

# EXK WEIGHING PAL KIT USER MANUAL



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# **1** Introduction

USB-based EXK Weighing Pal Kit (also known as EXK Kit) is a compact weighing module, via USB VCP (virtual COM Port) to operate and output weighing data. EXK Kit can be set up through graphic user interface of EXK Setup Tool (also known as WKT) to make setup easier. EXK Kit is compact with COM port communication, so it is ideal to acquire weight information for embedded computer systems in POS, or in industrial computer. It can also be used in manufacturing execution system (MES).

## **EXK Kit Features**

- 1 x USB port provides both power and communication links to the EXK Kit. EXK Kit's USB driver supports the following operating systems:
  - Windows 7/8/8.1/10
  - Windows XP/Server 2003/Vista/7/8/8.1
  - Windows 2000
  - WinCE 5.0/6.0

- Mac OSX
- Linux 2.6.x/3.x.x and 4.x.x
- Android 4.2
- 2 x COM ports separate communication channels for weighing data and Commands
- 3 Data modes: Internal count, Weighing, Counting
- 4 Weighing Functions: Tare , Pre-tare , Zero, Zero Tracking
- Suitable for weighing platforms with 5-pin (Aviation) connectors
- Compact Size: 12cm (L) x 6cm (W) x 3cm (H) (with housing), or 8.9cm (L) x 5.1cm (W) x 2cm (H) (only mainboard)
- EXK kit can be easily setup with EXK Setup Tool (WKT), which is compatible with Windows XP(SP3)/7/8/10.

## **EXK Kit Dimensions**

Mainboard without external housing: 89mm (L) x 51mm (W) x 20mm (H) External housing dimensions: 120mm (L) x 60mm (W) x 30mm (H)





# **EXK Kit Specifications**

- Resolution : Maximum 1/15000, depending on the weighing platform's load cell resolution
- Multi-interval capability
- Weighing units
  - Calibration units: Kilogram , gram, pound, Ton
  - Conversion units: Pound-ounce, ounce, grain, DWT (deadweight tonnage), carat
- Power: 5V / 500mA. A standard computer USB port provides both power and communications to EXK Kit.

# 2 Command (CMD) Formats (8-byte Length)

Command	CMD Command Code Descriptions		Header (HEX)	CMD (HEX)		Sett (HE	ings EX)		Terminator (HEX)		Settings Descriptions	Default Value	ADJ /
туре	(HEX)	Descriptions	BYTE 0	BYTE 1	BYTE 2-H	BYTE 3	BYTE 4	BYTE 5-L	BYTE 6	BYTE 7		(HEX)	LOCK
	03	Clear Linear Data	FF	03	00	00	00	0x77	0D	0A			ADJ
Weight Setup	04	Linear Setup	FF	04	00	00	00	00	0D	0A	Byte5 00: Empty Load Setup 01: First Point 02: Second Point 03: Third Point 04: Fourth Point 05: Fifth Point Reboot after completing setup. If weight calibration and linear data clearing are not completed, then a setup failure message will appear.		ADJ
	05	Multi-interval Mode	FF	05	00	00	00	00	0D	0A	00: Multi-Interval (various resolution intervals) 01: Multi-range (if second interval is surpassed, then the second-interval resolution would be used on weighing return)	00	ADJ
	10	Tare Function	FF	10	00	00	00	00	0D	0A	00: Disable Tare function 01: Can only Tare once 02: Can Tare accumulatively	02	ADJ
	11	Pre-tare Enable/disable	FF	11	00	00	00	00	0D	0A	00: Disable 01: Enable	00	ADJ
Parameter	12	Use the Zero Command to cancel Tare and Pre-tare	FF	12	00	00	00	00	0D	0A	00: Disable 01: Enable	00	ADJ
Setup .	13	Initial Zero Range (Full Scale Percentage)	FF	13	00	00	00	00	0D	0A	1%~100%(DEC)	0A	ADJ
	14	Zero Tracking and Zero Range (%Full Scale)	FF	14	00	00	00	00	0D	0A	1%~100%(DEC)	02	ADJ
	15	Stability Criteria's D	FF	15	00	00	00	00	0D	0A	00: 1/4d	00	ADJ



Command	CMD Code Command		Header (HEX)	CMD (HEX)		Sett (HI	ings EX)		Terminator (HEX)Settings Descriptions			;	Default Value	ADJ /	
(HEX)		Descriptions	BYTE 0	BYTE 1	BYTE 2-H	BYTE 3	BYTE 4	BYTE 5-L	BYTE 6	BYTE 7				(HEX)	LOCK
		(Division) Value									01: 1/2d 02: 3/4d 03: 1d				
	16	Stability Criteria's Millisecond Value	FF	16	00	00	00	00	0D	0A	0~200 (x10millise	econd)(DEC)		50(DEC)	ADJ
Parameter Setup	17	Weight Output (COM Output)	FF	17	00	00	00	00	0D	0A	00: Disable 01: E	nable		00	
	18	Weight Output (COM Output) Type	FF	18	00	00	00	00	0D	0A	00: AD 01: Weighing 02: Counting 03: Excell Standa	ard Format		00	
	19	Initial Default Weight Specification	FF	19	00	00	00	00	0D	0A	01~06, Maximum the command 01	n Value is dete settings.	ermined by	01	
	20	Weighing Data Output COM Setup	FF	20	Baud Rate	Data Bit	Parity	Stop Bit	0D	0A	Baud Rate 00: 1200 01: 2400 02: 4800 03: 9600 04: 14400 05: 19200 06: 38400 07: 57600	Data Bit 00: 8 01: 9 Parity 00: None 01: Even 02: Odd	Stop Bit 00: 0.5 01: 1 02: 1.5	03 00 00 01	
Communi- cation Setup	22	Data COM Output Rate	FF	22	00	00	00	00	0D	0A	00: No limit (determined by baud rate) 01: 10 times per second 02: 5 times per second 03: 4 times per second 04: 2 times per second 05: 1 time per second		d rate)	01	
	23	Manufacturing Location G (Gravity) Value	FF	23	00	00	00	00	0D	0A	Range 978032~983218(DEC)			978914 (DEC) (Taipei)	ADJ
	24	Local G (Gravity) Value	FF	24	00	00	00	00	0D	0A	Range 978032~9	83218(DEC)		978914 (DEC) (Taipei)	
	27	Set ADJ Password	FF	27	00	00	00	00	0D	0A	4 bytes ASCII, or	nly numeric			



Command	CMD Code	Command	Command DescriptionsHeader (HEX)CMD (HEX)Settings 			Terminator (HEX)		Settings Descriptions	Default Value	ADJ /			
Турс	(HEX)	Descriptions	BYTE 0	BYTE 1	BYTE 2-H	BYTE 3	BYTE 4	BYTE 5-L	BYTE 6	BYTE 7		(HEX)	LOCK
Communi- cation Setup	28	Unlock to ADJ	FF	28	00	00	00	00	0D	0A	Input 4 bytes ADJ password to into ADJ mode. If incorrect password then returns FF 99 E2 0D 0A.	0000 (ASCII)	
	30	Setup Pre-tare Value	FF	30	00	00	00	00	0D	0A	Pre-tare Value is 32 bit unsigned without decimal point. Inputted value is right-justified.Examples: Base 10 (decimal)Weight FormatInput (DEC)Pre-tare Value0.000 kg01000.00 kg01001.00 kg0.00 kg010010.0 kg0.00 kg010010.0 kg0.00 kg010010.0 kg0.00 kg010010.0 kg0.00 kg010010.0 kg0.00 01500.0.00 01500.0.00 01500.0.00 01509.		
Control	31	Return to Zero	FF	31	00	00	00	77	0D	0A	Fixed value of 0x77		
	32	Tare	FF	32	00	00	00	77	0D	0A	Fixed value of 0x77		
3	33	Setup Unit Weight Value	FF	33	00	00	00	00	0D	0A	Formula: Quantity = (Weight AD - Zero Point AD) / Unit Weight. <b>Set unit weight value.</b> 1st Byte is number of decimal places (must $\leq$ 6). The last 3 bytes represent the numerical value. Current unit is used as the weighing unit. Example: Current unit is kg, then an input value 0x0300000A = 0.010kg. If set to 0, to remove unit weight value and cancel counting.		
	34	Setup Quantity	FF	34	00	00	00	00	0D	0A	Formula: Unit Weight AD = (Weight AD - Zero Point AD) / Quantity (Counting is only for kg, g, and lb units) <b>Set quantity value.</b> If set to 0, to remove quantity value and cancel counting.		



Command Type	CMD Code	Command	Header (HEX)	CMD (HEX)		Sett (HI	ings EX)	•	Term (HI	inator EX)	Settings Descriptions	Default Value	ADJ /
(HEX)	2000	BYTE 0	BYTE 1	BYTE 2-H	BYTE 3	BYTE 4	BYTE 5-L	BYTE 6	BYTE 7		(HEX)	LOCK	
	35	Empty Weight Confirmation (Weight Calibration)	FF	35	00	00	00	77	0D	0A			ADJ
Control Command	36	Calibration Weight Confirmation (Weight Calibration)	FF	36	00	00	00	77	0D	0A			ADJ
	37	Change/set Weighing Specification (i.e. weighing unit)	FF	37	00	00	00	00	0D	0A	01~06, Maximum Value depends on the setting values of the 25-byte command format 02 "Total Number of Specification Entries".		
	38	Reboot	FF	38	00	00	00	77	0D	0A			
Read	40	Read Data 1: Read Linear Setup 2: Read Weight Specification 3: Read Other Setup 4: Read Version Number	FF	40	00	00	00	00	0D	0A	01~04 01: Return E0 Header + 25 bytes 02: Return E1 Header + 123 bytes 03: Return E2 Header + 32 bytes 04: Return E3 + 16 bytes of Version Number – 17 bytes total		
Command	42	Restore Factory Settings	FF	42	00	00	00	77	0D	0A	Restore settings to factory default values and write them to FLASH. Weight Specification and linearity data will not be altered. Those settings marked in ADJ has to be in ADJ Status to be restored.		See note 🗐 on the left
	43	Read ADJ	FF	43	00	00	00	77	0D	0A	After transmission, reply FF 98 xx 0D 0A xx= 00: LOCK 01: ADJ		



# 3 Command (CMD) Formats (25-byte Length)

Command Type	CMD Code (HEX)	Command Descriptions	BYTE Address	Contents	Setting	Settings Descriptions	Default Value HEX	ADJ / LOCK
			0	Header	Fixed value FF			ADJ
			1	Command Code	Fixed value 02			
			2	Total Number of Weighing Unit	01~06	For example: if there are 3 weighing units (kg, g, and lb). Set it to 03. The $2^{nd}$ unit ( $22^{nd}$ byte) and the $3^{rd}$ unit ( $23^{rd}$ byte) have to set to 00~0B. They cannot set to FF; otherwise, error message E2 will be returned.	01	
		3~6	Maximum capacity	Most significant byte first		15000 (DEC)		
			7~10	Calibration weight	Most significant byte first		15000 (DEC)	
			11~14	Maximum capacity+9*D	Most significant byte first		15045 (DEC)	
			15~18	Interval-dividing Point	Most significant byte first		15000 (DEC)	
Woight			19	Resolution of Interval-dividing Point 1	01, 02, 05, 0A (4 types)		05	
Setup	02	Specification	20	Resolution of Interval-dividing Point 2	01, 02, 05, 0A (4 types)		05	
			21	Weight Decimal Point	00: 0 No decimal places 01: 0.0 One decimal place 02: 0.00 Two decimal places 03: 0.000 Three decimal places		03	
		22	Second Weighing unit Refer to Weighing Units Table	00: kg       07: dwt         01: g       08: ct         02: lb       09: hkg         04: lboz       0A: viss         05: oz       0B: T         06: GN       FF: None		FF		
			23	Third weighing unit	Same as above		FF	
			24	Fourth weighing unit	Same as above		FF	
			25	Fifth weighing unit	Same as above		FF	
			26	Sixth Weighing unit	Same as above		FF	
			27	Calibration units	00: kg 01: g	If set as $0B(T)$ , selectable weighing units for $2^{nd} \sim 6^{th}$ specification entries are as follows:	00	



Command Type	CMD Code (HEX)	Command Descriptions	BYTE Address	Contents	Setting	Settings Descriptions	Default Value HEX	ADJ / LOCK
Weight Setup	02	Setup Weight Specification	27		02: lb 0B: T	00: kg         05: oz           02: lb         09: hkg           04: lboz         0A: viss		
			28~29	Terminator	Fixed value 0D 0A			

# 4 Setup and Control Command Reply Results

Setup and Control Command Reply Results (HEX)	Command Descriptions
FF 99 06 0D 0A	Processing done
FF 99 E1 0D 0A	Inaccurate Command parameter value (too long): 1. Setup value not within designated range 2. Not compliant with the Command's total length
FF 99 E2 0D 0A	Setup failed
FF 99 E4 0D 0A	Invalid Command : Invalid Command code
FF 98 xx 0D 0A	Return value: xx

# **5 Weighing Units Table**

Unit Code	Unit Name	System String	Carry Method
0	kilogram	kg	Decimal (Base 10)
1	gram	g	Decimal (Base 10)
2	pound	lb	Decimal (Base 10)
4	pound ounce	lboz	Hexadecimal (Base 16)
5	Ounce	OZ	Decimal (Base 10)
6	Grain	GN	Decimal (Base 10)
7	Dwt	dwt	Decimal (Base 10)
8	Carat	ct	Decimal (Base 10)
9	Catty (Hong Kong)	hkg	Hexadecimal (Base 16)
10	Viss (Myanmar)	viss	Decimal (Base 10)
11	metric ton	Т	Decimal (Base 10)



# **6 Weighing Data Output Formats**

Regarding Gross Weight, Net Weight, Tare, and Pre-tare formats, please refer to Output Weighing Value Format.

## 6.1 AD Format and Weighting Format

Add- ress	Contents	Descriptions
1	Header	0xFF
2	Error Status	None: 0xE0 Initial Zero above allowed max: 0xE1 Initial Zero below allowed min: 0xE2 Initial Zero is unstable for more than 10 seconds: 0xE4 Weighing value exceed Maximum capacity+9D: 0xE9 Unit weight less than 0.1d: 0xEA Sampling weight less than 10d: 0xEB Insufficient sampling weight and unit weight : 0xEC
3	Weighing Status	0: Unstable 1: Stable
4	Weight Sign	"+" or "-"
5~	Weight	8 digits; Right-justified
12	AĎ	Redundant 0's are removed.
13~	Zoro AD	8 digits; Right-justified
20	Zeio AD	Redundant 0's are removed.
21	Terminator	0x0D
22	Terminator	0x0A

#### Weighing Format

Add- ress	Contents	Descriptions
1	Header	0xFF
2	Error Status	None: 0xE0 Initial Zero above allowed max: 0xE1 Initial Zero below allowed min: 0xE2 Initial Zero is unstable for more than 10 seconds: 0xE4 Weighing value exceed Maximum capacity+9D: 0xE9 Unit weight less than 0.1d: 0xEA Sampling weight less than 10d: 0xEB Insufficient sampling weight and unit weight : 0xEC
3	Weighing Status	0: Unstable 1: Stable
4	Weight Sign	"+" or "-"
5~	Gross	Redundant 0's are removed.
12	Weight	Right-justified; Includes decimal point
13~	Net	Redundant 0's are removed.
20	Weight	Right-justified; Includes decimal point
21~	Toro	Redundant 0's are removed.
28	Tale	Right-justified; Includes decimal point
29~	Pro toro	Redundant 0's are removed.
36	Fie-laie	Right-justified; Includes decimal point
37~	Weighing	Left-justified
40	Torminator	
41		
42	I erminator	UXUA

## 6.2 Counting Format and EXCELL Standard Format

#### **Counting Format**

-bb∆		
ress	Contents	Descriptions
1	Header	0xFF
2	Error Status	None: 0xE0 Initial Zero above allowed max: 0xE1 Initial Zero below allowed min: 0xE2 Initial Zero is unstable for more than 10 seconds: 0xE4 Weighing value exceed Maximum capacity+9D: 0xE9 Unit weight less than 0.1d: 0xEA Sampling weight less than 10d: 0xEB Insufficient sampling weight and unit weight : 0xEC
3	Weighing Status	0: Unstable 1: Stable

## **EXCELL Standard Format**

Add- ress	Contents	Descriptions
1~2	Status	Stable: ST; Unstable: US; Overload: OL
3	Separator	3
4	Weight	Gross weight: G; Net weight: N
5	Status	Blank
6	Separator	,
7	Weight Sign	"+" or "-"
8~	Net	Redundant 0's are removed.
15	Weight	Right-justified; Includes decimal point
16~ 18	Weighing units	Right-justified
19	Terminator	0x0D



4	Weight Sign	"+" or "-"		20	Terminator	0x0A
5~	Gross	Redundant 0's are removed.	-			
12	Weight	Right-justified; Includes decimal point				
13~	Net	Redundant 0's are removed.				
20	Weight	Right-justified; Includes decimal point				
21~	Toro	Redundant 0's are removed.				
28	Tale	Right-justified; Includes decimal point				
29~	Dro toro	Redundant 0's are removed.				
36	Fie-late	Right-justified; Includes decimal point				
37~	Weighing	Left-justified				
40	units					
41	Unit	Redundant 0's are removed.				
41~ 10	Weight	Right-justified; Includes decimal point				
40	(Net)					
40	Unit	8 digits; Right-justified				
49~	Weight	Redundant 0's are removed.				
50	AD					
57~	Quantity	Redundant 0's are removed.				
61	Quantity	Right-justified				
62	Terminator	0x0D				
63	Terminator	0x0A				

# 7 Output Weighing Value Format

EXK Kit's weighing value output is in either Base 10 (decimal) or Base 16 (hexadecimal) format. Weighing units such as pound-ounce are in Base 16 (hexadecimal) format. Base 10 (decimal) format has only 1 decimal point, while Base 16 (hexadecimal) can have 1 or 2 decimal points.

kg in Base 10 (decimal)	pound-ounce are in Base 16 (hexadecimal)		
1 kg displays as "1.00"	9 lb 6 oz display as "9. 6.0" or "9. 6"		

# 8 Install EXK Setup Tool (WKT)

System Requirement

Compatible Operating Systems: Windows XP (SP3) / Windows 7 / Windows 8 & 8.1 / Windows 10

Step1: Install EXK Setup Tool (WKT)

EXK Setup Tool (WKT) installation does not require executing an installer. Just create a directory for EXK Setup Tool (WKT). Place the two files (**wkt.exe, wkt.xml)** in that directory, then run **wkt.exe** :

Step2: Install USB driver for EXK Setup Tool (WKT)

Go to the following website and select a matching driver for installation: <u>https://www.silabs.com/products/development-tools/software/usb-to-uart-bridge-vcp-drivers</u>

Step3: After drive installation is completed, use a USB Type A to USB Type B cable to connect EXK Kit and the computer, then the device manager will show two COM ports:



	×
檔案(E) 動作(A) 檢視(V) 說明(H)	
> щ 音效、視訊及遊戲控制器	^
> 🖷 音訊輸入與輸出	
> 🔲 處理器	
> 🧾 軟體裝置	_
> 🏺 通用序列匯流排控制器	
> 🏺 通用序列匯流排裝置	
✔ 💭 連接埠 (COM 和 LPT)	
🛱 Silicon Labs Dual CP2105 USB to UART Bridge: Enhanced COM Port (COM8)	
🛱 Silicon Labs Dual CP2105 USB to UART Bridge: Standard COM Port (COM22)	
> 📓 韌體	
> 🔚 感應器	
、 🕼 漫鼠及其他指種裝置	~

- Standard COM Port is the Weighing Data Output Port.
- Enhanced COM Port is the Command Port.

Step4: Connection Setup for EXK Setup Tool (WKT)

After running **wkt.exe**, sequentially select **System**  $\rightarrow$  **Preference**, then the following dialog window will appear:

1						
[WKTS010] Preference				-	- 🗆	×
nput Com Setting						
Com Port Baud Rate	Parity	Byte Size	Stop Bit	Read Interval 1	Fimeout(ms)	
COM22 ~ 9600 ~	None ~	8 ~	1 ~	10		
output Com Setting						
Com Port Baud Rate	Parity	Byte Size	Stop Bit	Read Interval 1	Fimeout(ms)	
COM8 ~ 9600 ~	None ~	8 ~	1 ~	10		
isplay Setting						
Interface Language						
English	$\sim$					
				Caus	<b>D</b> .44	
				Save	EXIT	

- According to COM port settings displayed in the device manager, manually select corresponding COM port numbers in Input Com Setting and Output Com Setting.
- Command port settings must be set as 9600,N,8,1.
- Other settings are the same as dialog window screenshot above.
- You can choose an interface language in Display Setting.
- After setup is completed, press 'Save' then 'Exit'.

Older hardware's definitions for Standard and Enhance are reversed (as mentioned in step 3), if
 EXK Setup Tool (WKT) does not receive weight data. Please reverse the Input Com Port and Output
 Com Port settings in [WKTS010] setting (see figure above) in EXK Setup Tool (WKT)



9

EXK S	Setup Tool (WKT) Descriptions Button Area							
V	[WKTM000] Weighing Kit Tool     System(S) Exit(X)	×						
eighing Status Setup/Calibration Area	AD       Weighing       Counting       Standard         ST       Gross       Tare       Unit       0 PT         Net       Pretare       Image: Counting Standard       Image: Counting Standard         Weight CAL.       Line CAL.       ADJ Control       User Control       Communication       ADJ Password							
	Weight Specification       Weight         Max Digits       Dec Point       Divide       Unit         30000       3       5       kg       Image: Calibration Digits       SPEC         Calibration Digits       5       ×       kg       Image: Calibration Digits       SPEC         5000       5.000kg       1/600       1/600       1/600       1/600         Double Range       30kg *       30kg *       Max(9)         30000       5       MultiInterval       Image: Calibration Digits       Max(9)	t Display Sample <b>30.000 kg</b> 0 * 0.005 d): 30.045kg						
	Unit2 Unit3 Unit4 Unit5 Unit6							
i_ 1 <sup>-</sup>	Setting	Weight Cal						
	02026310 ADJ							



**Button Area** 

Connect or disconnect



Save currently displayed settings as a configuration file Open a configuration file and load its settings to the current display

Download EXK's settings to EXK Setup Too

Save currently displayed settings to EXK Setup Tool

## Weighing Status Area



- (1) Message code Please refer to the communication protocol.
- (2) Stability indicator Lights green when stable; lights yellow when unstable.
- (3) Negative weight indicator Lights red when weight is negative
- (4) Execution command reply code Please refer to the communication protocol.



#### System Message Area

63 3241537268991351	LOCK	
2 3	4	1

- (1) Progress bar
- (2) Weighing data format length displayed after making connection
- (3) EXK Kit firmware version displayed after downloading EXK KIT settings
- (4) Current status of EXK KIT's setup switch displayed after downloading EXK KIT settings

#### Internal Value or Weight Display

#### Internal Value Display

A	D Weigh	ning Counting	Standard
A	D	Zero AD	
	433301	433301	

#### Weight Display

AD W	eighing Counting	g Standard		204
Gross 0.00 Net 0.00	0 Tare 0 0.000 Pretare 0 0.000	Unit kg	<b>○</b> PT <b>○</b> PT <b>○</b>	Return to Zero button

Set pre-tare: (Example) The weight format is 0.000 kg in the above screenshot, so 0.5kg

is displayed as 0.500. To set 0.5kg pre-tare weight, enter 500 (remove decimal point and Redundant 0) in the text bar and then press PT; the 0.5kg pre-tare weight is now set. To cancel Pre-tare, enter 0 and press PT.

unit selection dropdown menu

#### **Counting Display**

AD	Weigh	ning Counting	Standard				
Gross 0 Net 0	.000 .000	Tare 0.000 Pretare 0.000	Unit WT 0 Unit WT AD 0	Unit QTY	kg 0	+0+ T	0 PT 0 U 0 Q

Set Unit Weight: (Example) The weight format is 0.000 kg in the above screenshot. To setup Unit Weight as 1g, enter 0.001 in the text bar and then press U; the 0.001kg (1g) unit weight is now set. To cancel Unit Weight, enter 0 and press U.

Set Quantity: With weighing object(s) present on the platter (i.e. nonzero weighing value), enter quantity and press . Unit weight will be automatically calculated based on current weight and quantity entered. To cancel Quantity, enter 0 and press .

#### Simple Display

AD Weighin	ng Counting	Standard
Gross	Unit	+0←
0.000	kg	T

## 9.1 Set Specification and Perform Weight Calibration

Weight CAL. Line CAL. AD	DJ Control User Control C	Communication ADJ Pass	vord
Weight Specification         Max Digits       Dec Point         30000       3 ~         Calibration Digits       5000         5000       5.000kg         Double Range	Divide Unit 5 ~ kg ~		Weight Display Sample <b>30.000 kg</b> SPEC 1/6000 30kg * 0.005
Range DigitsDivide300005	Range Type MultiInterval	~	Max(9d): 30.045kg
Unit2 Unit3	Unit4 Unit5	Unit6	
		Setting	Weight Cal

(Example) In Setup/Calibration Area as shown above, the weight being displayed on the right can be changed by different settings, so you can predict setup results in advance. After entering and selecting settings, press 'Setting' to confirm. Then Press 'Save' key to save settings to EXK Kit. Please follow screen instructions during the setup process.

wkt	×
Completed	
OK	1. Press 'OK'.
Information X	
Empty platform, then press OK	
2. After	emptying platform, press 'OK



## 9.2 Line CAL. (Linear Calibration)



First select number of linear points for calibration, or select 0 to clear linear calibration settings. Press "Line CAL." Button and follow screen instructions.

EXK Setup Tool (WKT) will proceed with linear calibration based on selected number of points. For example, For a capacity of 30.000kg with 5 linear points, the calibration steps are as the following:

- Calibrate (No load) 0.000 kg
- Calibrate (1<sup>st</sup> point) 6.000kg
- Calibrate (2<sup>nd</sup> point) 12.000kg
- Calibrate (3<sup>rd</sup> point) 18.000kg
- Calibrate (4<sup>th</sup> point) 24.000kg
- Calibrate (5<sup>th</sup> point) 30.000kg (Full Capacity)

#### 9.3 ADJ Control Setting

Weight CAL. Line CAL. ADJ C	Control User Control Communicat	ion ADJ Password	
ADJ Control Setting			
Tare	Pretare	Clear Tare use Zero key	
Accumulate ~	Enable ~	Enable ~	
Turn On Zero Range	Zero Track Range	Stable Check by D	
10 %	2 %	0.25 d ~	
Stable Check by ms			
100 ms			
Menufacture G			
978914			
			Setting

To proceed in ADJ Control setup, EXK Kit must be in the ADJ position. After parameters are confirmed, press 'Setting' button to proceed.



## 9.4 User Control

Weight CAL.	Line CAL.	ADJ Control	User Control	Communication	ADJ Password	
User Contro	Setting					
Data Outpu	t	Data	a Output Type			
Enable	$\sim$	Wei	ighing 🗸			
Turn On Ur	nit					
kg v						
User G	-					
978914	]					
					Factory Default	Setting

After parameters are confirmed, press 'Setting' button to proceed.

Restoring EXK Kit to factory default settings will not affect setup values being displayed in the Weight Calibration and Line Calibration dialog windows. ADJ Control settings can be restored to factory default settings only in ADJ status (i.e. EXK Kit's setup switch is in ADJ position); otherwise, only non-ADJ factory default settings will be restored. Regarding factory default settings, please refer to setup commands.

## 9.5 Communication Setup

Weight CAL. Line CAL. ADJ Control User Control Communication ADJ Password	
Communication Setting         Data Output Port         Baud Rate       Parity       Byte Size       Stop Bits         9600       None       8       1       ✓         Output times per 1 s       10       ✓       ✓       ✓	
	Setting

After parameters are confirmed, press 'Setting' button to proceed.



#### 9.6 ADJ password

Weight CAL. Line CAL. ADJ Control User Control	Communication	ADJ Password	
ADJ Password Setting			
Password			
New Password			
Confirm Password			
		Open ADJ	Setting

To set password:

In the LOCK mode: Input password, input new password, input new password again to confirm. Then press Setting button.

In the ADJ mode: Input new password, input new password again to confirm. Then press Setting button.

How to open ADJ function in LOCK mode:

Input password, press Open ADJ button.