

Multi-Codec Control

Management Tool for Comrex MIDAS, ACCESS and BRIC-Link Codecs



Instance Name	State	Remote	Algorithm	Call Quality	Delay	Packet Loss	Audio RX	Call / Drop
MIDAS 1 217.207.138.34:8081	Connected	MIDAS 2	RX: AAC Dual Mono TX: D3 AAC Dual Mono 128Kb					
MIDAS 2 217.207.138.34:8082	Connected	MIDAS 1	RX: AAC Dual Mono TX: D3 AAC Dual Mono 128Kb					
MIDAS 3 217.207.138.34:8083	Connected	MIDAS 4	RX: AAC Dual Mono TX: D3 AAC Dual Mono 128Kb					
MIDAS 4 217.207.138.34:8084	Connected	MIDAS 3	RX: AAC Dual Mono TX: D3 AAC Dual Mono 128Kb					
MIDAS 5 217.207.138.34:8085	Connected	MIDAS 6	RX: AAC Dual Mono TX: D3 AAC Dual Mono 128Kb					
MIDAS 6 217.207.138.34:8086	Connected	MIDAS 5	RX: AAC Dual Mono TX: D3 AAC Dual Mono 128Kb					
MIDAS 7 217.207.138.34:8087	Connected	MIDAS 8	RX: AAC Dual Mono TX: D3 AAC Dual Mono 128Kb					
MIDAS 8 217.207.138.34:8088	Connected	MIDAS 7	RX: AAC Dual Mono TX: D3 AAC Dual Mono 128Kb					
MIDAS 9 217.207.138.34:8089	Connected	MIDAS 10	RX: AAC Dual Mono TX: D3 AAC Dual Mono 128Kb					
MIDAS 10 217.207.138.34:8090	Connected	MIDAS 9	RX: AAC Dual Mono TX: D3 AAC Dual Mono 128Kb					
Vortex - London 81.149.138.150:8080	Connected	Comrex Lab Voice	RX: A1 BRIC-HQ1 Mono TX: A1 BRIC-HQ1 Mono					

User Manual

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Introduction

Multi-Codec Control is an application for Microsoft Windows which provides advanced centralized monitoring and management for the Comrex BRIC family of IP audio codecs, including MIDAS, ACCESS and BRIC-Link. It shows the status of any number of devices, including connection state, name of the remote unit, coding algorithm in use in each direction, packet loss and delay statistics over the last minute and receive audio levels. An intuitive 'traffic light' indicator is also provided for each connection to give an idea of the expected audio quality at a glance.

Multi-Codec Control also allows calls to be made and dropped on each of the managed codecs. Any manually-added remote entries or Switchboard Server remotes from the codec in question can be selected as a destination; in addition, a local 'phonebook' within Multi-Codec Control allows destinations and profiles to be defined once and used across all managed codecs.

Multi-Codec Control is designed to be touch-friendly and can be run in full-screen mode on a dedicated 'control surface' PC. It supports connections via a SOCKS proxy server for use in enterprise environments where direct connection to the managed codecs is not possible.

Installation

Double-click the provided setup.exe file to start the installer. The wizard will guide you through the installation process.

To launch Multi-Codec Control in future, use the shortcut in the Start Menu (under Programs or All Programs, Vortex Communications Ltd, Multi-Codec Control) or on the Desktop.

Licensing

Multi-Codec Control will initially run in Evaluation Mode. The functionality is not limited, but it will expire after 30 days. When you start Multi-Codec Control in Evaluation Mode, a screen will first be displayed to show how many days of the evaluation period remain and to allow you to enter a licence key. Click Continue Evaluation to show the main Multi-Codec Control window.

To upgrade Multi-Codec Control to the full version, click Enter Licence... on the Evaluation Screen, then:

- If the computer is connected to the internet, enter your licence key in the box provided (or copy it to the clipboard and click Paste From Clipboard). Then click Apply Licence.
- If the computer is not connected to the internet, click Offline Activation... and follow the instructions provided.

Once your licence key has been validated, you will see a confirmation message; click Start Program to begin using the full version of Multi-Codec Control.

To uninstall Multi-Codec Control, use the Programs and Features or Add / Remove Programs option in Control Panel.

System Requirements

Multi-Codec Control requires the Microsoft .NET Framework 4 (Client Profile) or higher and Windows Installer 3.1 or higher. These components will be downloaded and installed automatically if they are not already available when you install Multi-Codec Control. The system requirements for Multi-Codec Control and the .NET Framework are:

- **Operating system:** Microsoft Windows XP SP3 or later
- **CPU:** 1GHz Pentium or faster (32- or 64-bit)
- **RAM:** 512MB or more
- **Display:** 1280x1024 or larger (1920x1080 recommended), 16-bit colour or higher
- **Hard disk:** 600MB (32-bit) / 1.5GB (64-bit) free or more
- **Network:** 10/100Mb/s Ethernet connection

Quick Start

1. Run Multi-Codec Control. If the Evaluation Screen is displayed, click Continue Evaluation.
2. Click Menu, Codecs...
3. Either:
 - a. Enter the IP address of a codec to manage in the Address column of the blank row, and the port number and password if they differ from the defaults, in the appropriate fields; or
 - b. Click Add MIDAS, enter the address of a MIDAS server, select whether it is a 5- or 10-instance installation and click OK.
4. Click OK and the codec / instances configured will be displayed in the main Multi-Codec Control window. Incoming connections will be displayed as they arrive; to make an outgoing connection, click the green 'telephone' button, choose a remote entry from the list and click Call.



Figure 1 - Making a Call

Main Screen

Instance Name	State	Remote	Algorithm	Call Quality	Delay	Packet Loss	Audio RX	Call / Drop
MIDAS 1 217.207.138.34:8081	Connected	MIDAS 2	RX: AAC Dual Mono TX: D3 AAC Dual Mono 128Kb					
MIDAS 2 217.207.138.34:8082	Connected	MIDAS 1	RX: AAC Dual Mono TX: D3 AAC Dual Mono 128Kb					
MIDAS 3 217.207.138.34:8083	Connected	MIDAS 4	RX: AAC Dual Mono TX: D3 AAC Dual Mono 128Kb					
MIDAS 4 217.207.138.34:8084	Connected	MIDAS 3	RX: AAC Dual Mono TX: D3 AAC Dual Mono 128Kb					
MIDAS 5 217.207.138.34:8085	Connected	MIDAS 6	RX: AAC Dual Mono TX: D3 AAC Dual Mono 128Kb					
MIDAS 6 217.207.138.34:8086	Connected	MIDAS 5	RX: AAC Dual Mono TX: D3 AAC Dual Mono 128Kb					
MIDAS 7 217.207.138.34:8087	Connected	MIDAS 8	RX: AAC Dual Mono TX: D3 AAC Dual Mono 128Kb					
MIDAS 8 217.207.138.34:8088	Connected	MIDAS 7	RX: AAC Dual Mono TX: D3 AAC Dual Mono 128Kb					
MIDAS 9 217.207.138.34:8089	Connected	MIDAS 10	RX: AAC Dual Mono TX: D3 AAC Dual Mono 128Kb					
MIDAS 10			RX: AAC Dual Mono					

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Figure 2 - Main Screen

The main screen of Multi-Codec Control organizes the key information from all the managed codecs / instances into a table, with one row per codec. The rows are colour-coded:

- Light Grey** Codec is online and idle (ready to accept incoming connections or make outgoing calls)
- Yellow** Codec is connected but not receiving audio (for example when a connection has been made with a send-only profile)
- Green** Codec is connected and receiving audio data
- Dark Grey** Codec is offline and cannot be monitored or controlled

The columns of the main screen provide the following information or functionality (refer to Figure 2):

1 Instance Name

The name of the codec / instance as configured in its system settings. The IP address and control port number are also shown for reference. When a codec is offline, all other columns are blank and this column is shown in a grey italic font.

2 State

The current state of the codec / instance (e.g. Idle, Connected etc.). This is similar to the Current State / Last State column on the ACCESS web interface, but if multiple connections are active on the codec concurrently, the state of the receive connection (i.e. the one which provides incoming audio) is given preference, followed by active transmit-only connections and finally those which are in the process of connecting or disconnecting.

3 Remote

The name of the remote device to which the codec / instance is currently connected. If multiple connections are active concurrently, the name of the receive connection is shown first, followed by and transmit-only connections in brackets.

4 Algorithm

The coding algorithm currently being used by the codec / instance in the send (TX) and receive (RX) directions, if known.

5 Call Quality

An easy-to-read 'traffic light' indication of the current (receive) call quality, taking into account the perceptual quality of the receive coding algorithm, the packet loss and delay and their variation over time. It provides a useful indication of how 'usable' a connection is likely to be on air: a green light indicates that the audio quality is high and the delay is low; amber suggests a connection which is usable but might suffer occasional dropouts or where the delay may start to make two-way exchanges difficult; red flags a connection which should probably not be used.

6 Delay

A plot of the incoming delay (buffer + decoder) for the current receive connection over the last minute (the same figure as shown in the RX Delay column of the ACCESS web interface Statistics tab). Note that this graph auto-scales so take care to check the maximum value shown. Two connections which have similar-looking graphs may have very different delays!

7 Packet Loss

A plot of the frame loss rate for the current receive connection over the last minute (the same figure as shown in the Frame Loss column and lower graph of the ACCESS web interface Statistics tab).

8 Audio RX

A PPM-style level meter showing the decoded audio level. The red 'A' needle shows the left level and the green 'B' needle the right level (when a stereo or dual-mono algorithm is being received).

9 Call / Drop

When the codec / instance is active (as a result of either an outgoing or incoming call), the button in this column will show a red 'hang up' icon and can be used to drop the call. When the codec / instance is idle, it will show a green 'call' icon and can be used to connect to one of the remotes from the codec / instance's remotes list or from the local 'phonebook'. See Call for more information.

Call

Clicking the Call button on an idle codec / instance will show the Call dialog:

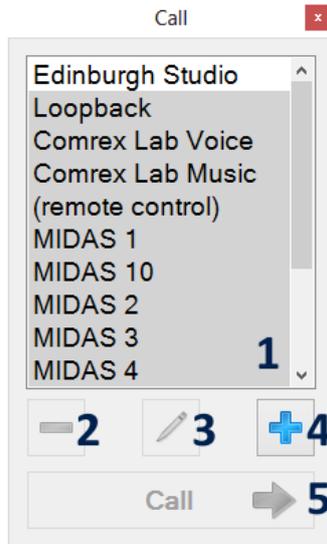


Figure 3 - Call Dialog

The list at the top of the dialog (1) shows remotes from the local 'phonebook' (rows with a white background) followed by those from the codec / instance's own remotes list (which includes and Switchboard Server remotes) (rows with a grey background). To connect the codec / instance to any of these, just select it in the list and click Call (5). When a local 'phonebook' entry is selected, it can be deleted or edited using the appropriate buttons (2 or 3). The Add button (4) can be used to add a new entry to the local 'phonebook' (this will then be shown in the Call dialog for all codecs / instances, allowing locally-created destinations and profiles to be reused easily).

Add / Edit Peer

When adding or editing a local 'phonebook' entry, the Add / Edit Peer Dialog is displayed:

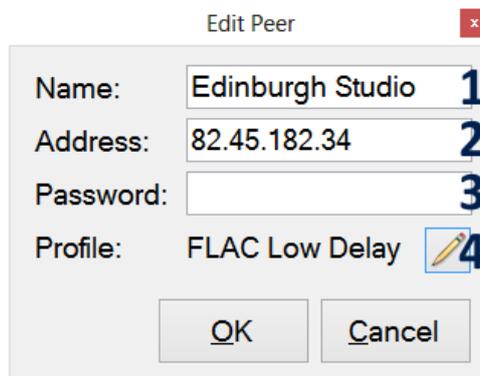


Figure 4 - Add / Edit Peer Dialog

This dialog is used to enter a descriptive name for the connection (1) and the address (2) (IP address, optionally followed by a colon and port number; SIP username; telephone number etc.). If the remote unit being called has a connection password configured, this can be specified in the appropriate field (3). The profile to use for the connection

can be specified by clicking the Edit Profile button (4); otherwise, the codec / instance's default profile will be used. Note, however, that the default profile may well be different on different codecs / instances, so if the local 'phonebook' entry is to be used to make the same type of connection from several different codecs / instances, it is more predictable to specify a profile here explicitly.

Select Profile

Clicking the Edit Profile button on the Add / Edit Peer Dialog reveals the Select Profile Dialog:



Figure 5 - Select Profile Dialog

This dialog shows all profiles which have been created in the local 'phonebook'. To specify a profile for the local entry, simply select it from the list (1) and click OK. A profile can be deleted or edited using the appropriate buttons (2 or 3). The add button (4) can be used to add a new entry to the list of profiles.

Add / Edit Profile

When adding or editing a local 'phonebook' profile, the Add / Edit Profile Dialog is displayed:

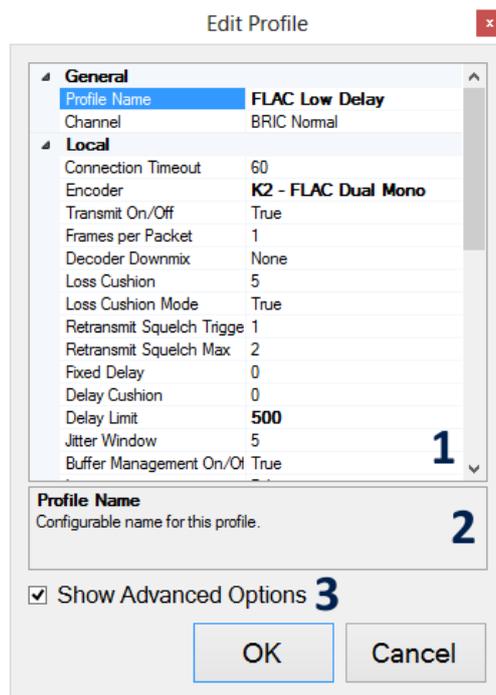


Figure 6 - Add / Edit Profile Dialog

This dialog shows a grid of profile settings (1) which can be modified, grouped into three sections: General, Local and Remote. These mirror the profiles settings found on the ACCESS web interface. A description is provided for the currently-selected setting below the grid (2). Some settings are considered to be advanced options and are only shown if the appropriate box (3) is ticked. Settings which have been changed from their default value are shown in bold. Such settings can be reset to default by right-clicking on the setting name and choosing Reset.

Note that because the profile configured through this dialog can be assigned to a local 'phonebook' entry which can then be called from any of the managed codecs / instances, the settings shown are in fact a superset of those defined on all the managed units. It is therefore potentially possible to choose options which are not available on the particular codec / instance from which the 'phonebook' entry is eventually called. This is most likely to occur with the Encoder setting, since not all coding algorithms are available on all products. If a 'phonebook' entry is dialled from a codec / instance which is unable to satisfy the requirements of the locally-defined profile chosen, the unit's default profile will be used instead. Where Multi-Codec Control is used exclusively for controlling MIDAS instances, this problem usually does not arise.

Menu

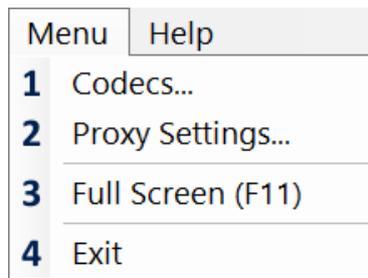


Figure 7 – Menu

1 Codecs...

This displays the Codec Configuration Dialog, allowing the list of managed codecs / instances to be modified.

2 Proxy Settings...

This displays the Proxy Settings Dialog where the method of connecting to the managed codecs / instances can be configured (direct or via a SOCKS proxy).

3 Full Screen (F11)

This causes Multi-Codec Control to be displayed full-screen and the menu bar to be hidden. To return to windowed mode, press F11 or Esc. F11 can also be used to enable full-screen mode. If Multi-Codec Control is closed while in full-screen mode (using the standard Windows key combination Alt+F4), it will run in full-screen mode when next launched.

4 Exit

This exits Multi-Codec Control.

Codec Configuration

The Codec Configuration Dialog allows the managed codecs / instances to be defined.

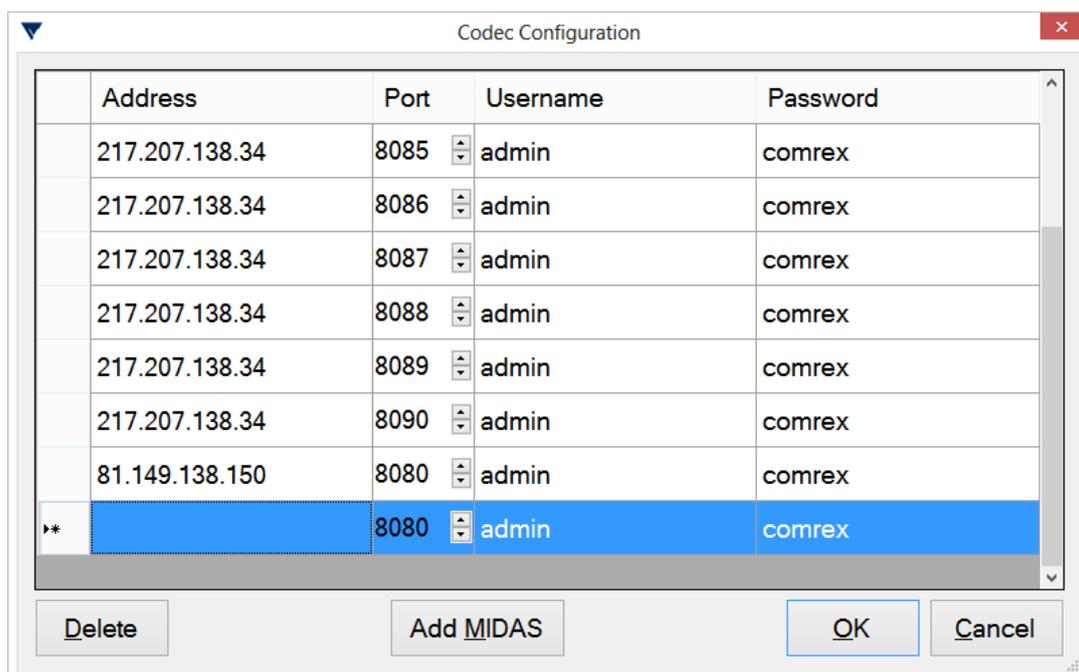


Figure 8 - Codec Configuration Dialog

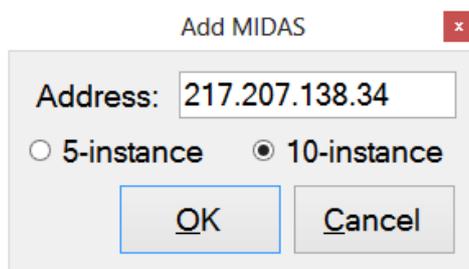
Each row in the table represents a codec / instance shown on the Multi-Codec Control main screen. A new entry can be added by typing in any of the fields of the bottom row (shown with a *). For non-MIDAS codecs, usually only the IP address / hostname needs to be specified (in the Address field). The default control port of 8080 and password of comrex are normally correct, and the username is unimportant. Entries in the list can be edited simply by click in the appropriate field, and deleted using the Delete button.

The order of codecs / instances on the main screen matches the order shown in this dialog. To change the order, simply click and drag the rows up or down.

Clicking OK in the Codec Configuration Dialog will save any changes to the list of managed codecs / instances and reconnect to them all.

Add MIDAS

The control port numbers on a MIDAS server usually increment consecutively from 8081. Although each instance can be added manually in the way outlined above, it is usually more convenient to click the Add MIDAS button, which displays the following dialog:



The image shows a dialog box titled "Add MIDAS" with a close button in the top right corner. Inside the dialog, there is a text input field labeled "Address:" containing the IP address "217.207.138.34". Below the text field, there are two radio button options: "5-instance" (which is unselected) and "10-instance" (which is selected). At the bottom of the dialog, there are two buttons: "OK" and "Cancel".

Figure 9 - Add MIDAS Dialog

Here it is sufficient to specify the IP address / hostname of the MIDAS server and whether it is a 5- or 10-instance installation; the appropriate entries will be added to the list, with ports from 8081 to 8085 or 8081 to 8090.

Proxy Settings

Multi-Codec control can connect directly to the managed codecs / instances, or via a SOCKS proxy server (version 4 or 5). The connection method and server settings are configured in the Proxy Settings Dialog.

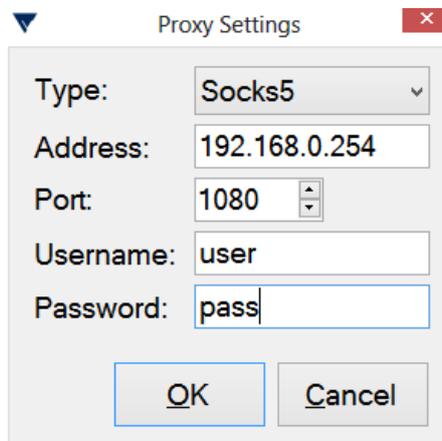


Figure 10 - Proxy Settings Dialog

The connection mode (direct, SOCKS 4 or SOCKS 5) is selected in the Type dropdown box. The address, port, username and password for the SOCKS proxy (if enabled) are configured in the corresponding fields. Clicking OK in the Proxy Settings Dialog will save any changes to the connection mode and reconnect to all managed codecs / instances using the specified settings.