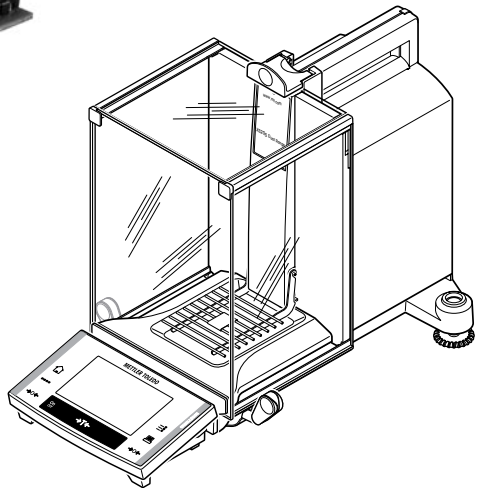
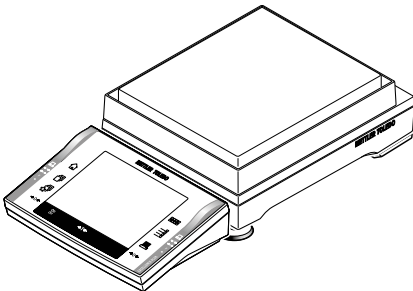


METTLER TOLEDO

Installation and Operating Instructions

METTLER TOLEDO BTS Option "11132535" for XP/XS balances



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1 Introduction

Before we begin

Thank you for choosing the METTLER TOLEDO option for your XP/XS balance.

Please read these installation and operating instructions right through before you start using the interface option, so you know how to operate the interface safely and correctly and can make use of all its capabilities.



Please observe the following:

- Your XP/XS balance must have Software version 3.00 or higher. You can download the latest balance Software at: www.mt.com/balance-support.
- Before installing and configuring the interface option in your XP/XS balance, you should read and understand the installation and operating instructions.
- The Option is mounted into the XP/XS balance and is powered by the balance.
- The Option does not contain any parts which can be serviced, repaired, or replaced by the user.
- If the Option is not working correctly, please contact your local METTLER TOLEDO dealer.



- The electronics of the Option are very sensitive to electrostatic discharges. In order to protect the components, necessary measures must be taken when the Option is installed so as to provide protection against electrostatic discharges.
- If you still have questions which the documentation does not answer, or only partially, please contact your local METTLER TOLEDO dealer who will be pleased to assist you.



• Disposal

In conformance with the European Directive 2002/96/EC on Waste Electrical and Electronic Equipment (WEEE) this device may not be disposed of in domestic waste. This also applies to countries outside the EU, per their specific requirements. Please dispose of this product in accordance with local regulations at the collecting point specified for electrical and electronic equipment.

If you have any questions, please contact the responsible authority or the distributor from which you purchased this device.

Should this device be passed on to other parties (for private or professional use), the content of this regulation must also be related.

Thank you for your contribution to environmental protection.

4

2 Interface description and installation

2.1 Items delivered

The standard delivery comprises the following items:

- BTS Option interface.

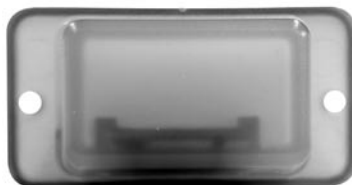
Items not included in the standard delivery, but available as accessories are:

- Bluetooth devices.

2.2 Description of the BTS Option interface

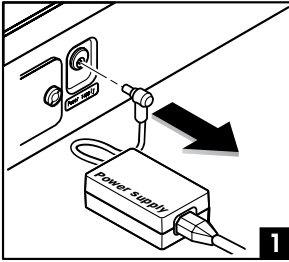
BTS Option is a wireless Bluetooth interface for connecting a peripheral device to an XP/XS balance.

Interface overview

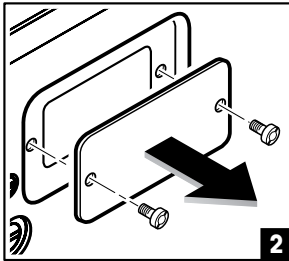


front view

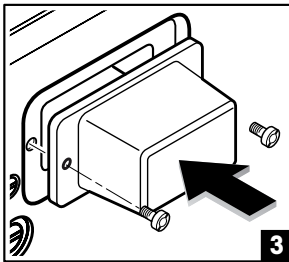
2.3 Installation of the interface option



Before installing the interface option, the balance must be removed from the power (1).

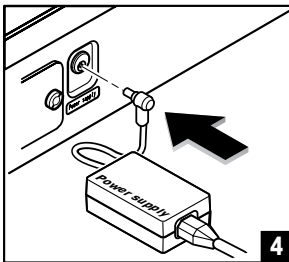


Remove the cover of the interface slot, using a screwdriver (2).



The Option interface can now be installed by sliding it into the open slot (3).

Use the screws of the cover plate, to fix the interface.

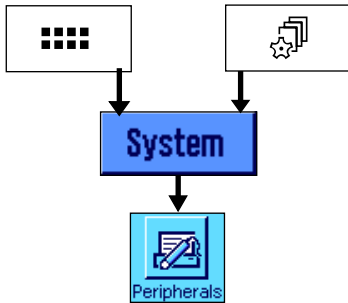


Connect the balance back to the power (4).

3 Configuring connections

This section describes how to configure and activate a connection between the XP/XS balance using BTS Option and a Bluetooth peripheral device. The BTS Option can handle one connection at the same time.

The general procedure used to configure and activate a connection between the XP/XS balance using BTS Option and a Bluetooth peripheral device is described briefly below. The same procedure applies to all types of peripheral devices (printer, auxiliary display and host.).

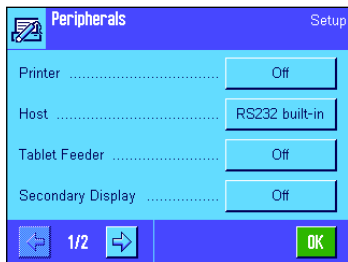


Press button «::::» to select the application menu or press button «☰» to select the user settings menu.

Then click on “System”, to call up the system settings.

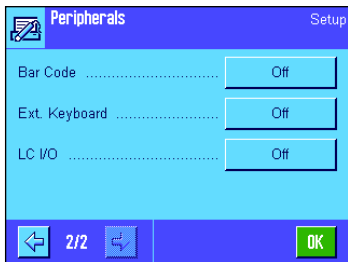
From system settings, press the button “Peripherals”.

Note: When the “Peripherals” menu is called up for the first time, the balance initializes the peripheral. This may take several seconds. During this period, the message “Initializing peripheral devices ...” is displayed.



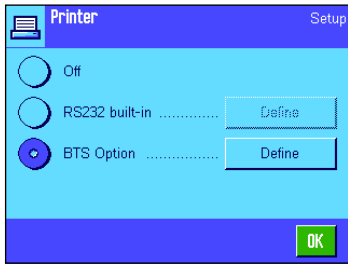
The menu is displayed which is used to select the type of peripheral device.

The button behind the relevant peripheral device indicates whether the connection from the balance to the peripheral device is deactivated “Off”, or whether the balance is connected to the peripheral device via the integrated RS232 interface “RS232 built-in” or if the optional BTS Option “BTS Option” is connected to the peripheral device.



Press the button next to the type of peripheral device (e.g. printer, secondary display), for which you would like to configure a BTS connection.

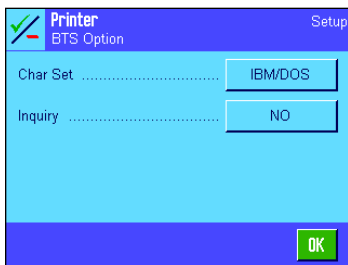
Note: Peripherals “Tablet Feeder”, “Bar Code”, “Ext. Keyboard”, and “LC I/O” is not supported



Select the "BTS Option" and then press the button "Define".

3.1 Option settings

The Option interface parameters listed here are for all peripherals identical. This section gives an overview of all parameters.



The following settings are available:

- "Char Set"** This setting is used to determine the character set used for the data transmission.
Selection possibilities: IBM/DOS (e.g. for printer BT-P42) or ANSI/WIN (e.g. for PC devices)
- "Inquiry"** This setting is used for connect to Bluetooth device.
Selection possibilities: <NO> or <Yes>

Note: End of Line for all connections is <CR> <LF>.

3.2 Connect to the peripheral device

Toggle the "Inquiry" button from "NO" to "YES". Press "OK" to search for and connect to the nearest device. This can take up to 20 seconds. The blue lights on the BTS option of the balance and the peripheral device are continuously lit if the connection is present.

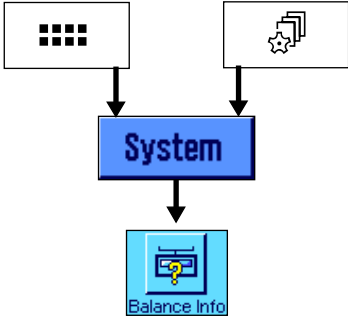
Important: Ensure that the only peripheral device within range (maximum of 10 m) of the balance is the one that should be connected to the balance. Devices that are already connected are "busy" and are not detected. They can therefore be positioned within range.

Note:

- An existing connection is saved and protected against power failure.
- The connection is interrupted if the interface is changed or the peripheral device is set to "Off"

4 Version information

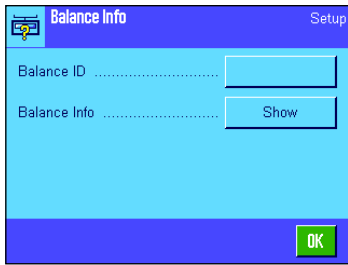
Version information can be found on BTS Option under the system setting "Balance Info".



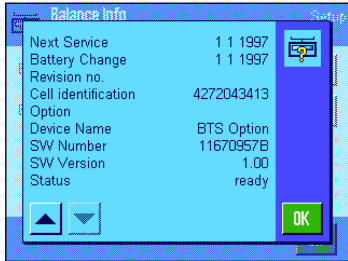
Press button «:» to select the application menu or press button «>» to select the user settings menu.

Then click on "System", to call up the system settings.

Under system settings, press the button "Balance Info".



In this menu, press the "Show" button.



Continue pressing the button with the downward facing arrow until the BTS Option information is displayed. The following information is displayed:

- "Device Name"
- "SW Number"
- "SW Version"
- "Status"

5 Interface commands

Settings of the BTS-Option interface can also be made with a computer connected to the built-in RS232 interface. This is e.g. needed when the balance is used without a terminal. The interface command for these actions is **COPT** and is based on MT-SICS (METTLER TOLEDO Standard Interface Command Set) philosophy. For further information please refer to the Reference Manual "MT-SICS for Excellence balances 11780711" downloadable from "www.mt.com/support".

Please note if the balance is used without a terminal:

- The BTS Option is automatically selected as "Host"; only the Char Set can be changed.
- The built-in RS232 interface is activated with the default communication parameters (9600 baud, 8-N-1, Xon/Xoff); these settings cannot be changed.
- The supported MT-SICS commands on the built-in RS232 interface is limited to: I0, I2, I3, I4, I5, COPT, I14, I16
- To overcome the limitations described above or to avoid the configuration via the COPT command, METTLER TOLEDO recommends to connect a terminal for configuration purposes. This terminal may be disconnected after configuration since the configuration of the BTS Option is stored on the Option itself.

5.1 COPT command in general

Command	<code>COPT "x1" "x2" "x3" "x4"</code>	Set/get configuration for options. x1 = Function: "start", "get", "set", "end" x2 = Identifier of the datum (get/set) x3 = Type of the datum (for "set" only) x4 = Value of the datum (for "set" only)
Start	<code>COPT "start"</code>	Starts configuration. Host connection is suspended.
End	<code>COPT "end"</code>	Ends the configuration. The host connection is resumed.
Read	<code>COPT "get" "id"</code>	Read a datum. Id = Identifier of the datum
Set	<code>COPT "set" "id" "typ" "val"</code>	Sets configurations for options. Id = Identifier of the datum Type = Type of the datum Value = Value of the datum

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Responses	<code>COPT_LA a1</code>	Command is successful. a1 = for "get" only
	<code>COPT_L</code>	Logical error (wrong number of parameters, invalid parameter).
	<code>COPT_LI</code>	Command not executable: <ul style="list-style-type: none"> • No option inserted. • COPT command already active. • "start" command not executed before "set" commands

Example

Query the device name of the installed option:

Command	<code>COPT_L "start"</code>
Response	<code>COPT_LA "</code>
Command	<code>COPT_L "get " "System.Infos.DeviceName"</code>
Response	<code>COPT_LA "Value='BTS Option' "</code>
Command	<code>COPT_L "end"</code>
Response	<code>COPT_LA "</code>

Note

Parameter function and identifier are not case sensitive.

5.2 Configuration of the BTS Option interface

Additional read only parameters:

Identifier:	Type:	Possible values:
"System.Infos.DeviceName"	"string"	
"System.Infos.SWNumber"	"string"	
"System.Infos.SWVersion"	"string"	
"System.Infos.Status"	"i4"	"-1" ("out-of-order") "0" ("ready")

Example

Command	<code>COPT_L "get " "System.Infos.SWVersion"</code>
Response	<code>COPT_LA "Value='1.00' "</code>

Additional read/write interface option parameters:

Identifier:	Type:	Possible values:
"Connection.ConnectionList.1.CharSet"	"i4"	"0" (ANSI/WIN) "1" ("IBM/DOS")

Example**Query the character set of the BTS Option**

```
Command   COPT␣"start"  
Response  COPT␣A␣"  
Command   COPT␣"get"␣"Connection.ConnectionList.1.CharSet"  
Response  COPT␣A␣"Value='0'␣Dependencies='258' "  
Command   COPT␣"end"  
Response  COPT␣A␣"
```

Character set is set to "0" (ANSI/WIN)

Example**Change the character set to IBM/DOS ("1")**

```
Command   COPT␣"start"  
Response  COPT␣A␣"  
Command   COPT␣"set"␣"Connection.ConnectionList.1.CharSet"␣"i4"␣"1"  
Response  COPT␣A␣"  
Command   COPT␣"end"  
Response  COPT␣A␣"
```

Example**Query the status of the BTS Option**

```
Command   COPT␣"start"  
Response  COPT␣A␣"  
Command   COPT␣"get"␣"System.Infos.Status"  
Response  COPT␣A␣"Value='0' "  
Command   COPT␣"end"  
Response  COPT␣A␣"
```

Status is "0" (ready)

6 Appendix

6.1 Factory settings

The following table shows the default settings for all peripherals.

Peripherie	Setting	Factory setting	Setting range
Printer	Char Set Inquiry	IBM/DOS <NO>	ANSI/WIN, IBM/DOS <NO>, <YES>
Host	Char Set	ANSI/WIN	ANSI/WIN, IBM/DOS
Tablet Feeder	Not supported		
Secondary Display	Char Set Inquiry	IBM/DOS <NO>	ANSI/WIN, IBM/DOS <NO>, <YES>
Bar Code	Not supported		
Ext. Keyboard	Not supported		
LC / I/O	Not supported		

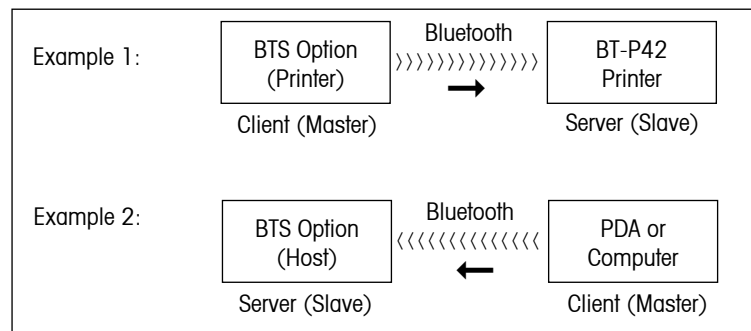
- Note:**
- Factory reset is not available in BTS Option.
 - Default PIN-Code in BTS-Option is "Mettler-Toledo"

6.2 Technical Data

Specifications of the Bluetooth interface

Radio transmission	
Frequency range	2.402 ... 2.480 GHz
Transmission power	typical 1 mW (0 dBm), Bluetooth class 2
Range (in open air)	10 meter
Input sensitivity	improved -80 dBm
Modulation	GFSK Modulation with frequency hopping procedure
Bluetooth	
Version	1.1
Protocols	L2CAP, SDP, RFCOMM
Bluetooth Profile	Generic access, Service Discovery, Serial Port Profile (SPP)
Role of BTS Option	Server = Host / Client = Printer and Secondary Display

Typical BTS Option configuration:



6.3 Accessories

Accessories	Order No.
BTS Option	11132535
BT-P42 Bluetooth Printer	11132540
BT-BLD Bluetooth auxiliary display with bench stand	11132555

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* P 1 1 7 8 0 8 9 6 *

Subject to technical changes and to changes in the
accessories supplied with the instruments.