

U2D/Smart/PROS/MOBILES/ONE NET Protocol Integration

1. Protocol data format

STX	LEN	ST#	CMD	DATA	CHKSUM	ETX
0x02	####	##	##	...	##	0x03

	Identifier	Length (byte)	Description	Remark
1	STX	1	Start of text	0x02
2	LEN	2	Content length	Include: ST#, CMD, DATA
3	ST#	1	Host number	Host number in the RS485
4	CMD	1	Command code	Please refer to instruction sets
5	DATA	0...N	Data pack	
6	CHKSUM	1	Check code	According to LEN + ST# + CMD + DATA to calculate
7	ETX	1	End of text	0x03

LEN: it's the sum of ST# + CMD + DATA bytes

ST#:

00 – Broadcast mode

XX – According to production line reset command

CHKSUM: Sum of (LEN + ST# + CMD + DATA) MOD 256

Note: U2 ProS NET protocol doesn't support U2 commands *Set identification code (6Dh)*, *Delete station number (73h)* and *get printer serial number (6Eh)*.

When using broadcast mode?

Use ST# = 00 when you are working with a single printer, or you want to set same message/configuration to all slave printers.

2. Setting Station numbers

2.1 Production line reset (F0h)

2. Data package format:

STX	LEN	ST#	CMD	CHKSUM	ETX
02	00 02	00	F0	##	03

3. ECHO Format:

STX	LEN	ST#	CMD	DATA	CHKSUM	ETX
02	00 0B	##	F0	Serial no.	##	03

Description:

Offset	Length(byte)	Description	Note
+0	4	Serial Number	
+4	1	Model Code	0x0A U2D · 0x0B U2S · 0x1F U2Pro
+5	4	Printer Status	

When you are working with multiple printers is necessary to identify each one of them especially when it's not required to set message or settings to all connected printers.

The F0h command will reset the station number of all the connected printers. The station number will be set according to the order response of each printer. The first to respond to this command will be set as ST01

Example:

Send command **02 00 02 00 F0 F2 03**

U2 Mobile S/N 3092460 → PC: **02 00 0B 01 F0 EC 2F 2F 00 20 01 00 00 00 67 03**

Station No: **01** & S/N: **2F 2F EC** to decimal = **3092460**

U2 Smart S/N 3088709 → PC: **02 00 0B 02 F0 45 21 2F 00 0B 01 00 00 00 9E 03**

Station No: **02** & S/N: **2F 21 45** to decimal = **3088709**

Once the station numbers have been set can proceed to test communication.

3. Test communication

3.1 Getting printer information (42h)

This command can be used to obtain printer related information such as S/N, software version, hardware version, and EDC.

A. Send command to U2 MobileS: **02 00 02 01 42 45 03**

U2 MobileS response: **02 00 1E 01 42 00 00 01 00 00 D2 22 E5 00 01 01 00 EC 2F 2F 00 76 03 00 00 03 00 00 00 01 21 00 00 25 03**

Station No: **01** & S/N: **2F 2F EC**

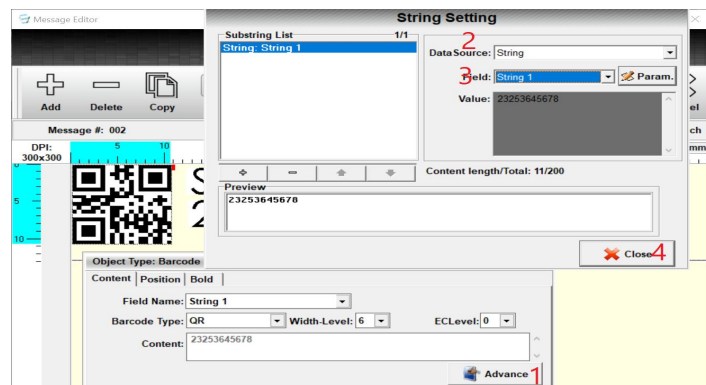
B. Send command to U2 Smart: **02 00 02 02 42 46 03**

U2 Smart response: **02 00 1E 02 42 00 00 01 00 00 D2 22 E5 B1 80 B2 03 45 21 2F 00 76 03 00 00 03 00 00 00 01 0B 00 00 3F 03**

Station No: 02 & S/N: 2F 21 45

3.2 Set barcode content with string data

1. Use MessagePro II software to create a message with barcode object and content set as variable string.



2. Import QR code message into printer using USB.

3.3 Set printing status (46)

Message no 2 in printer contains a QR code with content set as string 1.

Set Msg No. 2 to printing mode: 02 00 06 02 46 02 00 00 00 50 03

Printer response: 02 00 02 02 4F 53 03

3.4 Set dynamic string table (CAh)

Use this command to update the barcode content with string data.

Example: set QR code content as ABCDFG

1. Perform ascii to hex conversion of ABCDFG → 41 42 43 44 45 46 47

2. Send: 02 00 10 02 CA 00 00 07 00 00 00 00 41 42 43 44 45 46 47 BF 03

Len: 00 10

ST#: 02

String 1: contains 07 bytes

String 1 content: 41 42 43 44 45 46 47

Check sum: BF

Note: in printer side, Editor settings > Global string table > String source > Default