

DYNAMAG, DYNAMAX, eDYNAMO,
uDYNAMO, aDYNAMO, BULLET,
mDYNAMO, DYNAWAVE, tDYNAMO,
iDYNAMO 6

SCRA Devices
MTNET Demo Manual

November 2020

Manual Part Number:
D998200163-13

REGISTERED TO ISO 9001:2015

Information in this publication is subject to change without notice and may contain technical inaccuracies or graphical discrepancies. Changes or improvements made to this product will be updated in the next publication release. No part of this document may be reproduced or transmitted in any form or by any means, electronic or mechanical, for any purpose, without the express written permission of MagTek, Inc.

MagTek® is a registered trademark of MagTek, Inc.
MagneSafe® is a registered trademark of MagTek, Inc.
iDynamo™, and uDynamo are trademarks of MagTek, Inc.
eDynamo™, Dynamag, and DynaMAX are trademarks of MagTek, Inc.
The Bluetooth® word mark and logos are registered trademarks owned by Bluetooth SIG, Inc. and any use of such marks by MagTek is under license.

Microsoft®, Windows® and .NET® are registered trademarks of Microsoft Corporation.

EMV® is a registered trademark in the U.S. and other countries and an unregistered trademark elsewhere. The EMV trademark is owned by EMVCo, LLC. The Contactless Indicator mark, consisting of four graduating arcs, is a trademark owned by and used with permission of EMVCo, LLC.

All other system names and product names are the property of their respective owners.

Table 0.1 - Revisions

Rev Number	Date	Notes
10	January 5, 2017	Initial release
11	May 24, 2018	Added support for tDynamo and DynaWave.
12	January 30, 2019	Updated to correctly reference Bluetooth LE. Added device feature detection during connection and MSR head power control. Added battery level.
13	November 19, 2020	Added support for iDynamo 6.

SOFTWARE LICENSE AGREEMENT

IMPORTANT: YOU SHOULD CAREFULLY READ ALL THE TERMS, CONDITIONS AND RESTRICTIONS OF THIS LICENSE AGREEMENT BEFORE INSTALLING THE SOFTWARE PACKAGE. YOUR INSTALLATION OF THE SOFTWARE PACKAGE PRESUMES YOUR ACCEPTANCE OF THE TERMS, CONDITIONS, AND RESTRICTIONS CONTAINED IN THIS AGREEMENT. IF YOU DO NOT AGREE WITH THESE TERMS, CONDITIONS, AND RESTRICTIONS, PROMPTLY RETURN THE SOFTWARE PACKAGE AND ASSOCIATED DOCUMENTATION TO THE ADDRESS ON THE FRONT PAGE OF THIS DOCUMENT, ATTENTION: CUSTOMER SUPPORT.

TERMS, CONDITIONS, AND RESTRICTIONS

MagTek, Incorporated (the "Licensor") owns and has the right to distribute the described software and documentation, collectively referred to as the "Software."

LICENSE: Licensor grants you (the "Licensee") the right to use the Software in conjunction with MagTek products. LICENSEE MAY NOT COPY, MODIFY, OR TRANSFER THE SOFTWARE IN WHOLE OR IN PART EXCEPT AS EXPRESSLY PROVIDED IN THIS AGREEMENT. Licensee may not decompile, disassemble, or in any other manner attempt to reverse engineer the Software. Licensee shall not tamper with, bypass, or alter any security features of the software or attempt to do so.

TRANSFER: Licensee may not transfer the Software or license to the Software to another party without the prior written authorization of the Licensor. If Licensee transfers the Software without authorization, all rights granted under this Agreement are automatically terminated.

COPYRIGHT: The Software is copyrighted. Licensee may not copy the Software except for archival purposes or to load for execution purposes. All other copies of the Software are in violation of this Agreement.

TERM: This Agreement is in effect as long as Licensee continues the use of the Software. The Licensor also reserves the right to terminate this Agreement if Licensee fails to comply with any of the terms, conditions, or restrictions contained herein. Should Licensor terminate this Agreement due to Licensee's failure to comply, Licensee agrees to return the Software to Licensor. Receipt of returned Software by the Licensor shall mark the termination.

LIMITED WARRANTY: Licensor warrants to the Licensee that the disk(s) or other media on which the Software is recorded are free from defects in material or workmanship under normal use.

THE SOFTWARE IS PROVIDED AS IS. LICENSOR MAKES NO OTHER WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

Because of the diversity of conditions and PC hardware under which the Software may be used, Licensor does not warrant that the Software will meet Licensee specifications or that the operation of the Software will be uninterrupted or free of errors.

IN NO EVENT WILL LICENSOR BE LIABLE FOR ANY DAMAGES, INCLUDING ANY LOST PROFITS, LOST SAVINGS, OR OTHER INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE, OR INABILITY TO USE, THE SOFTWARE. Licensee's sole remedy in

the event of a defect in material or workmanship is expressly limited to replacement of the Software disk(s) if applicable.

GOVERNING LAW: If any provision of this Agreement is found to be unlawful, void, or unenforceable, that provision shall be removed from consideration under this Agreement and will not affect the enforceability of any of the remaining provisions. This Agreement shall be governed by the laws of the State of California and shall inure to the benefit of MagTek, Incorporated, its successors or assigns.

ACKNOWLEDGMENT: LICENSEE ACKNOWLEDGES THAT HE HAS READ THIS AGREEMENT, UNDERSTANDS ALL OF ITS TERMS, CONDITIONS, AND RESTRICTIONS, AND AGREES TO BE BOUND BY THEM. LICENSEE ALSO AGREES THAT THIS AGREEMENT SUPERSEDES ANY AND ALL VERBAL AND WRITTEN COMMUNICATIONS BETWEEN LICENSOR AND LICENSEE OR THEIR ASSIGNS RELATING TO THE SUBJECT MATTER OF THIS AGREEMENT.

QUESTIONS REGARDING THIS AGREEMENT SHOULD BE ADDRESSED IN WRITING TO MAGTEK, INCORPORATED, ATTENTION: CUSTOMER SUPPORT, AT THE ADDRESS LISTED IN THIS DOCUMENT, OR E-MAILED TO SUPPORT@MAGTEK.COM.

Table of Contents

Table of Contents 5

1 Introduction 6

2 How to Connect Bluetooth LE devices to a Windows Host..... 7

3 How to Connect to MTNET Demo 11

 3.1 Connect via USB Interface 11

 3.2 Connect via Bluetooth LE / LE EMV / LE EMVT Interface 12

 3.3 Connect via Serial Interface 13

4 How to use the MTNET Demo 14

5 How to use the MTNET OEM Demo via USB Interface 21

1 Introduction

This document provides instructions to use the MTNET Demo. It is part of a larger library of documents designed to assist Dynamag, DynaMAX, eDynamo, uDynamo, aDynamo, mDynamo, tDynamo, DynaWave and Secure Card Readers implementers, which includes the following documents available from MagTek:

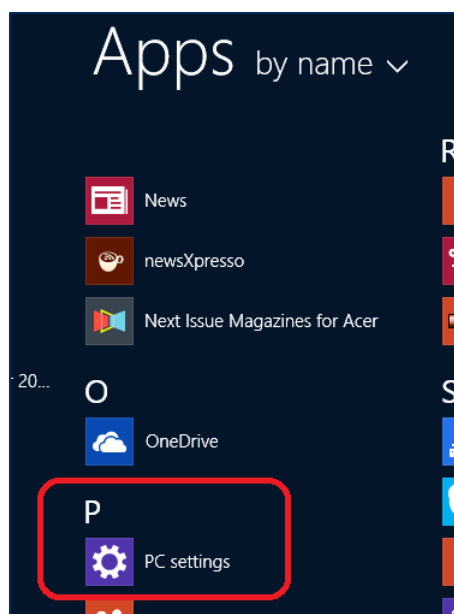
- ***D99875723 UDYNAMO, DYNAMAG, DYNAMAX, EDYNAMO, MDYNAMO, INSERT, DYNAWAVE PROGRAMMER'S MANUAL (.NET / UNIVERSAL WINDOWS)***

2 - How to Connect Bluetooth LE devices to a Windows Host

2 How to Connect Bluetooth LE devices to a Windows Host

To connect DynaMAX or eDynamo to a host with Windows 8.1 or higher and Bluetooth 4.0 hardware that supports Bluetooth LE, follow these steps:

- 1) If you are using an external Bluetooth adapter, install any required drivers and connect it to the host.
- 2) On the host, install and configure the software you intend to use with DynaMAX or eDynamo:
 - a) Make sure the host software is configured to look for the device on the proper connection.
 - b) Make sure the host software knows which device(s) it should interface with.
 - c) Make sure the host software is configured to properly interpret incoming data from the device. This depends on whether the device is configured to transmit data in GATT format or streaming format emulating a keyboard.
- 3) Make sure the DynaMAX's batteries are installed and have adequate charge. If using eDynamo, make sure the device has an adequate charge.
- 4) Test the batteries by powering on the DynaMAX or eDynamo device. Provided the device is not already paired, the Bluetooth Status LED will flash blue every two seconds for up to 60 seconds until pairing is complete. If the Bluetooth Status LED is solid blue, the device is already paired with a host. Unpair from the host it is already paired with before continuing.
- 5) Enter app mode, scroll down to **Apps by name**, and launch the Windows **PC Settings** app.

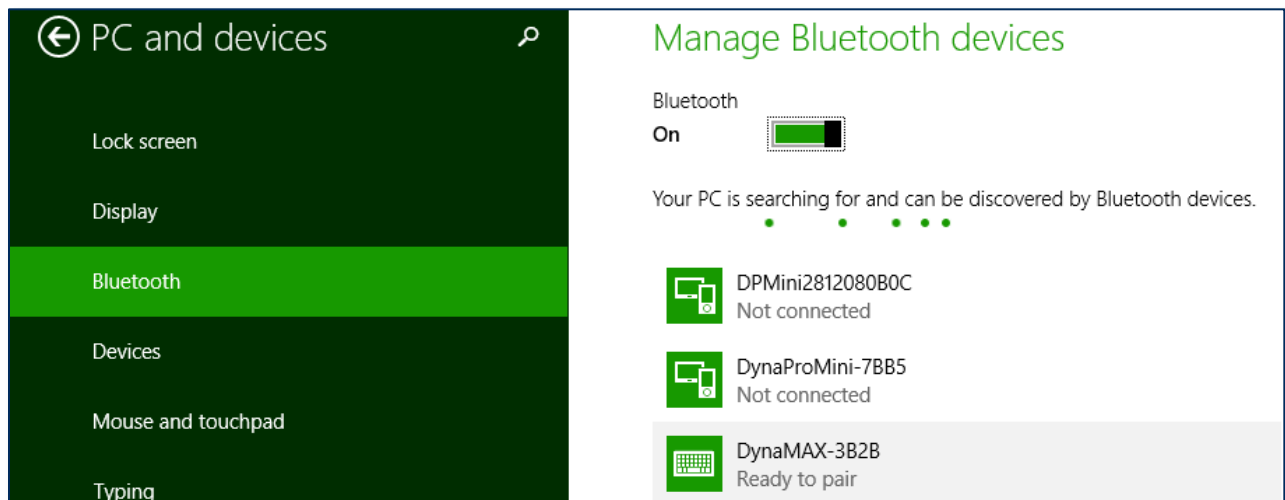


- 6) In the left side navigator, select **PC and devices** > **Bluetooth**.
- 7) Make sure Bluetooth is turned on and close the **PC and devices** app.
- 8) Launch the Windows **Manage Bluetooth Devices** app by following these steps:
 - a) Enter desktop mode by swiping in from the left side of the touchscreen.
 - b) Touch the Bluetooth icon in the system tray and select **Add a Bluetooth Device** (see Error! eference source not found.).

2 - How to Connect Bluetooth LE devices to a Windows Host



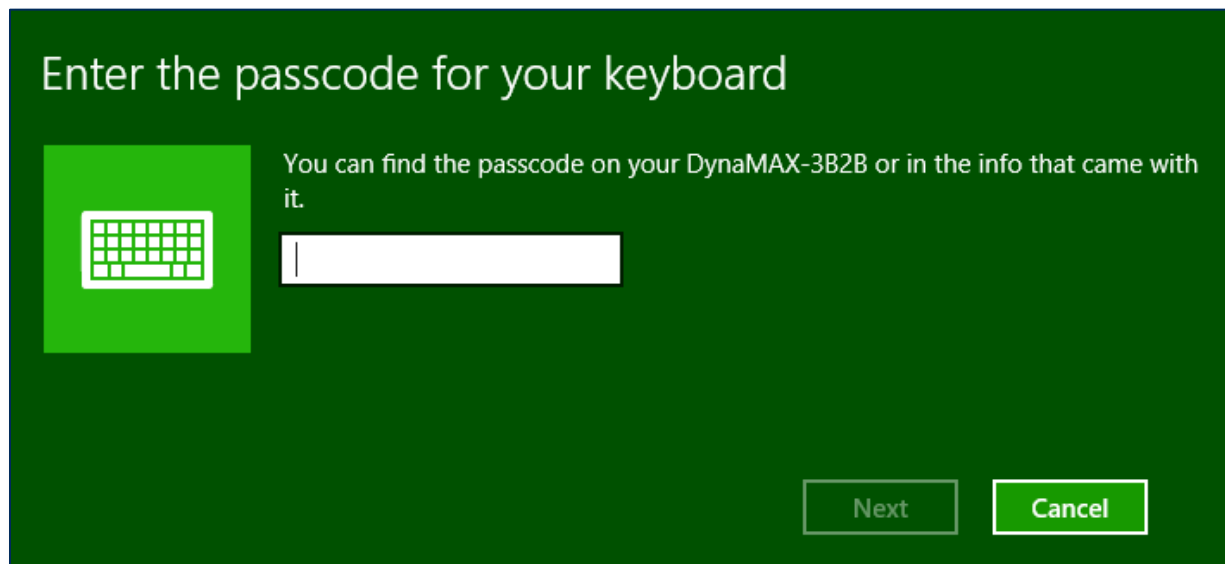
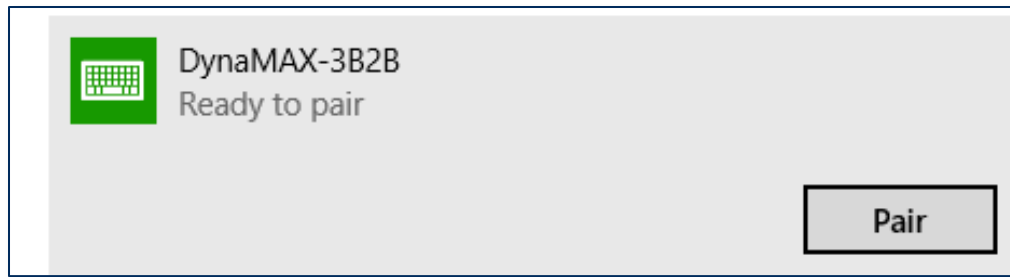
Launch Manage Bluetooth Devices App from Desktop Mode



Windows 8 Manage Bluetooth Devices App

- 9) Locate the serial number on the label on the bottom of the device. Note the final four digits.
- 10) Read through the list of pairable devices and locate the device called **DynaMAX-nnnn** or **eDynamo-nnnn**, where nnnn is the last four digits of the device's serial number (if the device does not show in the list, power it off then power it back on). Below the device name you should see the text **Ready to pair**.
- 11) Select the device and press the **Pair** button. If the device is configured to run in KB mode, Windows will prompt you **Enter the passcode for your keyboard**.

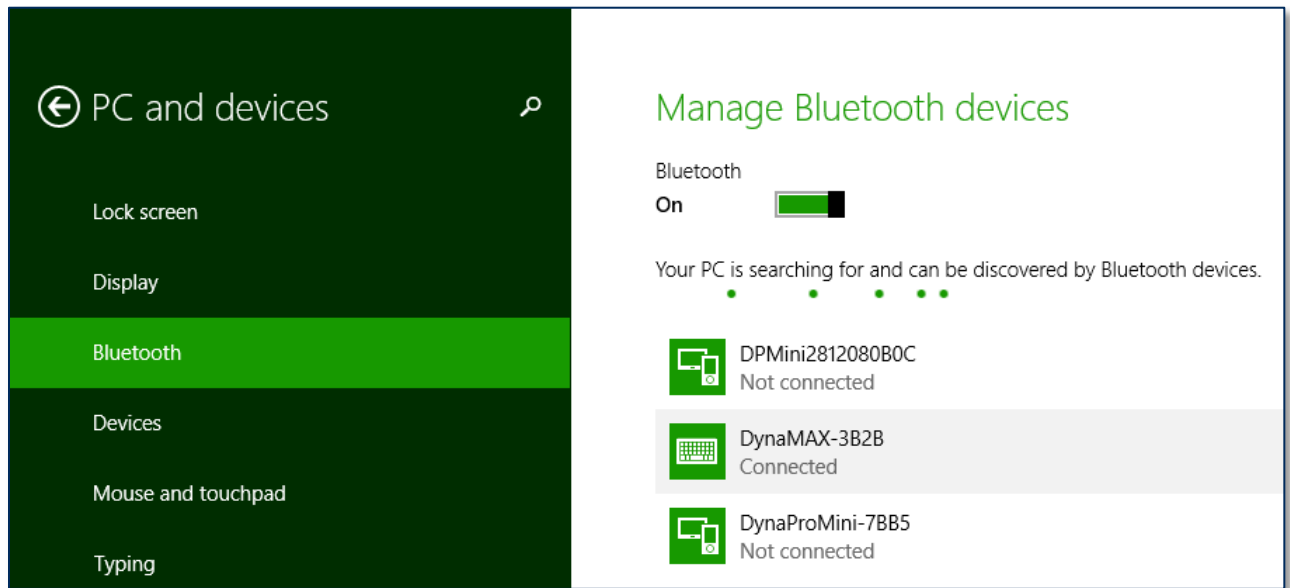
2 - How to Connect Bluetooth LE devices to a Windows Host



- 12) Enter default passcode **000000** (or the device's actual password if it has been configured differently), then press the **Next** button. Windows will return you to the **Manage Bluetooth devices** page. After a short period of time, you will see the text **Connected** below the device you are pairing with.

2 - How to Connect Bluetooth LE devices to a Windows Host

After a few seconds the device will disconnect, which is normal power-saving behavior.



- 13) Use the host software to test swiping a card. If you do not yet have host software and the device is configured to run in KB mode, open any text editor and swipe a card. The card contents should appear in the text editor.
- 14) The device consumes very little power when not transmitting card data, so it is not necessary to power off the device to conserve power. If the device appears as **Not connected** in the Windows list of Bluetooth devices, swiping a card should cause the device to reconnect briefly, transmit the card data, then disconnect.
- 15) Remember to change the default password. See the DynaMAX Programmer's Reference documents for details.

To unpair from the device:

- 1) Locate the device in the **Manage Bluetooth devices** window.
- 2) Press the **Remove device** button.

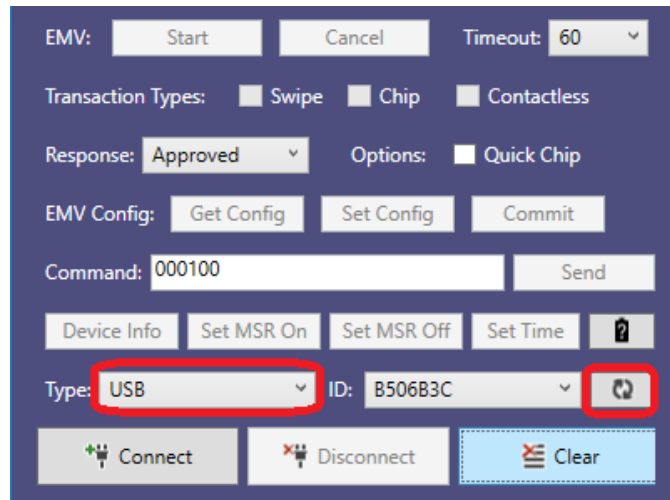
3 - How to Connect to MTNET Demo

3 How to Connect to MTNET Demo

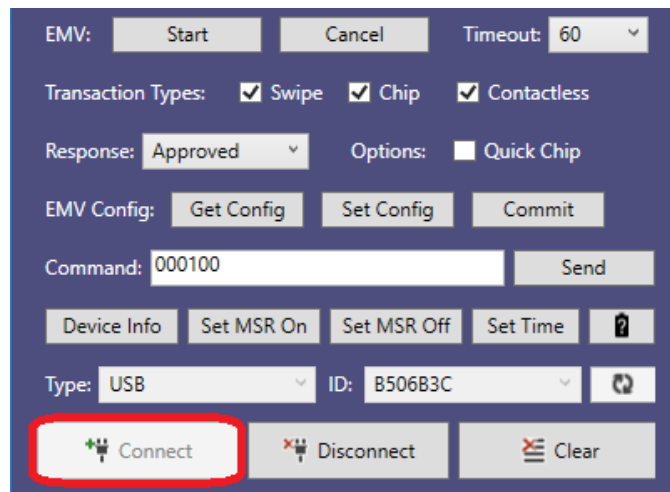
To connect via an interface listed in the Type box follow these steps:

3.1 Connect via USB Interface

- 1) Connect the device to the USB port of the Windows PC.
- 2) Launch the MTNET Demo, select **USB** as the device type in the **Type** list box, and press the **Scan** button to display a list of available devices.



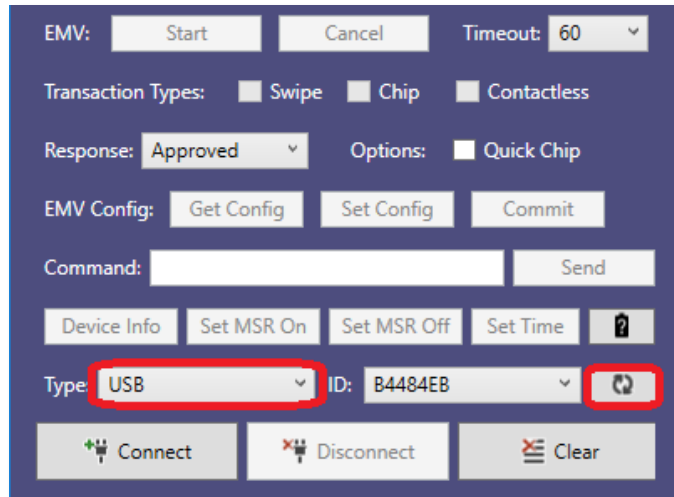
- 3) Select the Device ID and press the **Connect** button to open the device.



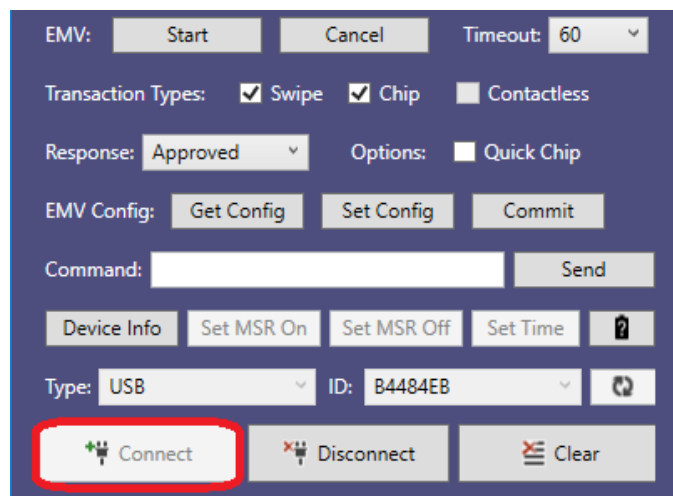
3 - How to Connect to MTNET Demo

3.2 Connect via Bluetooth LE / LE EMV / LE EMVT Interface

- 1) Pair the device to the Windows PC.
- 2) Launch the MTNET Demo and select either **Bluetooth LE**, **Bluetooth LE EMV**, or **Bluetooth LE EMVT** as the device type in the **Type** list box, press the **Scan** button to display a list of available devices.



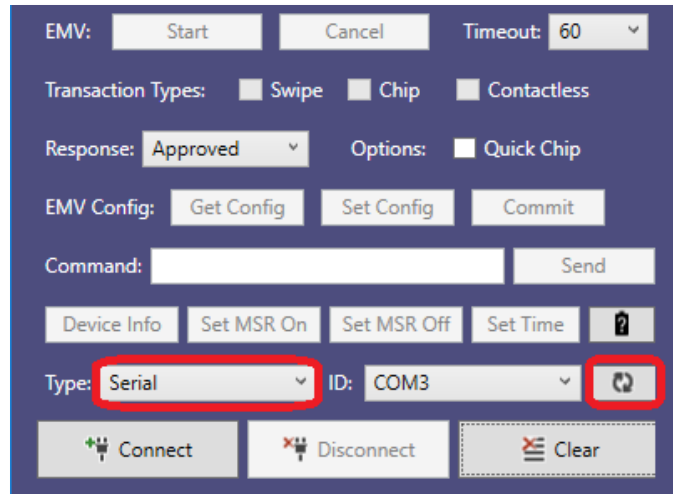
- 3) Select the Device ID and press the **Connect** button to open the device.



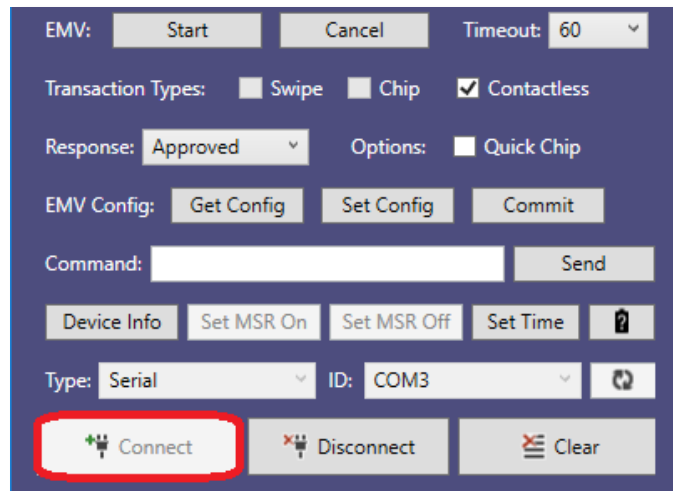
3 - How to Connect to MTNET Demo

3.3 Connect via Serial Interface

- 1) Pair the device to the Windows PC.
- 2) Launch the MTNET Demo and select **Serial** as the device type in the **Type** list box, press the **Scan** button to display a list of available Ports.



- 3) Select the Device ID and press the **Connect** button to open the device.



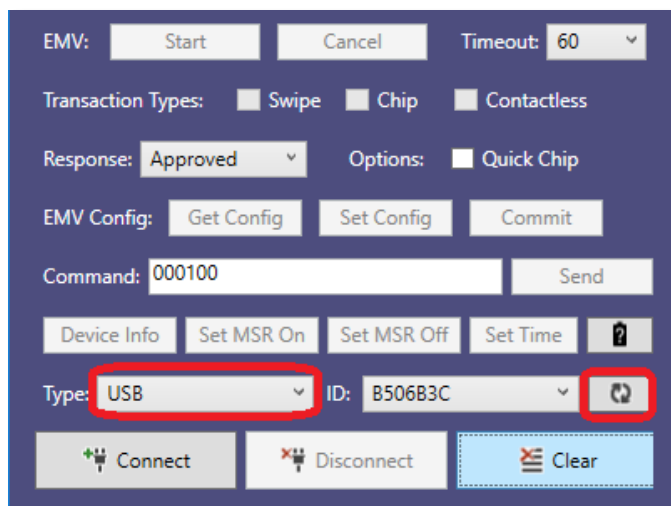
4 - How to use the MTNET Demo

4 How to use the MTNET Demo

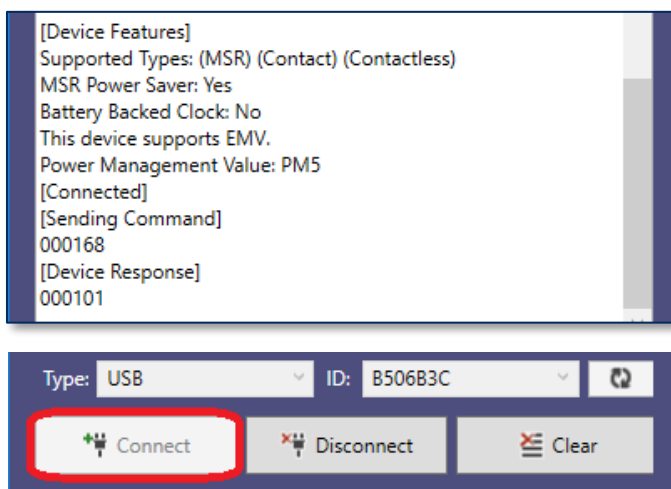
The following instructions detail how to use the MTNET Demo on Windows PC via USB interface. Same instructions apply to the other interface types.

MTNET Demo queries for device features upon connecting. Some demo features are disabled based on what is supported on the device. MTNET Demo does not automatically set MSR power or set Time.

- 1) Connect the device to the USB port of the Windows PC.
- 2) Launch the MTNET Demo, select **USB** as the device type in the **Type** list box, and press the **Scan** button to display a list of available devices.

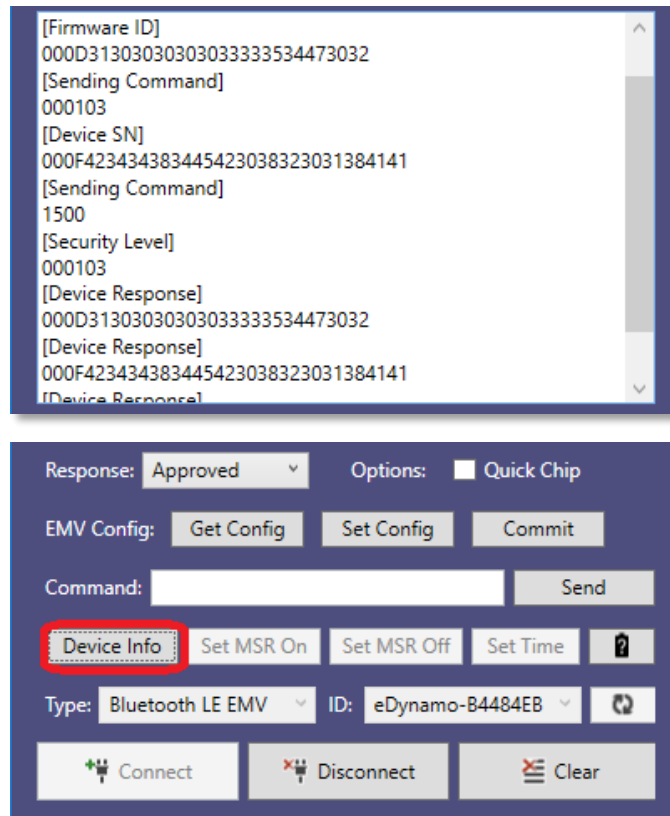


- 3) Select the Device ID and press the **Connect** button to open the device.

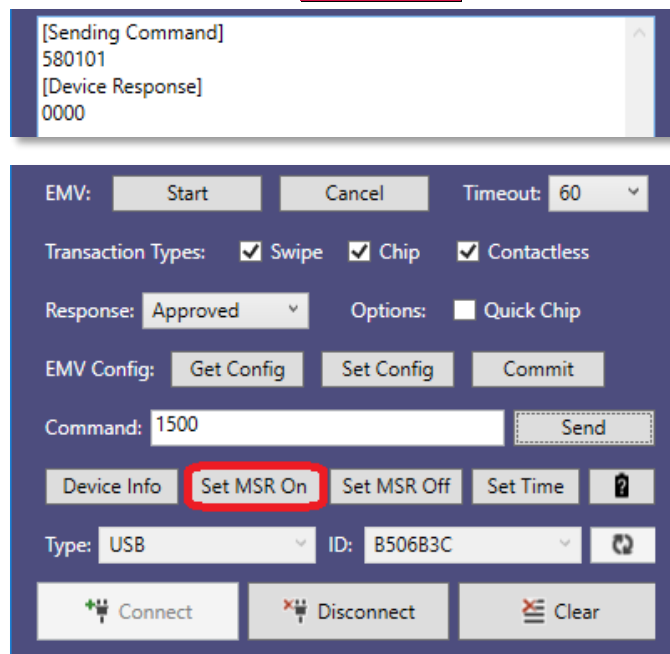


4 - How to use the MTNET Demo

- 6) To retrieve device information, press the **Device Info** button.

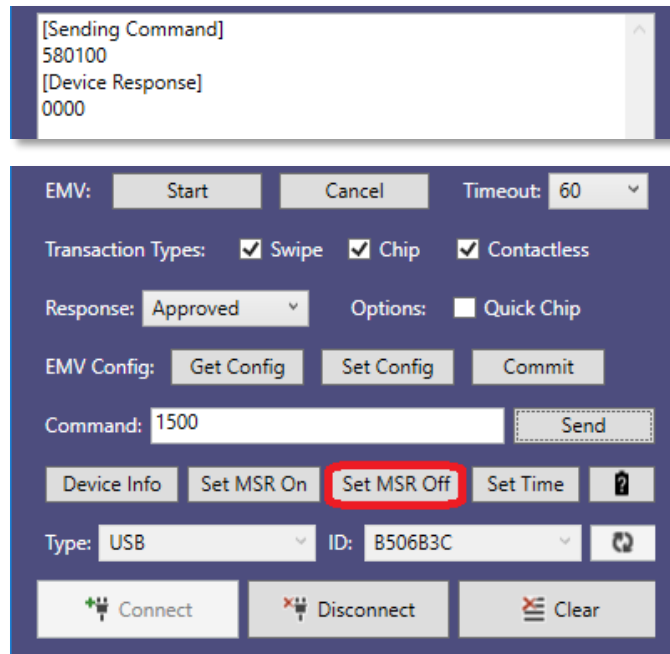


- 7) To set the MSR On for the device, press the **Set MSR On** button.

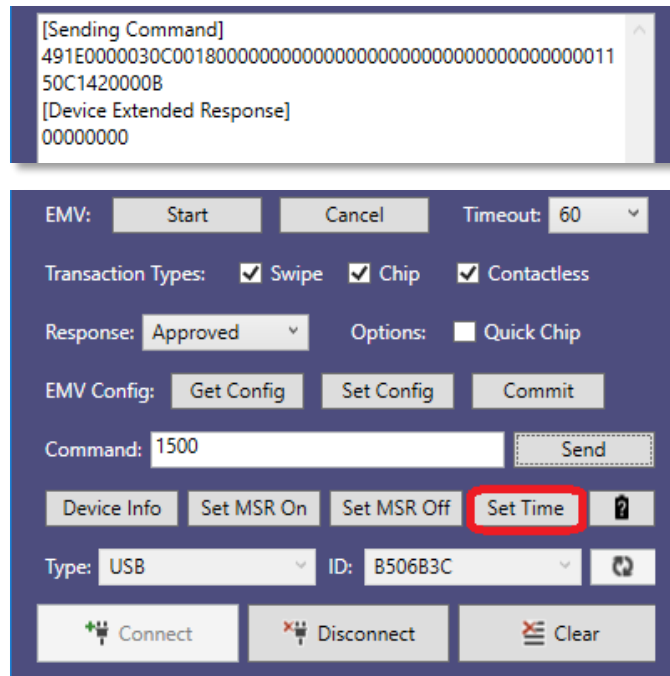


4 - How to use the MTNET Demo

- 8) To set the MSR Off for the device, press the **Set MSR Off** button.
Device will not send card data after swiping a magnetic stripe card but will during an EMV transaction.



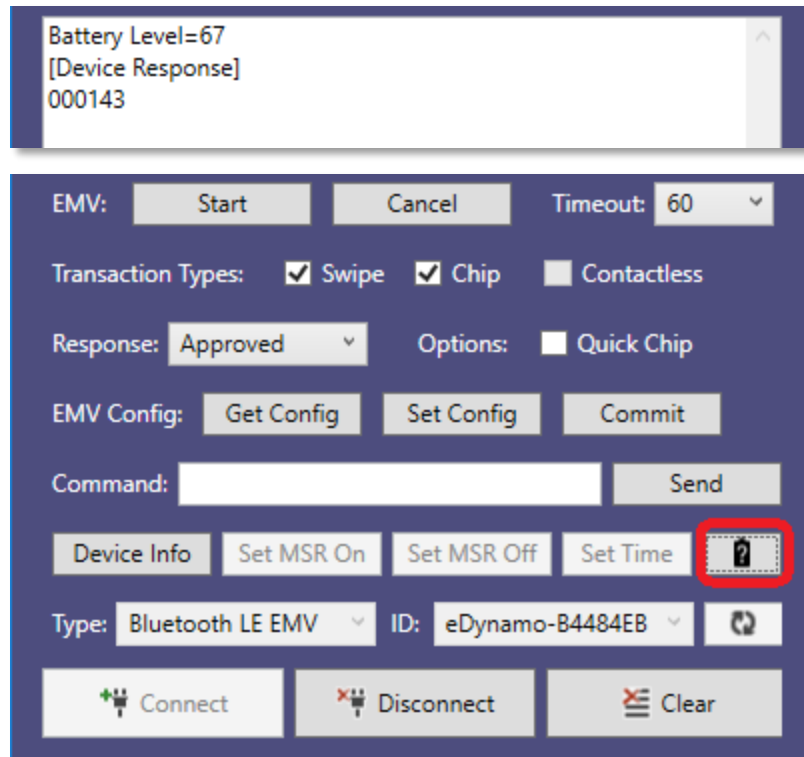
- 9) To configure the current PC date and time in devices which require a Date/Time be set after power up, press the **Set Time** button before performing an EMV transaction.



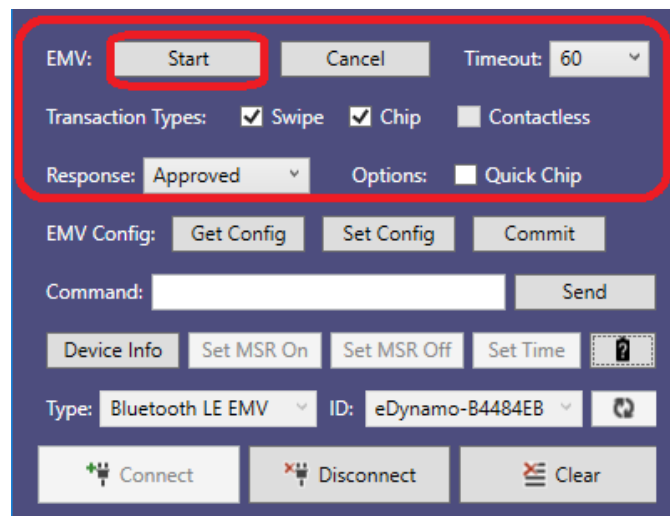
4 - How to use the MTNET Demo

10) To retrieve the battery level of the device, press the Battery button.

Note: When powered by USB, the level returns as 100%.

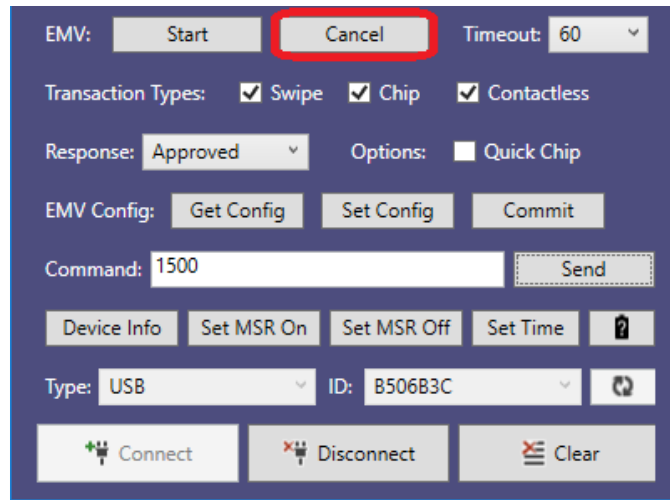


11) If you have an EMV device and want to read a chip card, select from the **Transaction Types**, **Response**, **Options**, **Timeout**, and then press the **Start** button to begin an EMV transaction.

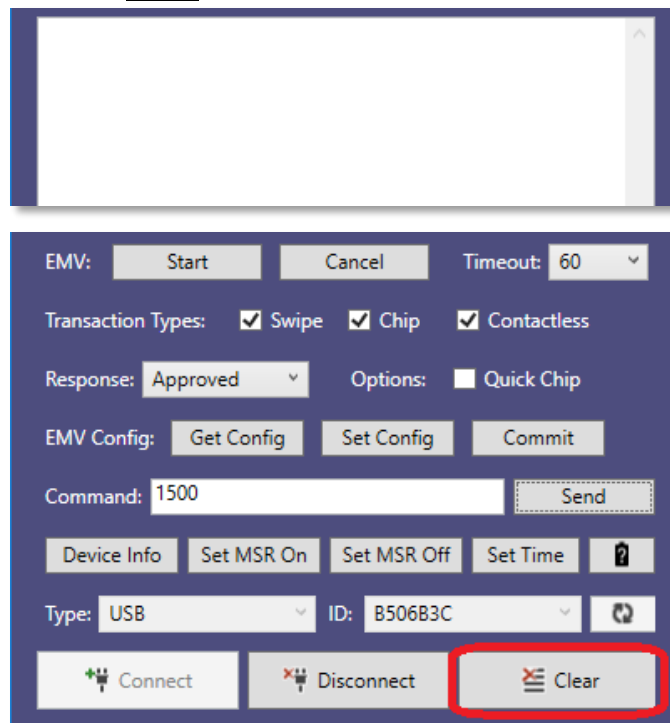


4 - How to use the MTNET Demo

12) If you want to cancel the EMV transaction, press the **Cancel** button. Note, the cancel feature will only work before the card is presented.

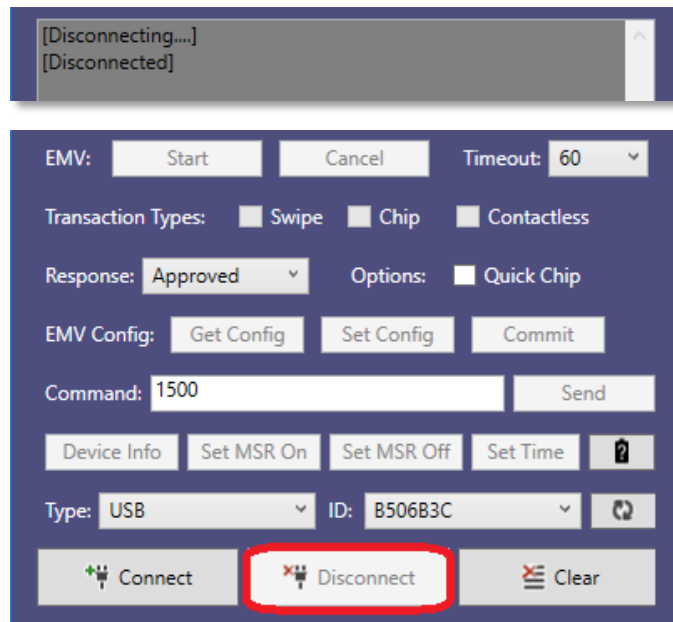


13) To clear the screen, press the **Clear** button.



4 - How to use the MTNET Demo

14) To close the device, press the **Disconnect** button.



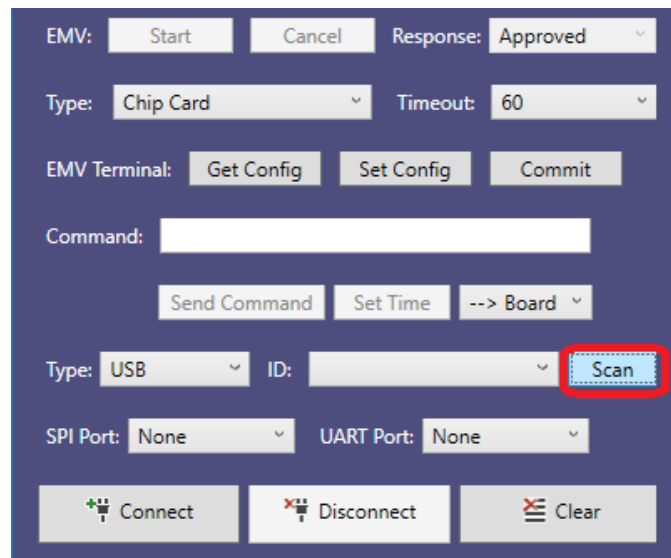
5 - How to use the MTNET OEM Demo via USB Interface

5 How to use the MTNET OEM Demo via USB Interface

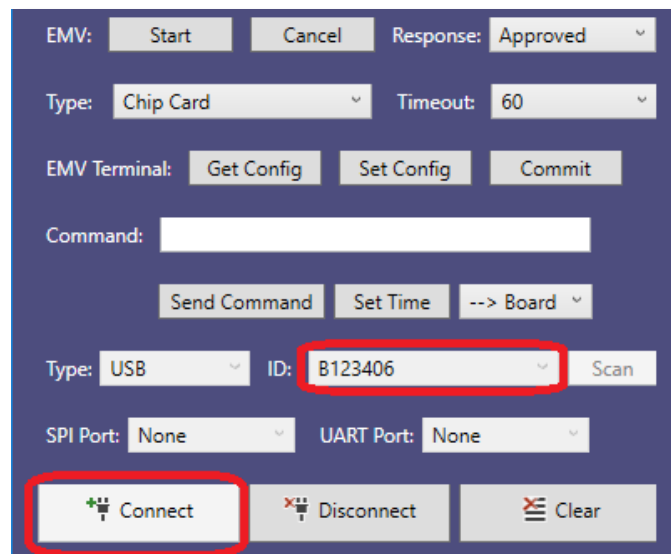
The following instructions detail how to use the MTNET OEM Demo on Windows PC via USB interface. Same instructions apply to the other interface types.

MTNET OEM Demo queries for device features upon connecting. Some demo features are disabled based on what is supported on the device. MTNET OEM Demo does not automatically set Time.

- 1) Connect the device to the USB port of the Windows PC.
- 2) Launch the MTNET OEM Demo and press the **Scan** button to scan for connected USB devices.



- 3) Select the Device ID and press the **Connect** to open the device.



5 - How to use the MTNET OEM Demo via USB Interface

- 4) Swipe a magnetic stripe card to read the card data.

```

^08040000000000000000000000000000?;5452000000007189=0804000000
00000000?+5163000070000445=000000000000?
Track1.Encrypted=DAB71174E654412A0D4FA6ACF2C3BF61A9A9
517AE697DCC63DBC53DB4AB186BD95C16D110CB8E7877D1E4F
30E46178D3F2F529DE03CCE176
Track2.Encrypted=3502FA7979D18DC40AE74506765CD28C5E41E
D7623622A776D18AEF0C34E32959A275366B7D7CE5C
Track3.Encrypted=AD19E79D1321247653A56F66A4570F8F2E226
405D514FCF144C8AAE7C51ECD2F
Track1.Masked=%B545200000007189^HOGAN/PAUL
^080400000000000000000000?
Track2.Masked=;5452000000007189=080400000000000000?
Track3.Masked=+5163000070000445=000000000000?
MagnePrint.Encrypted=5E99D5CA8CB5A8B8E5BABC2E1A7DF086
B8EAE7315964A9D5E793C19CF392F691C6B4A7F45B2CF25D2882
E9A7D1B729550C15F094DB1E1F86
MagnePrint.Length=56 bytes
MagnePrint.Status=61402200
Device.Serial=B36F370092716AA
Session.ID=06ECF37528DAD522
  
```

- 5) To send a command to the device, enter the command in the command text box and press the **Send** button.

The screenshot displays the MTNET OEM Demo software interface. At the top, a window shows the transmission of a command '1500' and the receipt of a response '000103'. The main control panel includes several dropdown menus and buttons. The 'Command' field is pre-filled with '1500' and is highlighted with a red box. Below it, the 'Send Command' button is also highlighted with a red box. Other controls include 'EMV Terminal' settings (Get Config, Set Config, Commit), 'Type' and 'Timeout' settings, and connection management buttons (Connect, Disconnect, Clear).

5 - How to use the MTNET OEM Demo via USB Interface

- 6) To read a chip card, press the **Set Time** button.

The screenshot displays the MTNET OEM Demo software interface. At the top, a text area shows the following output:

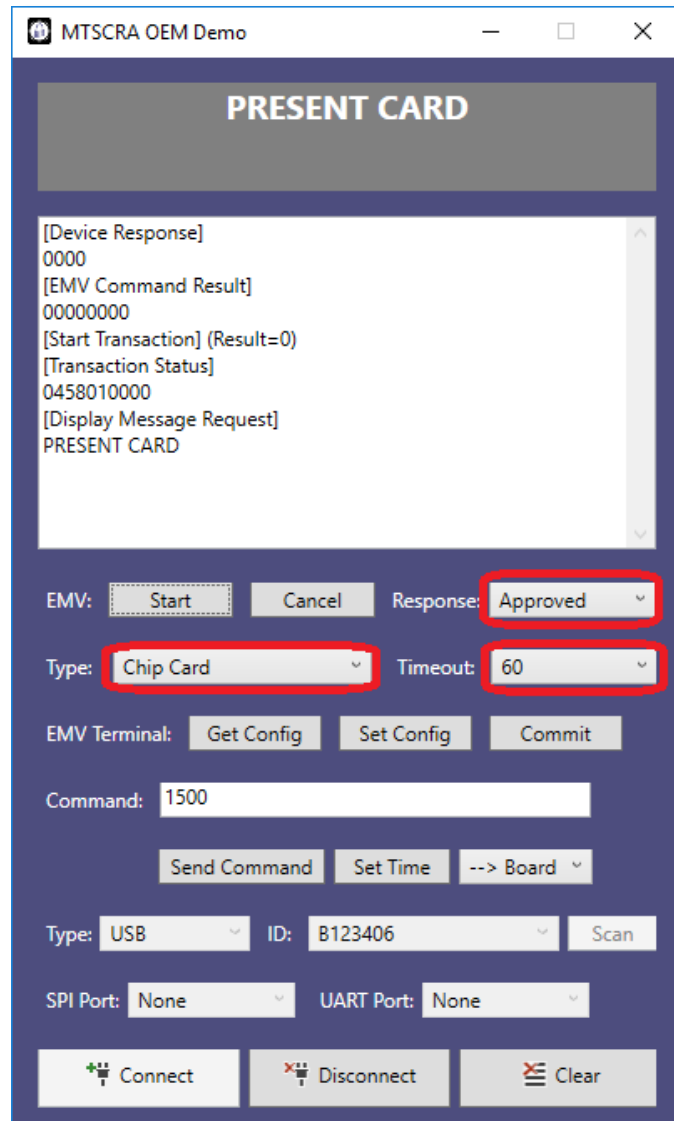
```
[Sending Command]
491E0000030C00180000000000000000000000000000000000000000000010
40907330009
[Device Extended Response]
00000000
```

Below the output is a control panel with the following elements:

- EMV:** Start, Cancel, Response: Approved
- Type:** Chip Card, **Timeout:** 60
- EMV Terminal:** Get Config, Set Config, Commit
- Command:** 1500
- Action Buttons:** Send Command, **Set Time** (highlighted with a red box), --> Board
- Type:** USB, **ID:** B123406, Scan
- SPI Port:** None, **UART Port:** None
- Bottom Buttons:** Connect, Disconnect, Clear

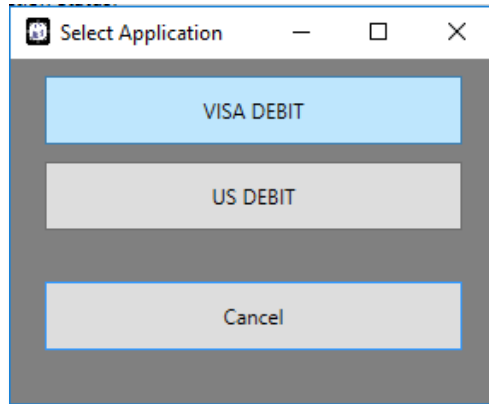
5 - How to use the MTNET OEM Demo via USB Interface

- 7) To begin an EMV transaction, select desired **Response**, press the **Start** button, and then insert the chip card when the **Present Card** message appears.

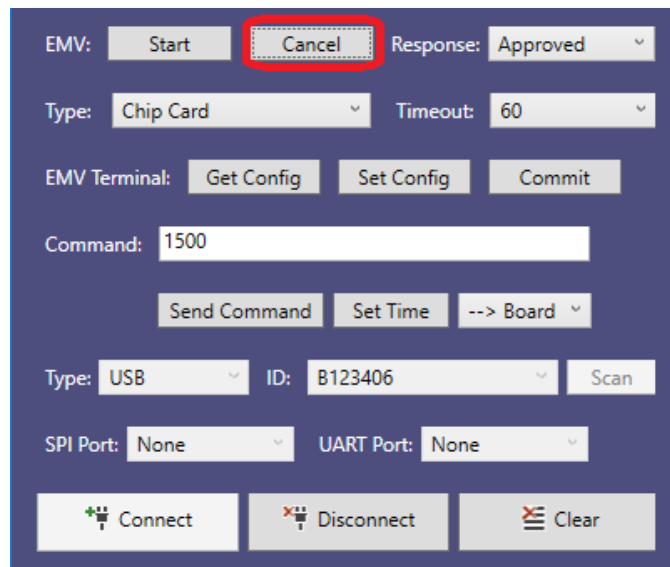


5 - How to use the MTNET OEM Demo via USB Interface

- 8) Select an Application in the **Select Application** window.

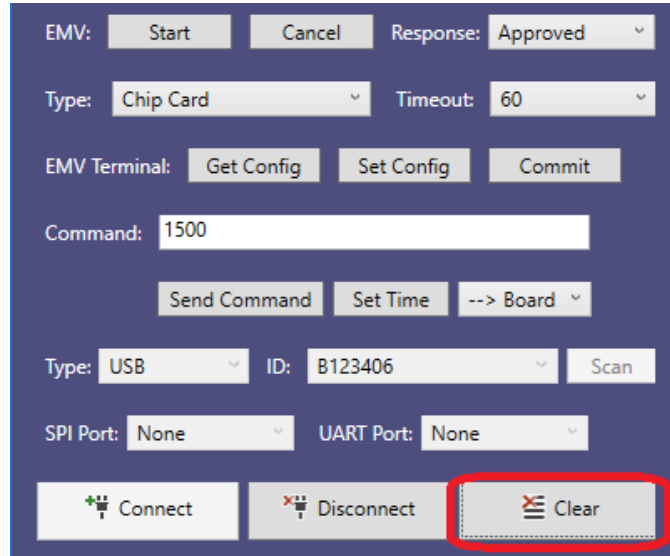


- 9) If you want to cancel the EMV transaction, press the **Cancel** button. Please note that the cancel feature will only work before the card is inserted.



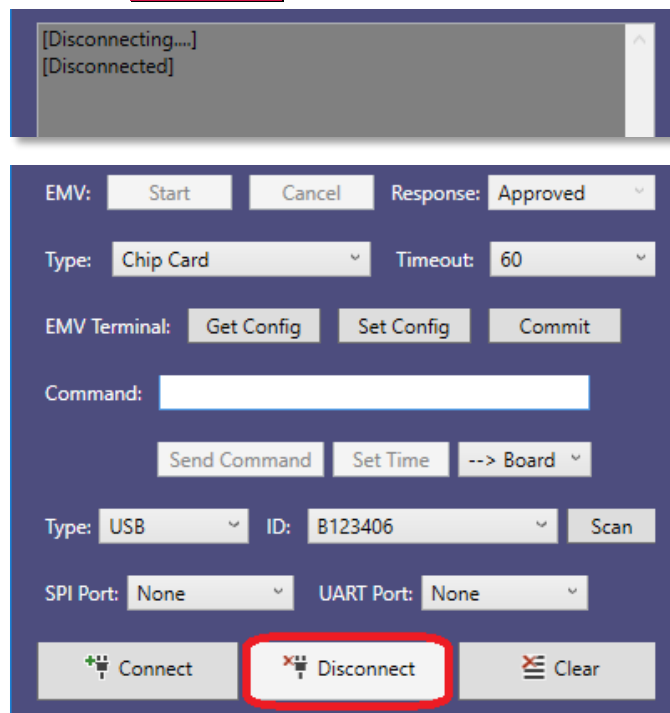
- 10) To clear the screen, press the **Clear** button.

5 - How to use the MTNET OEM Demo via USB Interface



The screenshot shows the MTNET OEM Demo interface. At the top, there are buttons for 'Start' and 'Cancel', and a 'Response' dropdown menu set to 'Approved'. Below this, the 'Type' is set to 'Chip Card' and the 'Timeout' is set to '60'. The 'EMV Terminal' section has buttons for 'Get Config', 'Set Config', and 'Commit'. A 'Command' field contains the value '1500', with buttons for 'Send Command', 'Set Time', and '--> Board'. The 'Type' is set to 'USB' and the 'ID' is 'B123406', with a 'Scan' button. The 'SPI Port' and 'UART Port' are both set to 'None'. At the bottom, there are three buttons: 'Connect', 'Disconnect', and 'Clear'. The 'Clear' button is highlighted with a red rectangular box.

11) To close the device, press the **Disconnect** button.



The screenshot shows the MTNET OEM Demo interface. At the top, there are buttons for 'Start' and 'Cancel', and a 'Response' dropdown menu set to 'Approved'. Below this, the 'Type' is set to 'Chip Card' and the 'Timeout' is set to '60'. The 'EMV Terminal' section has buttons for 'Get Config', 'Set Config', and 'Commit'. A 'Command' field is empty, with buttons for 'Send Command', 'Set Time', and '--> Board'. The 'Type' is set to 'USB' and the 'ID' is 'B123406', with a 'Scan' button. The 'SPI Port' and 'UART Port' are both set to 'None'. At the bottom, there are three buttons: 'Connect', 'Disconnect', and 'Clear'. The 'Disconnect' button is highlighted with a red rectangular box. Above the main interface, a grey box contains the text '[Disconnecting,...]' and '[Disconnected]'.

5 - How to use the MTNET OEM Demo via USB Interface
