TARGUS INC.

Targus MAC Address Clone Utility for macOS™

User Manual

DockTor Aus, DockTor Strange, Thee DockTor

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This manual guides implementers through the installation and use of the Targus MAC Address Clone Utility (TMAC).

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Introduction

This manual guides implementers through the installation and use of the Targus MAC Address Clone utility (TMAC).

The Targus MAC Address Clone utility is configured to work with macOS™ starting with 11.4. The Targus MAC Address Clone Utility runs as a Launch Daemon (service) which automatically replaces (spoofs) the Media Access Control (MAC) address of a connected Targus Docking Station Gigabit Ethernet (GbE) Network adapter with the MAC address of the connected MacBook's built-in WiFi network adapter.

TMAC enables selective access to the Targus GbE port by a host MacBook. This functionality enables 802.1X white-listing methods so that only corporate white-listed MacBooks can utilize the Targus GbE port.

Requirements

A MacBook with macOS™ Big Sur 11.4.x or Monterey 12.6. This version of TMAC may also work with newer macOS™ versions.

The Targus MAC Address Clone Utility is configured to work with the following Targus Universal Docking Station (UDS) models: DOCK180, DOCK182, DOCK190, DOCK192, DOCK310, DOCK315, DOCK520, and DOCK570.

The program may also be compatible with Alternate Mode docking stations models DOCK410, DOCK411, DOCK412, DOCK430, and DOCK215 after installing the most recent Realtek/ASIX network adaptor driver.

The Alternate Mode docking stations use the Realtek RTL8153 10/100/1000M USB Ethernet controller and require a specific Realtek driver with the feature set to support the MAC Address cloning feature. The driver can be downloaded from the Targus Support Site here, https://cdn.targus.com/web/us/downloads/RTUNICv1.0.20.zip .

TMAC Installation

Required Installation of the Realtek Driver for Alternate Mode Docks

If you do not have any of the Targus Alternate mode docking stations, models DOCK410, DOCK411, DOCK412, or DOCK430, then you may skip this section and go directly to "Install Targus MAC Address Clone" below, but it is highly recommended to install the latest Realtek driver.

If you have the Targus DP Alternate Mode docking station, models DOCK410, DOCK411, DOCK412, or DOCK430 within your organization you will need to install a specific Realtek driver. The RTL8153 driver from Apple is missing critical features needed by MAC Address Clone and will not work. Please **DO NOT** install the Apple supplied driver. Instead, please download, unzip, and install the driver installation package located at https://cdn.targus.com/web/us/downloads/RTUNICv1.0.20.zip .

The procedure of installing Realtek drivers may fail in some cases due to operating system security restrictions. If so, then the recommended procedure to install the driver is:

1. Download and unzip driver installation package located at https://cdn.targus.com/web/us/downloads/RTUNICv1.0.20.zip .
2. Click 'Restart' and hold down 'Command-R' to reboot into Recovery Mode.
3. Click 'Utilities'.
4. Select 'Terminal'.
5. Type "csrutil disable" and press "Enter". This will temporarily disable Apple's System Integrity Protection (SIP)
6. Click 'Restart'
7. Login and open Terminal, then execute "sudo mount -uw /" to re-mount the root file system in read-write mode.
8. Mount driver installation image and install the driver. You may get the message "System Extension Blocked". In this case, go to "System Preferences -> Security & Privacy -> General" and click the 'Allow' button.
9. Restart the computer after the driver installation procedure and hold down the 'Command-R' combo to reboot into Recovery Mode.
10. Click 'Utilities'.
11. Select 'Terminal'.
12. Type "csrutil enable" and press "Enter". This will restore Apple System Integrity Protection (SIP)
13. Click 'Restart'.
14. After restarting please proceed to "Install MAC Address Clone"

Install MAC Address Clone

1. After installing the Realtek driver as recommended, download the TMAC installation program "clone-1.0.3X.dmg" contained in the TMAC for MacBook.zip package available at https://cdn.targus.com/web/us/downloads/TMAC for MacBook.zip .
2. Double click "clone-1.0.3.dmg" to open and mount the TMAC installer program.
3. Double click "MAC Address Cloning.pkg" and follow the prompts to install the TMAC utility.
4. Once the installation has completed, the TMAC Utility Icon will be displayed on the MacBook menu bar.
5. You may now Quit the installation process and move the installer to the trash. However, if it will be necessary to uninstall TMAC, do no unmount the installer as explained in Known Issues.

Uninstall MAC Address Clone

1. Open Terminal from Finder/Applications/Utilities
2. Navigate to the mounted disk image i.e. cd '/Volumes/MAC Address Cloning/'
3. Execute the uninstall script as root (i.e. sudo ./uninstall.sh)
4. Once the Uninstall is complete restart the MacBook to complete the uninstall procedure which removes the Menu bar icon.

TMAC Operation

The Targus MAC Address Clone Utility is configured to start automatically. In the case where a user disables or exits the utility, the utility will restart and be enabled automatically on reboot.

Once an active Targus Giga Ethernet adapter arrives (as a result of a Targus Docking Station and network cable connection) TMAC will disable the local WiFi network adapter and clone its' MAC Address as the dock's network adapter.

The utility will monitor the connection status of the Targus Giga Ethernet network adapter and will enable the built-in Wi-Fi network adapter upon disconnection of the Ethernet cable or dock.

Basic Usage

Once the Targus MAC Address Clone Utility is installed it will work automatically without further need for user interaction. Results can be displayed via the ifconfig command in Terminal.

Action to Perform	Observations/Results
Connect your Targus Docking Station	MAC Address of the Targus Giga Ethernet network adapter will be set to the value of the WiFi Network adaptor of the MacBook and WiFi disabled.
Disconnect the Targus Docking Station	MAC Address of the Targus Giga Ethernet network adapter will be reset to the factory value. The source WiFi network adapter will be re-enabled.

The TMAC Menu Bar Icon

Along with the Targus MAC Address Clone Utility the install sequence installs the Targus MAC Address Clone Utility Menu Bar Icon, which provides information about the cloning state and status allowing users to control the Targus MAC Address Clone Utility functionality through enabling and disabling via the Context Menu.

The Targus MAC Address Clone Utility is set to start automatically for every interactive session.

Icon	Severity	Description/Required Response
	Error	Cannot reach the Daemon
	Warning	Targus MAC Address Clone Utility is “enabled, waiting for link”
	Information	Targus MAC Address Clone Utility is installed and started but “disabled”. Enable Targus MAC Address Clone Utility from the Context Menu.
	Information	Targus MAC Address Clone Utility is started, installed and “enabled waiting for dock”. If dock is connected: “Enabled, cloning, waiting for Internet”
	Information	Targus MAC Address Clone Utility is “enabled Cloning”. Targus Docking Station is connected and MAC Address of Targus Giga Ethernet Adapter is replaced (spoofed, cloned) and a WAN connection obtained.

User can click on the icon and then click to Disable the utility, Disable/Enable Cloning, determine the version via the About, or Exit the utility.

Known Issues

- After TMAC uninstallation it is necessary to restart the MacBook so that the program Icon will be removed from the Menu Bar.
- The macOS™System Preferences -> Network UI does not show the MAC Address change; please use Terminal and "ifconfig" command to verify MAC clone results.
- If you have disabled the WiFi network adapter prior to TMAC, disconnecting the docking station or Ethernet cable will cause the MacBook to re-enable its WiFi network adapter.
- If the mounted disk image was ejected/trashed upon TMAC installation, it may be necessary to download and run the installer program to enable a mounted disk image containing the uninstall.sh program.

Support

Support is available through phone and/or email. Please don't hesitate to contact us with any questions or issues via www.Targus.com which redirects you to your local Targus website to access local support in your region.