= Set the value

p2: Value to add, to subtract or to set

R – Read Commands

Roc (Read offset contactless card)

Tattoo	New Pebble	Dualys	Quantum	Kiosk
	✓	✓	✓	✓

Reads the Contactless Card offset value.

15 – Feeder Command Summary Table

S - Sequence Commands

Syntax	# Parameter/Option	Description	Page #
Sk	p1;o1	Sequence discuss with Feeder	Page 35

16 – Feeder Command Definition

S – Sequence Commands

Sk;p1;o1 (Sequence discuss with feeder)

Tattoo	New Pebble	Dualys	Quantum	Kiosk
			✓	✓

Send command to the feeder and return the answer

p1:	f	finish sensor (feeder empty)
	w	warning sensor (three adjustable positions)
	s	status (check the full status or discussion)
o1:	1	return detailed status for s parameter .

Sk;s returns OK if we can discuss with the feeder
Sk;s;1 returns two bytes. (For example 128 129, these two bytes correspond to a specific status, please contact us for more information).

Answer	0	1	2	3
Sk;f	Not feeder empty	Feeder 1 empty	Feeder 2 empty	Feeder empty
Sk;w	No warning On	Warning Feeder 1 ON	Warning Feeder 1 ON	Both Warning ON

Example: (ESC)Sk;f;1(CR) return the finish sensors status.

17 – Flip Over Command Summary Table

S - Sequence Commands

Syntax	# Parameter/Option	Description	Page #
Sds;<	p1;o1	Sequence discuss with Flip Over Station	Page 35

18 – Flip Over Command Definition

S – Sequence Commands

Sds;<p1;o1 (Sequence discuss with flip over)

Tattoo	New Pebble	Dualys	Quantum	Kiosk
		✓	✓	✓

Sends command to the flip over and returns the answer

p1: A Auto adjust the flip over sensor
v Returns the firmware version

o1: 0 Returns character answer
1 Returns decimal answer ([ACK] ..[NACk]..[EOT]

Possible answers:
'T' : error timeout.
'1' : error command.
'0' : OK or ACK

Example: (ESC)Sds;<v(CR) return 3
(ESC)Sds;<v;1(CR) 97 6 (97 decimal value for a 6 decimal value for ACK)

19 – Output Hopper Command Summary Table

S - Sequence Commands

Syntax	# Parameter/Option	Description	Page #
Sds;?	p1;p2	Sequence discuss with Output Hopper	Page 35

20 – Output Hopper Command Definition

S – Sequence Commands

Sds;?p1;o1 (Sequence discuss with output hopper)

Tattoo	New Pebble	Dualys	Quantum	Kiosk
			✓	

Sends command to the Output Hopper and return the answer.

p1: A Auto adjust the hopper sensor (remove card and close the doors before processing)
v Return the firmware version.
i Init the output hopper

p2: 1 return detailed answer ([ACK] ..[NACk]..[EOT]

Possible answers:
'T' : error timeout.
'1' : error command.
'0' : OK or ACK
For adjustment only:
49 : can not adjust the blue belt position.
50 : can not adjust the door sensors and/or position 1 sensor.
51 : can not adjust the ejection sensors.
52 : can not adjust the position 2 sensor.

Example:

(ESC)Sds;?A;1(CR) 6 Adjustment correct
(ESC)Sds;?A;1(CR) 52 Cannot adjust the ejection sensors.

21. Programming Example

1 - Printing a color card with a 5 Panel Color Ribbon (YMCKO)

(ESC)Pr;ymcko(CR)	Defines the type of ribbon
(ESC)Pc;y;+(CR)	Increases Yellow Contrast of 1
(ESC)Pc;m;+(CR)	Increases Magenta Contrast of 1
(ESC)Pc;c;+(CR)	Increases Cyan Contrast of 1
(ESC)Ss(CR)	Beginning of sequence
(ESC)Sr(CR)	Defines printing on the front of the card
(ESC)Db;y;32;data0……..	Downloads the Yellow Panel
(ESC)Db;m;32;data0……..	Runs the printing of the Yellow Panel and downloads Magenta Panel
(ESC)Db;c;32;data0……..	Runs the printing of the Magenta Panel and downloads the Cyan Panel
(ESC)Db;m;2;data0……..	Runs the printing of the Cyan Panel and downloads of the Black Panel
(ESC)Db;o;2;data0……..	Runs the printing of the Black Panel and downloads the Overlay Panel
(ESC)Se(CR) ;	Prints the Overlay Panel and ejects the card