



Global Caché Control Tower Access Utility

Basic and Pro Versions

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What is iTower™

iTower™, a computer program that runs on versions of Microsoft Windows™, has been authorized by Global Caché to access its database of infrared remote control codes. The Global Caché database facility is called the “Tower,” and can be accessed by customers at <https://irdb.globalcaché.com/>.

Global Caché Partners, such as mediadogg Software LLC, may be authorized to access the control codes database over the internet from inside a computer program such as iTower™.

How Does iTower™ Work?

iTower™ provides easy to use menus and attractive graphics for requesting remote control codes and displaying the results. When the user clicks on the Brand drop down, iTower™ makes an immediate request to the Global Caché Control Tower to retrieve the set of product brands that are supported. The list of brands is transmitted from Global Caché and iTower™ displays the list in the brands drop down menu.

After the user selects a Brand, iTower™ requests the set of product Types available within the database for that brand. After the user selects a product type from the Types dropdown, iTower™ requests from Global Caché, the list of Models for which infrared codes are available for that Type and Brand of product. Each model has a corresponding “SetID” and model name. Finally, after the user selected a model from the Models dropdown, a request for the corresponding codes is made to the Control Tower database. When the codes information has been received, iTower™ then displays the IR codes, the iTach commands and button functions corresponding to the buttons typically available on the physical remote control supplied with the product.

iTower™ also gives the user a way to test, edit, save and transmit function codes. Saved function codes can be reloaded for later use, or copied and pasted into other software products. mediadogg Software LLC also makes it possible to import saved codes directly into its other products such as LoadDVD Pro™ and a/v DashBoard™. All mediadogg Software LLC products can be found at www.mediadogg.com/shopping.

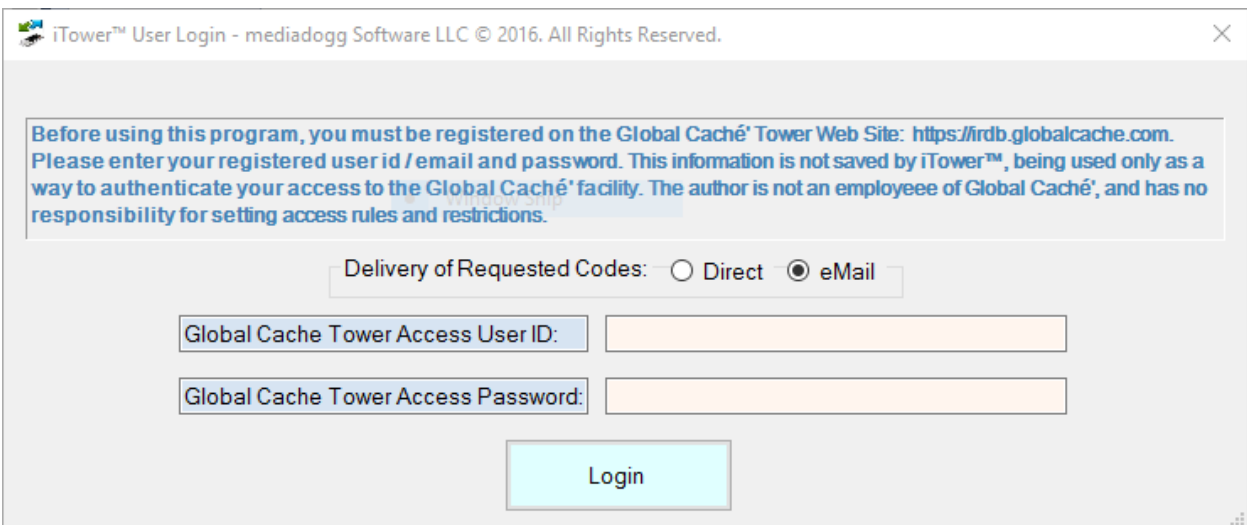
A local cache is used in order to minimize the traffic to the Global Caché Control Tower web site, and mitigate against duplicate code set downloads from counting against a user’s download quota. The local cache will be checked, by default, prior to any download request, but this feature can be turned off. The local cache can be saved, restored or cleared, but it is always used to save any directly downloaded codes, and can be manually added to from the Create / Edit Code Sets dialogue.



Using iTower™

Login Screen – Authenticate Control Tower access

Access to the Global Caché Control Tower is controlled by Global Caché. Every user, including this author, must register on the Global Caché Control Tower database web site. There may be levels of access, with varying restrictions. This program adheres to those limitations, and can only download information allowed within the access restrictions assigned to the user by Global Caché. Each time iTower™ is started, you must provide your registered credentials. These credentials are passed along to Global Caché, but not saved. You should note that iTower™ requests are placed in the clear (not encrypted), using JSON formatting, on secure (SSL) socket connections.



Your **User ID** is whatever is required by Global Caché, which at the time of this writing, is a valid email address. The **Password** is your password. Once again, this information is neither saved nor shared by iTower, but it is transmitted, unencrypted, as part of JSON requests to the Global Caché system, using SSL connections.

Global Caché Control Tower codes are downloaded and delivered based on your personal credentials with Global Caché. Most users are limited to a small number of daily downloads, delivered by email. Other users, such as Caché as Global Caché Partners, may have fewer restrictions and may also be allowed to directly download the codes into a program such as iTower™. Both of these modes of access are supported by the iTower™ Pro Version. The Basic Version of iTower™ supports only email delivery. Both versions can manually import the text portion of the codes email (comma separated variables (CSV) format) for further processing. The procedures for manually importing email delivered codes are described elsewhere in this document.



Menu and Button Options: Main Screen

Pro Version

The Pro version supports iTach, USBIRT and a/v DashBoard as targets for sending IR codes, and supports both email and direct codes delivery from the Control Tower database, subject to Global Caché authentication.

Basic Version

The basic version supports only iTach for the sending of IR codes, and supports only email delivery from the Control Tower database, subject to Global Caché authentication.



File

- **Create / Edit Code Sets** – displays a new dialogue for creating new local code sets. Code sets and be saved and loaded later for continued editing. Also, code sets sent from the Control Tower can be imported by cutting and pasting the body of the email into a text file. The email body text is in CSV data format. An additional import function imports button codes captured and saved from the Global Caché iLearn program.
- **Save Code Set** – saves the currently displayed code set in JSON format that can be loaded by other programs, as well as the Create / Edit Code Sets feature of iTower™. The JSON format used by iTower™ is derived from the version delivered directly from the Global Caché Control Tower. Experienced programmers familiar with the JSON format should be able to easily decode and understand this file.
- **Launch Global Caché iTest** – Provided for convenience, this menu will display the Global cache utility iTest.exe if it is found in the iTower™ installation folder.
- **Launch Global Caché iHelp** – Provided for convenience, this menu will display the utility iHelp.exe if it is found in the iTower™ installation folder.

Favorites

- **Add to Favorites** – adds the currently displayed code set to a favorites list. The list is automatically saved and restored across iTower™ sessions.
- **Delete Selected Favorites** – deletes the selection item from the favorites list.
- **Save Favorites** – saves the entire list of favorites into a simple Comma Separated Variables (CSV) file.
- **Load Favorites** – loads a previously saved list of favorites, that overlays the existing list.
- **Clear Favorites** – removes all items from the current favorites list. This does not affect any saved favorites files.

Local Caché

- **View / Edit Local Cache** – displays a dialogue for viewing elements in the local cache. Selected items can be deleted. Double clicking on any item will load that code set.
- **Backup Cache** – saves a copy of the local cache on a storage media.
- **Restore Local Cache** – loads a previously saved code set into iTower™ program memory.
- **Clear Local Caché** – clears the in-memory local cache. This does not affect any copies of the cache that have been saved on storage media.

Help

- **Usage Guide** – displays this document in pdf format. Adobe Acrobat™ is required for viewing.
- **About This Product** – displays a brief splash screen identifying the iTower™ program.



Send to USBUIRT (Pro feature) – the codes viewed in the IR hex codes text box are passed thru a USB port to a powerful standalone blaster, called [the” USB-UIRT.”](#)

Send to iTach – strings adhering to the iTach API specification that appear in the iTach text window and transmitted over your TCP/IP network IP address and port that are setup on main screen (default 192.168.1.70:4998).

Send to a/v Server (IR codes) (Pro feature) –strings adhering to the [mediadogg Software a/v Automation System](#) commands, are sent over the TCP/IP network to the address and port specified on the main screen (default port is 4444).

Send to a/v Server (iTach codes) (Pro feature) - strings adhering to the [Global Caché iTach API commands](#), viewed in the iTach text box, are sent over the TCP/IP network to the address and port specified on the main screen (default port is 4444).

Launch Remote Simulator – An innovative feature of iTower™ is the ability to immediately test code sets using an on-screen virtual remote control with absolutely no programming on your part. Buttons are laid out in rectangular grids, using as many tab pages as necessary. The button captions are printed and the button IR codes are sent when the button is clicked. Certain common buttons (e.g. Power On) are color coded to make them easily recognizable.

Number (Pro feature) – When a channel or other number is needed, the number can be typed into the number text box. iTower™ will aggregate the correct codes sequences and send them out.

Keyboard (Pro feature) – Continuous text can be typed into a text box using an on-screen keyboard as an alternative to clicking individual buttons. iTower™ sends out the codes in real time as clicked.

Setting IP, Port and iTach Values –Text boxes are provided on the main screen to save the IP addresses and ports of target automation devices, ostensibly iTach devices and mediadogg Software a/v Dashboard™. In fact, and device accepting transmissions at the designated IP address and port and with the ability to parse the commands, could be used with any limitations from iTower. This leads to an extremely flexible automation approach, as both the iTach API and the a/v Automation System commands are simple text strings that are documented in detail. These settings are automatically saved across sessions.



Displays a new dialogue for creating new local code sets. Code sets can be saved and loaded later for continued editing. Also, code sets sent from the Control Tower can be imported by cutting and pasting the body of the email into a text file. The email body text is in CSV data format. An additional import function imports button codes captured and saved from the Global Caché iLearn program.

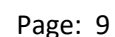
File

Save Code Set – Saves the complete set of function codes and other descriptive information in an external file on your hard drive or network. The filename is created by you. The internal format is a JSON that can be easily interpreted by experienced application programmers.

Load Saved Code Set – Retrieves and displays a previously saved JSON-encode function code set. This does not overwrite the Brand, Type and SetID fields, so it is important that these be verified and adjusted if necessary.

Add Code Set to Local Caché – The displayed function code set, using the displayed Brand, SetID and Type are packaged for inclusion in the ITower local cache. In this way, it is possible to create new function code sets or modify existing ones, and test them in the main program, including the simulator. An asterisk (“*”) is pre-pended to the Brand and SetID in order to distinguish locally created or modified code sets from unmodified sets downloaded from the Global Caché Tower.

Launch Global Caché iLearn – If you put the Global Caché utility iLearn.exe into the ITower™ installation folder, this menu will load and launch it, as a convenience for capturing and using new codes.



The iLearn utility can capture IR codes using an iTach device and save those codes into a text file in a standard format.

Load Codes from iLearn – *This menu will load all the codes and associated captions previously saved from iLearn into the function code list. The “Code 1” vs “Code 2” radio button can be toggled to control how the loaded button codes are associated, for consistency with the format used by the GLOBAL Caché Tower.*

Submit Codes for Validation – *Sometime in the future, it is possible that there might be a user-supported repository of function codes and / or some way to submit your locally created or modified codes for validation. However, this service is not available at this time. Until then, if you chose to upload your new / changed codes, they will be transmitted to an email address hosted at mediadogg.com for later disposition. The Notes text box of the function codes display can be used to keep track of changes you made, errors you found, or information about new code sets. A future release of iTower™ will likely include a way to download and view function code sets submitted in this manner.*

Load Code Set from email CSV – *The typical user of the Global Caché Control Tower will be authorized a limited number of code sets per day, by email only. The body of these emails contains the contents of the requested code set in CSV (comma separated variables) format. If you carefully copy the body of an email and save it in a text file, this menu allows you to load the file into the function code list. Previously existing functions are cleared, but the Brand, Type and SetID are not reset. Please make sure that those fields are correct before adding the code set to the local cache. Brands, Types and SetIDs are unique within the database. Brands can contain multiple Types, and a Type can contain multiple function code sets (SetIDs). Each code set can have two versions of codes for each function (“Code 1” vs “Code 2”).*

Clear Codes – *This menu will clear all the fields as well as the function codes list on the screen. This does not affect any saved code sets or the local cache.*

Exit – *Closes the Create / Edit dialog and returns to the iTower™ main screen.*

Convert to IR Codes – *iTower™ converts iTach codes in the text box into equivalent IR codes expressed as in a series of 2 byte hex blocks. The conversion does not depend on any external utility and was coded by mediadogg Software LLC by adhering to available documentation.*

Convert to iTach Codes – *iTower™ converts IR codes in the text box into equivalent iTach codes expressed as a “sendir” string. The conversion does not depend on any external utility and was coded by mediadogg Software LLC by adhering to available documentation.*



Menu and Button Options: Remote Simulator



- **Click on a remote control button** – When this happens, the codes that represent the function displayed as the button caption, are delivered according to the radio button setting on the screen, coupled with the IP address and port settings on the iTower™ main screen. This has the effect of providing you with an instant, automatic, virtual remote control application.
- **Select a code set from Favorites drop down** – The same set of favorites available on the main screen, are available directly from the simulator. Selecting one of the favorites simultaneously populates both the simulator buttons and the functions list on the main screen.
- **Type by clicking on the Keyboard** – As keys are clicked on the keyboard, codes corresponding to the keys are sent out, only if they are found in the displayed function code set.
- **Typing into the keyboard window** – Continuous text can be typed into the text box above the keyboard. As keys are typed, codes are sent out for any keys that match captions in the displayed function code set.
- **Close** – Closes the simulator and returns to the iTower™ main screen.



Installation Requirements

- This software is designed to work on versions of Microsoft Windows™ version 7 and above. It will likely work on other versions, so long as Microsoft Net V4.0 is installed, however Windows Vista™ is explicitly NOT supported.
- A connection to the internet is required.
- In order to test or use infrared commands, either the USB-UIRT blaster must be installed, or a Global Caché blaster compatible with the iTach Flex must be available on your network. USB-UIRT can be purchased at <http://www.usbuirt.com>.
- In order to test or use Global Caché iTach commands, a Global Caché blaster compatible with the iTach Flex must be available on your network.

Acknowledgements

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The Author also acknowledges the status of “Partner” with Global Caché, and endeavors to adhere, in good faith, to all provisions of the partnership agreement.

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