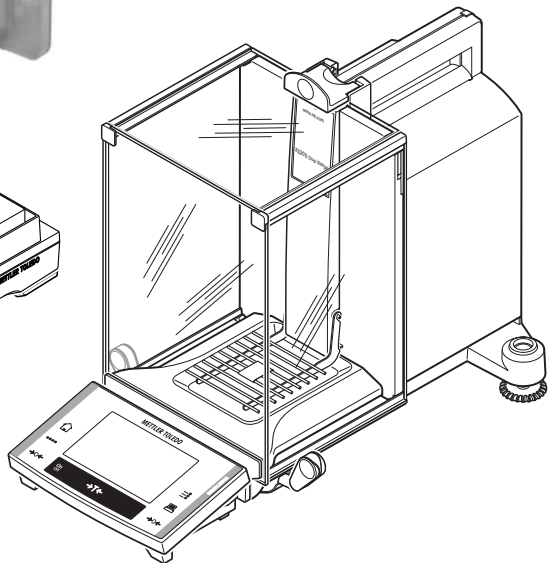
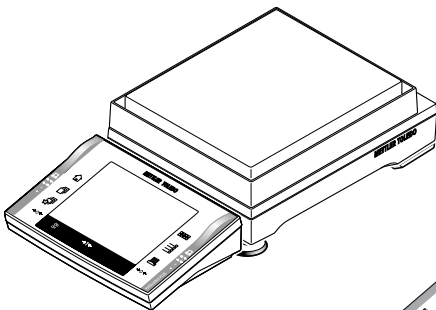


METTLER TOLEDO

Installation and Operating Instructions

METTLER TOLEDO BT Option "11132530" for XP/XS balances



Contents

1	Introduction	4
1.1	Before we begin	4
1.2	Bluetooth basics.....	5
1.3	Bluetooth security features.....	6
1.4	Bluetooth services and profiles.....	6
1.5	Client vs. Server (communication roles).....	7
1.6	Bluetooth networks.....	8
1.7	Connecting to a PC	8
1.8	General procedure for setting up a Bluetooth connection	9
2	Checking the delivery and installing the BT Option	10
2.1	Checking the delivery	10
2.2	BT Option overview	10
2.3	Installing the BT Option.....	11
3	Configuring the BT Option	12
3.1	Calling up the configuration menu	12
3.2	Settings in the configuration menu.....	13
4	Configuring, activating and resetting BT connections	16
4.1	Configuring and activating a BT connection.....	16
4.2	Deactivating/activating an active BT connection	23
4.3	Resetting a BT connection	24
5	Additional information	26
6	Appendix	27
6.1	Factory global settings.....	27
6.2	Factory settings for peripherals.....	27
6.3	Technical data.....	28
6.4	Accessories and ordering information	29

1 Introduction

1.1 Before we begin

Thank you for choosing the METTLER TOLEDO Bluetooth Option for your XP/XS balance. The Bluetooth Option provides wireless communication between your XP/XS balance and up to 7 Bluetooth compatible peripheral devices.

Please read the installation and operating instructions carefully, in order to install and configure the Bluetooth Option safely and correctly and to make sure that you can take advantage of all the available options.



Please observe the following:

- To improve legibility, the installation and operating instructions use the abbreviation "BT" for compound words with "Bluetooth" (e.g. BT Option, BT device, etc.).
- Before installing and configuring the BT Option in your XP/XS balance, you should read and understand the installation and operating instructions.
- The notes and information in the operating instructions for your XP/XS balance and the instructions for the BT peripheral devices used must be observed (in particular the safety notes).
- The BT Option works only if a terminal is connected to the XP/XS weighing platform.
- Your XP/XS balance should be supplied with terminal software version V3.0 or a later version. The latest software version can be downloaded from the following Internet address: **www.mt.com/balance-support**.
- The BT Option does not contain any parts that can be maintained, repaired or replaced by the user.
- No modifications must be made to the BT Option.
- The BT Option is installed into your XP/XS balance and is powered by the balance.
- If the BT Option does not function correctly, please contact your local METTLER TOLEDO dealer.



- The electronics of the BT Option are very sensitive to electrostatic discharges. In order to protect the components, necessary measures must be taken when the BT Option is installed so as to provide protection against electrostatic discharges.
- If you have any queries, which have either not been covered by these instructions or have not provided sufficient information, please contact your local METTLER TOLEDO dealer. They will gladly help 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.

1.2 Bluetooth basics

Bluetooth is a standardized technology for the wireless **transmission of data using radio systems in the frequency range of 2.4 GHz** (2.402 ... 2.480 GHz). This frequency range can be used around the world without a license. Bluetooth devices use low-power transceivers for short-range transmission of data. BT devices may communicate with each other when they are within the range of transmission:

BT Class	Minimum output power	Maximum output power	Range of transmission
1	1 mW	100 mW	100 meters
2	0.25 mW	2.5 mW	10 meters
3	n/a	1 mW	1 meter

The BT Option is a Class 2 device with a range of 10 meters. Please note that the range is a theoretical value. Objects between devices may reduce the transmission range (especially thick walls, metal objects, etc.). Furthermore, devices need to be in the receiving range, i.e. you may connect a Class 1 device (range 100 meters) to a class 2 device (range 10 meters) but the distance is then limited to the receiving range of the lower powered device (in this case to 10 meters).

The 2.4 GHz band is a commonly used transmission frequency (e.g. for wireless phones, baby phones, wireless audio and video transceivers, wireless LAN adapters, etc.). To prevent interference with such devices, Bluetooth divides its bandwidth (2.402 ... 2.480 GHz) into 79 channels and continuously switches between them. This procedure is called "**frequency hopping**" and takes place up to 1600 times per second.

The very first official implementation of the Bluetooth standard was version 1.0. Unfortunately, version 1.0 was not very stable and many early users had a lot of trouble when setting up BT connections. Versions 1.1 and 1.2 remedied the majority of these problems and proved to be stable. Most of the currently available BT devices support **Bluetooth 1.2** and so does the BT Option. Later implementations such as the 2.0 or higher standard mainly boost the transmission speed which is not an issue for many users as typical BT applications do not need to transfer huge amounts of data.

All BT devices have a unique identification code that cannot be changed, namely the **BT device address**. The BT device address is a twelve-digit hexadecimal figure, which is represented as "01:23:45:67:89:AB". Since the device address is extremely unmanageable for normal use, all BT devices also have a **name** which, in many cases, can be edited by the user. The device address and name of a BT device can (in addition to other device data, such as supported profiles, etc.) be requested by other BT devices.

1.3 Bluetooth security features

Like all radio transmissions Bluetooth would be inherently insecure without providing additional security features. In fact, Bluetooth is considered to be very safe assuming appropriate configuration of its built-in security options. These include:

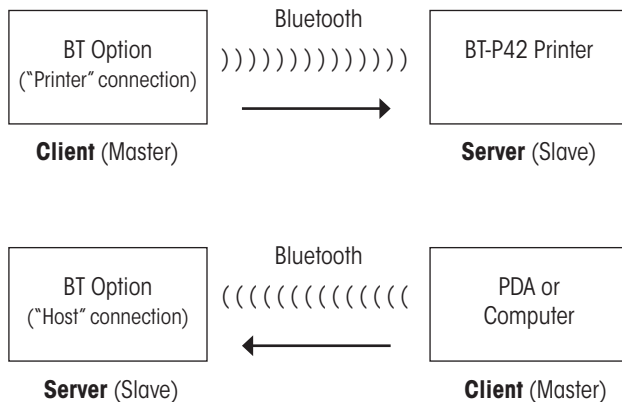
- **Visibility option:** Many BT devices may be made invisible to other BT devices. In fact, a BT device needs to be visible only upon the initial setup (the so-called "pairing") when it needs to be seen by the other device. Once pairing has taken place, the respective data is stored locally in both devices and further communication can take place without requiring visibility as both devices already know each other and have established a trusted relationship. It is strongly recommended to make a BT device invisible except when visibility is required, thus hiding its address from other units. That is why the default setting of the BT option is "Invisible".
- **PIN code and Authentication:** Usually, BT devices require to exchange a PIN code before pairing can take place. In most cases the PIN code set at the factory can be changed by the user. Note that the PIN code of both units must match, otherwise no communication will be possible. Authentication is the process of exchanging PIN codes. With authentication enabled (this is the BT Option's the factory setting), a BT device requires other BT devices to send their PIN code before granting communication.
- **Encryption:** For secure transmission, the data exchanged between BT devices may be encrypted. If encryption is active, other BT devices may possibly monitor the data but they cannot use it. Note that encryption requires a PIN code (which is used for encryption).

1.4 Bluetooth services and profiles

Every BT device has a particular scope of use (e.g. a cellular phone or a BT printer). BT profiles reflect the use cases of a device (e.g. wireless telephony or wireless printing). For instance, there are profiles for printing or for file transfer via FTP. Upon pairing, a BT device communicates its profiles and the appropriate services. The exchange of data is possible only if at least one matching profile/service is available and activated on both units. The BT Option supports the "**Serial Port Profile**" (SPP) offering services for exchanging data via a serial RS232C interface (which is then redirected to Bluetooth). The actual naming of the Serial Port Profile depends on the manufacturer and the device, for Mettler-Toledo devices it is called "SPP data". Please note that some BT devices require authentication via a PIN code **before** communicating the services available from them.

1.5 Client vs. Server (communication roles)

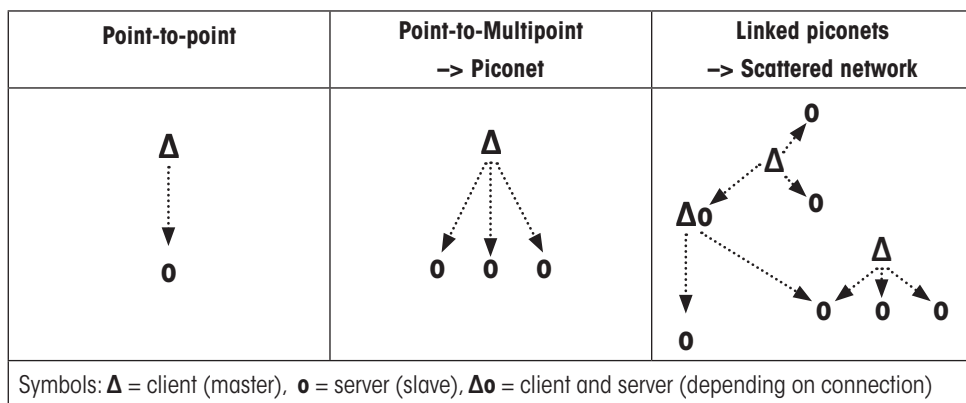
For communication a BT device may either act as “Client” (also called “Master”) or “Server” (also called “Slave”). In BT terminology, a client is the active part, i.e. the one that searches for other devices, determines the services to be used and actively manages the communication. The server has a passive role, it just communicates its presence and its built-in services, i.e. the server waits for the requests received from a client and answers them. As soon as a connection is active, the server cannot answer any other connection requests. **For every connection the BT Option may be configured to be the client or the server.** The following figure shows a typical configuration where the BT option is the client of a printer connection and the server of a host connection:



If you define the BT Option to act as a server for a particular connection, the majority of settings for that connection become inaccessible because the respective settings are defined on the client side, i.e. by the other BT device. Of course, this implies some security issues: As soon as you define the BT Option to be the server, a connection can be established from remote BT devices (assuming the BT Option is visible) and you have no preference which remote BT device tries to connect and communicate with the balance. That is why the BT Option’s default setting is “Client” for all connections. Please be aware of the above security issues before setting up the BT Option as a server, you will do so at your own risk!

1.6 Bluetooth networks

In addition to the traditional “**point-to-point**” connection of two devices, Bluetooth, and the BT Option, also support the “**point-to-multipoint**” connection, where one device can simultaneously establish up to 7 active connections to other devices. Such a small ad-hoc BT network is called a “**piconet**”. In a piconet one device acts as the client (master) while all others are servers (slaves). It is also possible to build up a larger network, the so-called “**scattered network**”. In a scattered network a BT device may act as a bridge between two piconets (note, however, that the bridge device may act as a client (master) only in one of the piconets at a time). The following figure outlines the options for networking BT devices (examples):



Note that the entire bandwidth of Bluetooth is always shared between all connections, i.e. the larger the network the smaller the bandwidth available to every single connection. In addition, large networks require more time for device scanning and similar operations.

1.7 Connecting to a PC

In a “Host” connection to a PC the BT Option may act as client or as server (the same applies to all other peripherals), depending on your particular requirements. In the PC world there are several Bluetooth stacks (protocol that enables Bluetooth communication on the PC). The BT Option has been thoroughly tested with the Microsoft Bluetooth stack which is part of Microsoft Windows® with Service Pack 2 (SP2) installed. You may try to use the BT Option with other Bluetooth stacks (e.g. from Toshiba, Widcomm, Apple, etc.) but you will do so at your own risk and Mettler-Toledo will not accept any liability for flawless operation. Further information on how to use the BT Option with a PC can be found in the relevant Application Notes available from your Mettler-Toledo distributor.

1.8 General procedure for setting up a Bluetooth connection

It is a good practice to follow the steps outlined below when setting up a BT connection (assuming the peripheral device has already been set up for BT communication according to the documentation supplied with the respective unit):

1. Make sure the global settings for the BT option have been set up correctly (see section 3).
2. In "System" → "Peripherals" select the type of device to which you want to connect (see section 4).
3. **This step is required only if the BT Option acts as the client (master) for the current connection:** Perform a **search** for available BT devices and select the device to which a connection is to be established. Depending on your local conditions you may have to do the search repeatedly before the particular peripheral device is found. Note that the range stated in the specifications (10 meters in case of the BT Option) is a theoretical value based on visual communication, i.e. with no objects between the devices. Depending on your local conditions you may or may not be able to establish communication, even if the devices are well within the specified range.
4. **This step is required only if the BT Option acts as the client (master) for the current connection:** Query the **services** available from the selected device and choose the service for serial transmission of data (made available by the the **BT Serial Port Profile**). Note that the naming of this service depends on the device (e.g. for some Mettler-Toledo peripherals it is called "SPP data"). If this service is not available you cannot connect to that device. Note that some BT devices may need to know the PIN code of the BT Option before displaying their services, in this case perform step 5 first.
5. **This step is required only if the BT Option acts as the client (master) for the current connection:** Proceed to "**pairing**" (establishing a trusted relationship between the devices) by entering the **PIN code**. Note that the BT Option and the peripheral device must use the same PIN code.
6. Check the connection, then carry out further adjustments, as needed.

Note that information that has been gathered during the above stages is stored in the devices and used for future connections between these two devices.

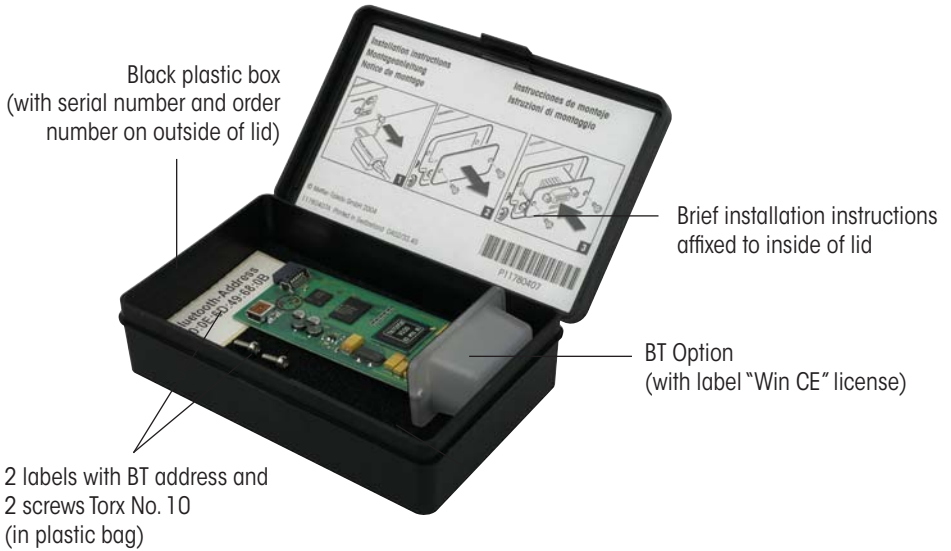
Note: The above procedure applies to all kind of BT connections but please be aware that connecting to a PC or PDA requires some additional steps on the PC/PDA side. Please refer to the documentation that came with your operating system and/or contact your Mettler-Toledo distributor for particular "Application Notes".

2 Checking the delivery and installing the BT Option

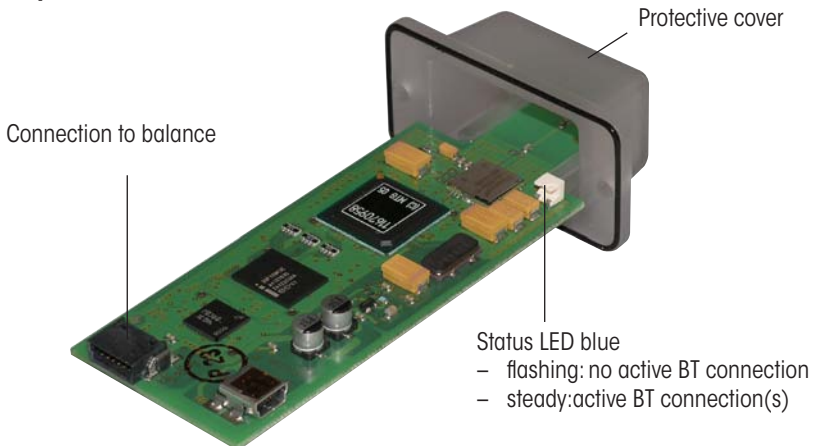
2.1 Checking the delivery

A standard delivery includes:

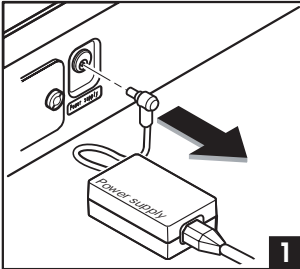
- Installation and operating instructions (this document)
- BT Option (11132530) in plastic box:



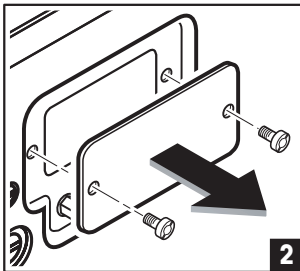
2.2 BT Option overview



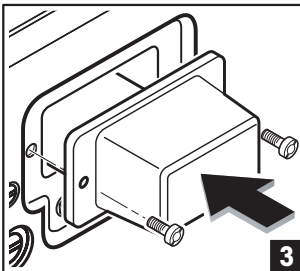
2.3 Installing the BT Option



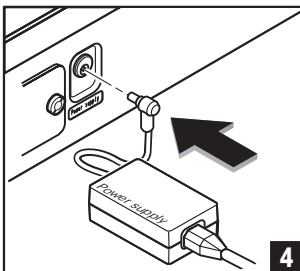
1. Before installing the interface option, the balance must be removed from the power (1).



2. Remove the cover of the interface slot using a TorxT-10 screwdriver (2).



3. The BT Option can now be installed by sliding it into the open slot (3).
Use the screws of the cover plate to fix the interface.

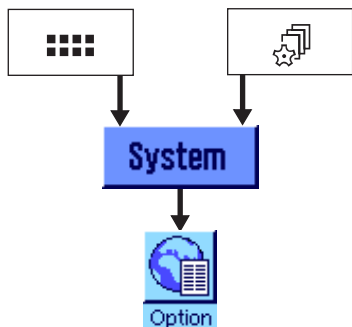




4. Connect the balance back to the power supply (4).

3 Configuring the BT Option

Before you can establish a connection to other BT devices, you must configure the BT Option in the balance. The BT Option is configured using the system setting "Option" of the balance software.

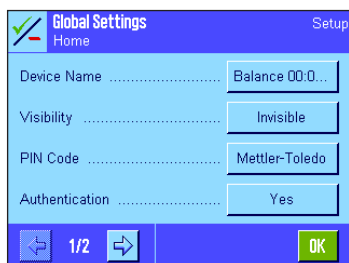
3.1 Calling up the configuration menu



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, click on "Option". The configuration menu (Global Settings) is displayed. It includes the following settings:



- "Device Name": Name of the BT Option
- "Visibility": Determines whether the BT Option is visible to other BT devices.
- "PIN Code": PIN code used for pairing BT devices
- "Authentication": Determines whether or not the BT Option requires other BT devices to confirm the PIN code.



- "Pairing Info": Sets up or deletes initial connection data of BT devices.
- "Encryption": Determines whether or not data transferred between BT devices will be encrypted.
- "Show Connections": Displays a list of existing BT connections and their status.

Detailed information of the individual settings in the configuration menu can be found in the following section.

3.2 Settings in the configuration menu



“Device Name”

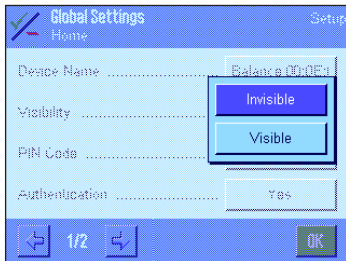
Note: This option is available only if no BT connection is active. As soon as a connection has been established to a peripheral device, the device name can no longer be changed.

As with all BT devices, the BT Option is identified by a twelve-digit hexadecimal figure and a name. The selected name will appear in the BT setup dialog of other BT devices (assuming there is an existing connection or, in case no connection has been established yet, the BT Option has not been declared to be “invisible”, see next parameter).

You may change the name of the BT Option (max. 32 alphanumeric characters).

Note: Use standard characters A to z and numbers 0 to 9 (ASCII 20hex. to 7F hex.) only. Special characters must not be used.

Factory default setting: “Balance” + twelve-digit BT address



“Visibility”

Here you determine whether the BT Option should be invisible to other BT devices. For the initial setup of a BT connection (the so-called “pairing”) you should declare the BT Option to be “Visible” thus it can be detected by the other BT device. Thereafter, we recommend to make the BT Option “Invisible” again to prevent it from being seen by unauthorized BT devices (invisible devices do not appear in the device list of other BT devices as long as no pairing has taken place).

Factory default setting: “Invisible”

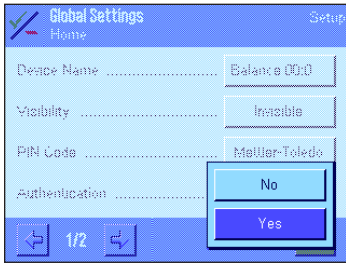


“PIN Code”

Note: This option is available only if no BT connection is active. As soon as a connection has been established to a peripheral device, the PIN Code can no longer be changed.

In most cases BT devices require to exchange a PIN code before pairing can take place. Note that the PIN code of both units must match, otherwise no communication will be possible. Here you define the PIN code that will be sent for **incoming connections** that require authentication (with the BT Option being the **server**). Deleting or changing the PIN code erases all existing pairing information!

Factory default setting: “Mettler-Toledo”

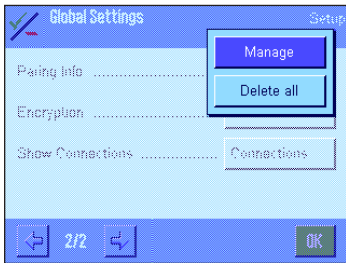


“Authentication”

Note: This option is available only if no BT connection is active. As soon as a connection has been established to a peripheral device, the authentication request can no longer be changed.

Authentication is the process of exchanging PIN codes. With the factory setting the BT Option requires other BT devices to send their PIN code before granting incoming communication requests.

Factory default setting: “Yes”

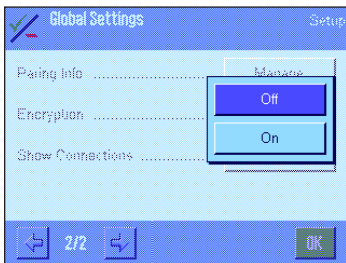


“Pairing Info”

Note: This option is available only if no BT connection is active. As soon as a connection has been established to a peripheral device, the pairing information is no longer accessible.

Pairing is the initial setup of a connection between two BT devices where they establish a trusted relationship. The information gathered upon pairing is permanently stored in the devices. The “Manage” setting simply means that the BT Option automatically exchanges pairing information (e.g. PIN code) with other BT devices as soon as they are detected. In some particular circumstances (e.g. system hangs, or for special configurations) it might be necessary to delete all pairing information stored in the BT Option using the “Delete all” item. This removes all existing pairing information from the BT Option (pairing will then take place again upon the next attempt to establish the connection).

Factory default setting: “Manage”

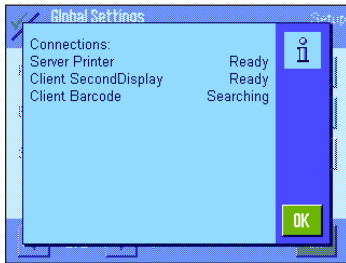


“Encryption”

Note: This option is available only if no BT connection is active. As soon as a connection has been established to a peripheral device, encryption can no longer be activated or deactivated. Furthermore, encryption requires a PIN code (which is used for encryption). Encryption of data will take place only if this feature is supported by both devices and it has been activated on at least one of them.

For secure transmission, the data exchanged between BT devices may be encrypted. If encryption is active, other BT devices may possibly intercept data but they cannot use it.

Factory default setting: “Off”



“Show connections”

This menu item displays a list of all existing BT connections (i.e. connections for which pairing information is available) and their respective status:

- “Client xx”: The BT Option acts as the client (master) for the respective connection (xx = name of the peripheral device).
- “Server xx”: The BT Option acts as the server (slave) for the respective connection (xx = name of the peripheral device).
- “Ready”: Connection is active
- “Searching”: BT Option is trying to establish a connection to the BT device (device and service are defined correctly).
- “Offline”: The connection has been configured incorrectly (no device or service defined).

Note:

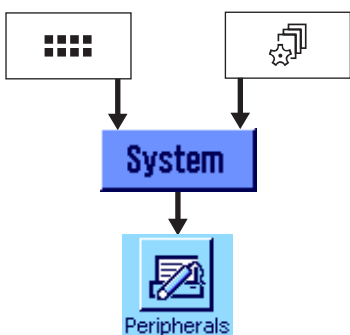
- The information on current connections is updated when you enter the global settings. If you wish to update the information you will have to quit this menu item and launch the global settings again (clicking on “Option” from within the system settings, see section 3.1).
- BT peripherals that are being searched for an extended period may affect the performance of data transmission to other BT devices as the search consumes part of the BT bandwidth. We recommend to deactivate such connections (see section 4.2).



4 Configuring, activating and resetting BT connections

This section describes how to configure and activate a connection between the XP/XS balance using BT Option and a BT peripheral device, and how to interrupt and then reestablish a BT connection, and how to reset a BT connection.

4.1 Configuring and activating a BT connection

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

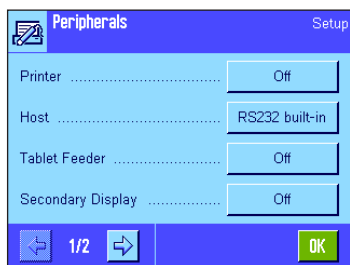


Press button «» to select the application menu or press button «» to select the user settings menu.

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

From system settings, press the button “**Peripherals**”.

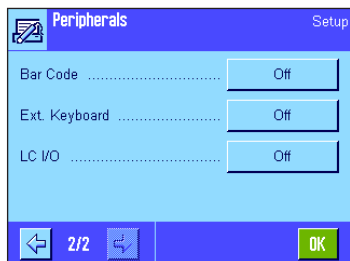
Note: When the “Peripherals” menu is called up for the first time, the balance initializes the peripheral devices. This may take several seconds. During this period, the message “Initializing peripheral devices ...” is displayed.



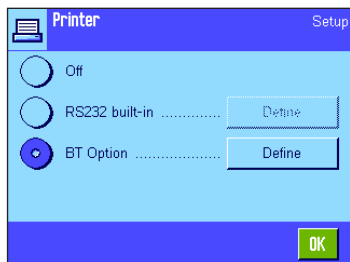
This menu displays the peripheral devices supported by the balance and provides information about the particular connections.

The labels of the buttons indicate the interface used for connection between the balance and the respective peripheral device:

- “**Off**”: No connection defined.
- “**RS232 Built-in**”: Connection via the standard built-in RS232C interface of the balance
- “**BT Option**”: Connection via the BT Option.

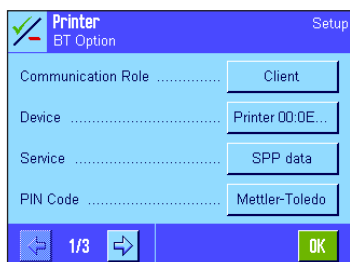


Note: The “BT Option” item is available for all peripheral devices in the list although Mettler-Toledo currently does not offer BT versions of the tablet feeder, the external keyboard and the LC-I/O. Nevertheless, you may connect these devices to the BT Option using special adapters (such as, for instance, a RS-to-BT converter). However, connecting such devices is at the user’s own risk and is not officially supported by Mettler-Toledo.



Press the button next to the type of peripheral device (e.g. printer, auxiliary display), for which you would like to configure a BT connection (in this example the printer was chosen).

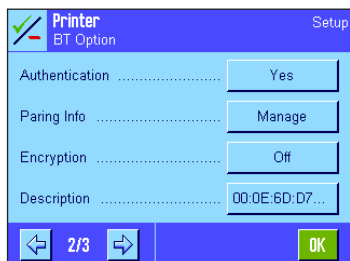
Select the "BT Option" and then press the button "Define".



The configuration menu for the BT connection is displayed. The structure of the menu and the available menu items are the same for all supported peripheral devices.

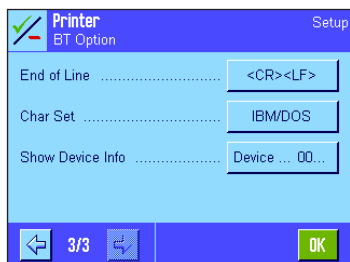
Please note that the opposite sample images show a connection that has been established already. When launching this menu for the first time, some items may not be accessible (button labels are gray) because the connection has not been set up yet.

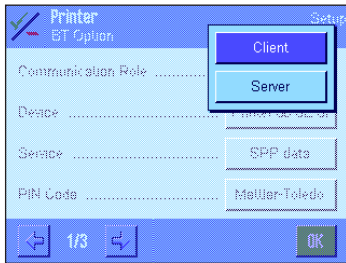
Press the relevant button to call up the setting you wish to edit.



Once a setting has been confirmed, the display returns to the configuration menu.

A detailed description of all settings in the configuration menu is given below.





“Communication Role”

For communication with other BT devices the balance can either act as “Client” or “Server”. In BT terminology, a client is the active part, i.e. the one that establishes and controls communication and sets up the respective rules. The server has a passive role, it just waits for the requests received from a client and answers them (in this case the PIN code entered in the global settings will be used for authentication, see section 3.2).

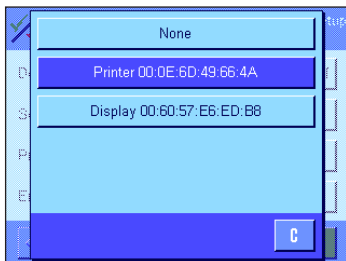
For peripherals such as the BT-P42 printer or the BT-BLD secondary display you need to select “Client” as in this case the balance takes the active role. In case of a Host connection (to a PC) the balance may either be the client or the server, depending on your particular requirements. For more information on client/server, network and host connection issues please consult section 1.

If you define the balance to act as a server, the majority of settings become inaccessible because the respective settings are defined on the client side, i.e. by the other BT device.

Factory default setting: “Client”

“Device”

This setting is used to determine for which BT device the connection is to be established.

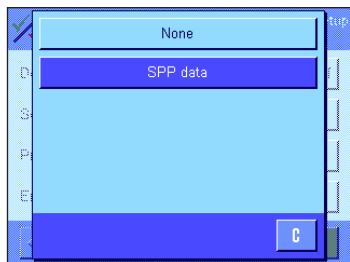


Once the setting has been called up, the BT Option searches for BT devices within the receiving range, from which it is receiving a signal. This may take some time. During the search period, the message “Please wait ... searching devices” appears.

A list is then displayed which details the available devices (see figure). Select the desired device from the list and wait until the configuration menu appears again (may take several seconds).

Note: The list may also include devices for which a connection has already been configured, but where the connection is currently not active (interrupted, see section 4.2).

Note: If the desired device does not appear on the list, press the button “None” or “C”. The display returns to the configuration menu. Then make sure the respective device is switched on, it is not in “Sleep mode” (this is sometimes the case for bar code readers), it is not set to “invisible” and it is within the range covered by the BT Option (relocate the device, as required). After the problem has been resolved, call up the “Device” setting once again.



“Service”

This setting is used to determine the service that is to be used for communication with the external BT device.

Once the setting has been called up, the BT Option determines which services are made available by the assigned BT device. This may take some time. During the search period, the message “Please wait ... searching services” appears.

A list is then displayed which details the services supported by the peripheral BT device. From the list, select the service that is to be used for the **serial transmission of data** (made available by the “**Serial Port Profile**” which is the only BT profile supported by the BT Option). Wait until the configuration menu reappears (may take several seconds).

Note: The name of the “serial transmission of data” service is not the same for all BT devices (for instance, it is called “SPP data” for the BT-P42 Printer and the BT-BLD Secondary Display but “ZV-AT:” for the BT-100 Barcode Reader). The exact name of the service can be found in the instructions for the relevant device. If an incorrect service is selected, then a connection cannot be established at a later stage to the peripheral device.

Note: There are BT devices where the available services are only displayed once the PIN code has been entered (see following setting).

Note: For connections to a PC make sure you have started the appropriate COM port connection on the PC, otherwise the PC will not communicate the available services.



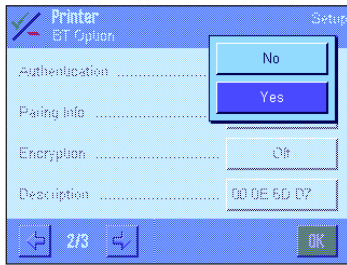
“PIN Code”

This setting determines the “PIN Code” to be used for communication with the selected peripheral device. You must enter the PIN code used by the peripheral device. This can be found in the documentation that came with the device (or probably on a sticker affixed to the device itself or to the packaging). If the PIN codes do not match, communication will not be possible, assuming authentication (exchange of PIN codes) is required (see next menu item).

Note: The factory setting of this menu item (“Mettler-Toledo”) reflects the PIN code of the METTLER TOLEDO BT-P42 Printer and the BT-BLD Secondary Display. Note that the Gryphon BT-100 Barcode Reader uses a different PIN Code (“1234”).

Note: If the peripheral device does not support authentication using a PIN code or if authentication is disabled on the remote device, then you should delete the present PIN code.

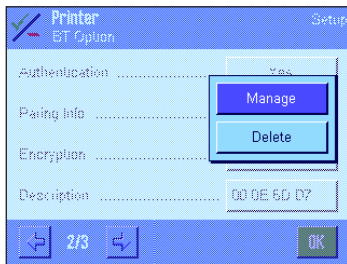
Factory default setting: “Mettler-Toledo”



“Authentication”

Authentication is the process of exchanging PIN codes. With the factory setting (“Yes”) the balance requires the peripheral BT device to send its PIN code before granting communication. If the peripheral device does not support authentication or has no PIN code you should set authentication to “No”. Note: Even if you disable authentication, the remote BT device may still require it, depending on its local settings.

Factory default setting: “Yes”

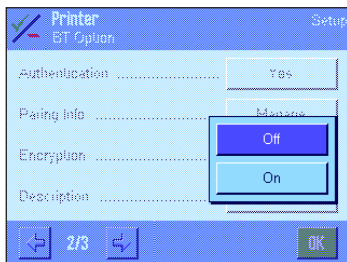


“Pairing Info”

This menu item is available only if a PIN code and/or pairing information is available.

Pairing is the initial setup of a connection between two BT devices (includes selecting the remote device and choosing the appropriate service). The information gathered upon pairing is permanently stored in the devices. The “Manage” setting simply means that the balance automatically exchanges pairing information (e.g. PIN code) as soon as the peripheral BT device and the appropriate service have been selected. In some particular circumstances (e.g. communication issues) it might be necessary to delete the pairing information of a particular connection using the “Delete” item. This removes the existing pairing information for that particular connection (pairing will then take place again upon the next attempt to establish the connection, i.e. after having selected the peripheral and the suitable service).

Factory default setting: “Manage”



“Encryption”

Note: Encryption requires a PIN code (which is used for encryption), otherwise this menu item will not be available. Furthermore, encryption will take place only if this feature is supported by both devices and it has been activated on at least one of them.

For secure transmission, the data exchanged between the balance and the peripheral BT device may be encrypted. If encryption is active, other BT devices (not being part of the current connection) may possibly intercept data but they cannot use it.

Factory default setting: “Off”



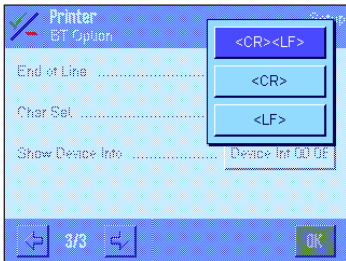
“Description”

This menu option works for recent Mettler-Toledo BT peripherals only! The currently available BT peripherals from Mettler-Toledo (namely the BT-P42 Printer, the BT-BLD Secondary Display and the Gryphon BT-100 Barcode Reader) have no user interface that would allow changing their standard names. That is why this option has been implemented here.

Even though the Mettler-Toledo BT peripherals have a name which includes the device type (e.g. “Printer” or “Display”) and the twelve-digit BT address called the **description**.

The device type cannot be changed but you may modify the description in case you do not like the hexadecimal BT address being part of the name. The description can include a maximum of 32 alphanumeric characters.

Once confirmed, the description is written back to the peripheral device. If a problem occurs during this procedure, the balance will issue the message “Can’t set description”.



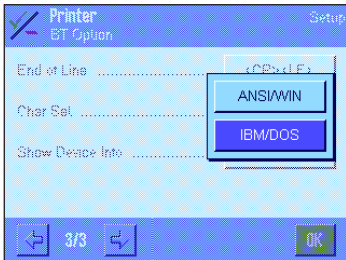
“End of Line”

This setting is used to determine the end of line character for the transmission of data. This setting is **always available**, even if the BT Option acts as a “**server**” for the current connection.

Available options: <CR><LF>, <CR> or <LF>

Factory default setting: <CR><LF>

Note: Detailed information about the appropriate end of line character can be found in the instructions of the respective peripheral device.



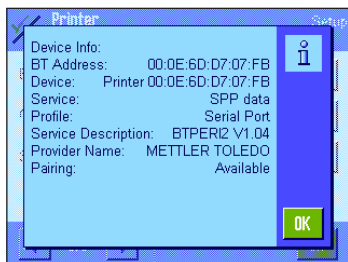
“Char Set”

This setting is used to determine the character set to be used for data transmission. This setting is **always available**, even if the BT Option acts as a “**server**” for the current connection.

Available options: IBM/DOS (e.g. for printer BT-P42) or ANSI/WIN (e.g. for BT-BLD display)

Factory default setting: Depending on the peripheral device:
Printer: IBM/DOS
Others: ANSI/WIN

Note: Detailed information about the appropriate character set can be found in the instructions of the respective peripheral device.



“Show Device Info”

This menu item is accessible only if the current peripheral device acts as a “client” for the current connection.

Select this menu item to display information about the current peripheral device (note that the). This includes:

- BT address
- Device name
- Selected service
- Profiles supported by the device
- Service description (if provided by the device)
- Manufacturer’s name (if provided by the device)
- Information on pairing (whether or not pairing between the balance and the peripheral device has taken place). If no pairing information is present this will read “Not available”.

Once all settings have been determined in the configuration menu, press “OK”. The settings are stored.

If you want, you can repeat the procedure described in this section for other peripheral devices (e.g. secondary display, bar code reader, etc.), otherwise press “OK” several times until the balance returns to normal weighing mode.

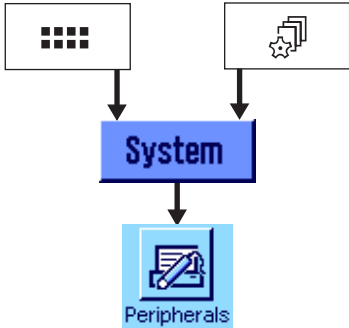
Final checks



Check the proper functioning of all BT peripheral devices. For METTLER TOLEDO peripheral devices, the blue LED which is continuously lit, indicates that the peripheral device is actively connected to the BT Option (Note: as soon as a connection is active, the respective Mettler-Toledo peripheral device is no longer visible to other BT devices).

You may use the menu item “Show Connections” in the configuration menu of the BT Option (see section 3.2) to display the status of all defined BT connections.

4.2 Deactivating/activating an active BT connection

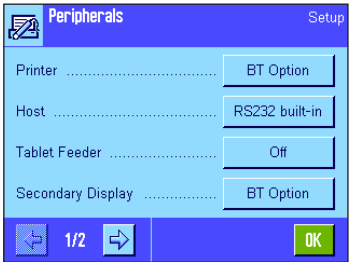
An existing BT connection can be deactivated and then reactivated at any time. This may be required if you wish to change the global settings of the BT Option (see section 3.2) because most of the menu items are available only if there is no active connection. Furthermore, connections to BT peripherals that do not respond should be deactivated to prevent the BT Option from permanently searching for them (which consumes BT bandwidth). The same applies to devices that are not being used, as every active connection (even if the peripheral device is not used) consumes a certain amount of BT bandwidth.



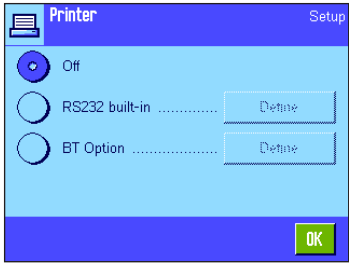
Press button «» to select the application menu or press button «» to select the user settings menu.

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

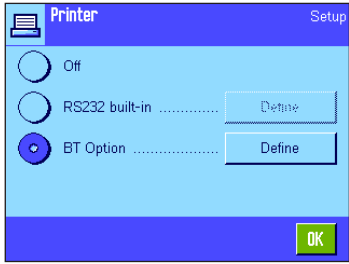
From system settings, press the button "Peripherals".



In the selection menu, press the button of the peripheral device, for which the BT connection is to be deactivated or activated (e.g. the "Printer").



Select "Off" and press the "OK" button if you want to interrupt the BT connection to the relevant peripheral device, or ...

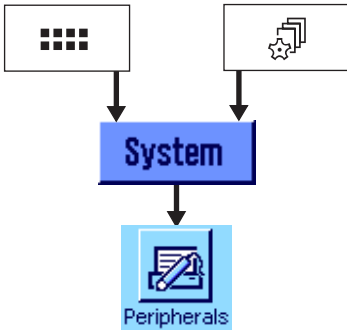


...select "BT Option" and press the "OK" button if you want to restore the BT connection to the respective peripheral device.

4.3 Resetting a BT connection

The BT Option permanently stores the configuration data of all BT connections (the so-called "pairing information"). This is why devices for which the connection has been deactivated (see section 4.2) still appear in the list of available devices. To remove a device that is no longer being used from the list, the respective BT connection has to be reset. This deletes the respective pairing information. Proceed as follows:

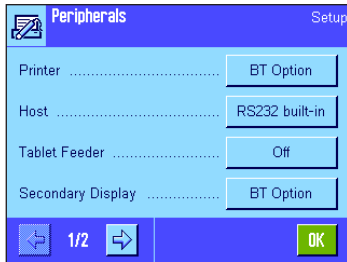
Deactivate the BT connection to the relevant peripheral device as described in section 4.2 and then switch off the device.



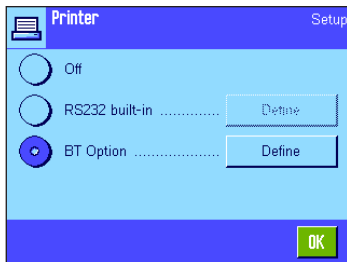
Press button to select the application menu or press button to select the user settings menu.

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

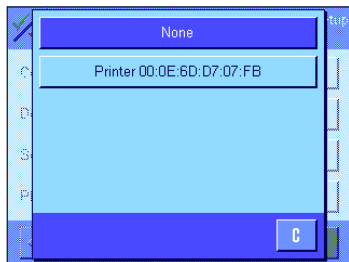
From system settings, press the button **"Peripherals"**.



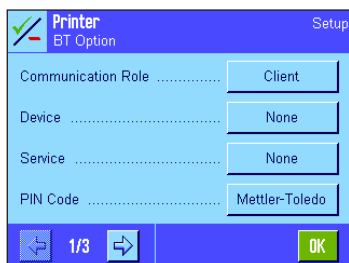
From the selection menu, select the peripheral device for which you want to reset the connection (e.g. "Printer").



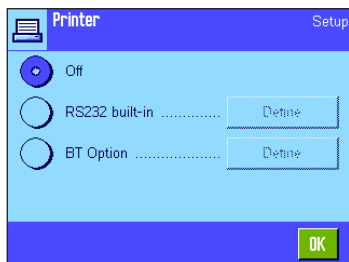
Select the "BT Option" and then press the button "Define".



In the configuration menu, select the "Device" setting. From the list of available devices (which is displayed following a search process), press the button "None".



Wait until the configuration menu appears again (may take several seconds). The connection has now been reset, the settings "Device" and "Service" are set to "None". Press the "OK" button.



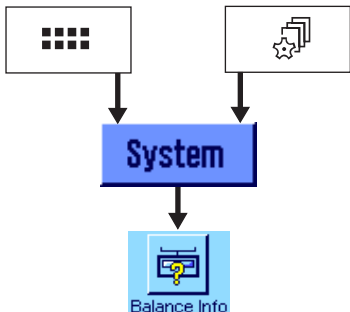
Select "Off" and then press the "OK" button. The balance returns to the selection menu for the peripheral device.




Note: Performing a "Master Reset" for the balance ("System" -> "Administrator" -> "Master Reset") also resets the BT Option to the factory default settings and you will have to set up the BT configuration again from scratch (this includes configuring the BT Option as well as setting up the connections as described in sections 3 and 4). Before you perform a "Master Reset", please read the relevant notes in the operating instructions for your balance.

5 Additional information

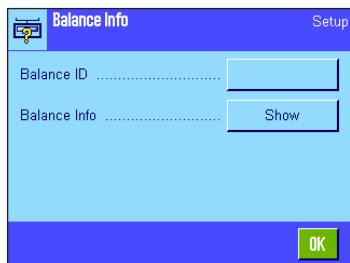
Additional information on the BT Option can be found under the system setting "Balance Info".



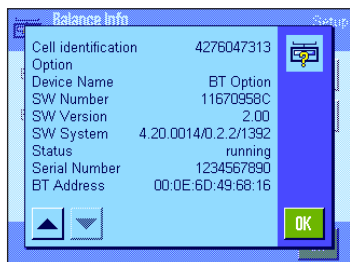
Press button «» to select the application menu or press button «» to select the user settings menu.

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.



Use the arrow key to scroll down the list until the following BT Option information is displayed:

- Device Name
- Software Number
- Software Version
- Software System
- Status
 - Possible operating states include:
 - running: BT Option OK
 - shutdown: BT stack not active **
 - ready: BT stack not active **
- Serial Number
- BT Address

** Indicates a problem that can only be eliminated by restarting the balance (switch balance off and then on again).

6 Appendix

6.1 Factory global settings

The following table shows the default global settings of the BT Option (see section 3)

Setting	Factory setting	Setting range
Device Name	"Balance" + BT address	"Balance" + ASCII (20hex. to 7Fhex.)
Visibility	Invisible	Invisible / Visible
PIN Code	Mettler-Toledo	ASCII (20hex. to 7Fhex.)
Authentication	Yes	Yes / No
Pairing Info	Manage	Manage / Delete all
Encryption	Off	Off / On
Show connection	Connections...	

6.2 Factory settings for peripherals

The following table shows the default settings for the peripherals (see section 4). The default settings are the same for all channels (peripherals).

Setting	Factory setting	Setting range
Communication role	Client	Client / Server
Device	None	None / current devices in the BT range
Service	None	None / services available from the selected device
PIN Code	Mettler-Toledo	ASCII (20hex. to 7Fhex.)
Authentication	Yes	Yes / No
Pairing Info	Manage	Manage / Delete
Encryption	Off	Off / On
Description		as communicated by the selected device (available for MT peripherals only)
End of Line	<CR><LF>	<CR><LF> / <CR> / <LF>
Char Set	Printer: IBM/DOS Others: ANSI/WIN	ANSI/WIN or IBM/DOS
Show Device Info	Device ... No ...	Information on configured device

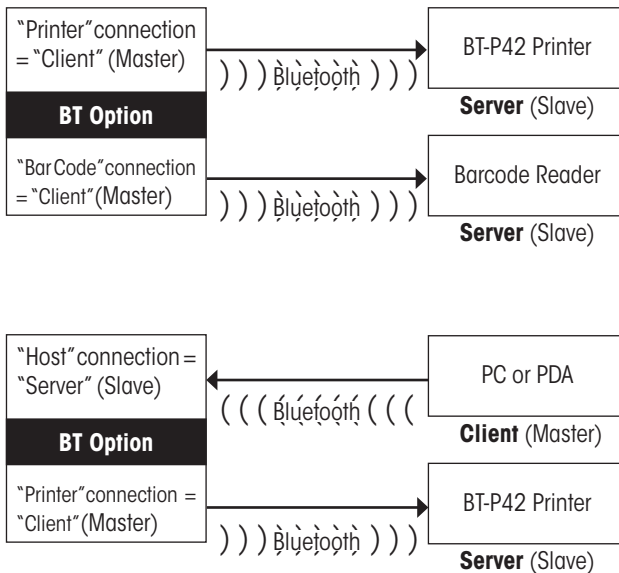
Note: A Master Reset of the balance clears all pairing information stored on the BT option and resets all above settings to their factory default values.

6.3 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	10 meters in open air
Input sensitivity	improved -80 dBm
Modulation	GFSK Modulation with frequency hopping procedure
Bluetooth	
Version	1.2
Protocols	L2CAP, SDP, RFCOMM
Bluetooth Profile	Generic Access, Service Discovery, Serial Port Profile (SPP)
Role of BT Option	Client or Server for all peripherals

Typical "multipoint" configurations of BT Option (examples):



6.4 Accessories and ordering information

Accessories	Order No.
BT Option (point-to-multipoint)	11132530
BTS Option (point-to-point)	11132535
BT-P42 Bluetooth printer	11132540
BT-BLD Bluetooth auxiliary display with bench stand	11132555
MT Gryphon BT100 CS Barcode Reader	21901298
Standard Personal Computer with Bluetooth	commercially available

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Thank you.**



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