CODEC COMMANDER

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ABOUT COMREX

Comrex has been building reliable, high quality broadcast equipment since 1961. Our products are used daily in every part of the world by networks, stations and program producers.

Every product we manufacture has been carefully designed to function flawlessly, under the harshest conditions, over many years of use. Each unit we ship has been individually and thoroughly tested.

Comrex stands behind its products. We promise that if you call us for technical assistance, you will talk directly with someone who knows about the equipment and will do everything possible to help you.

You can contact Comrex by phone at 978-784-1776. Our toll free number in North America is 800-237-1776. Product information along with engineering notes and user reports are available on our website at www.comrex.com. Our email address is info@comrex.com.

I. PREFACE

ABOUT CODEC COMMANDER

Codec Commander is a Microsoft Windows™ application designed to manage Comrex audio codecs. Codec Commander can provide near-universal control of any Comrex BRIC-Link, BRIC-Link II, ACCESS Portable, ACCESS 2USB, or ACCESS Rack codec.

Codec Commander is compatible with codec firmware 3.x and higher only.

Codec Commander has all the control capability of the built-in, browser-based control page of Comrex codecs. It's a good alternative for those who are concerned about the Adobe Flash™ based web page.

With Codec Commander, the user can:

- Make connections from Comrex codecs to others
- Create, edit, and delete profiles and peers
- Monitor audio levels across all hardware
- Monitor delay and frame loss on devices
- If utilized, monitor CrossLock connections and statistics
- Schedule connections between units on a one-time or a recurring basis

Codec Commander cannot adjust or enable any network devices or settings. Network setup must take place on the codec's direct control interface or via Comrex's **Device Manager** application.

INSTALLATION

Codec Commander is installed via a Windows executable file that is downloaded from the Comrex website. It has been tested to work properly under Windows 7, 8 and 10. On launching the executable, Windows may provide a warning that the publisher is unknown. You must agree to install Codec Commander, and agree to the End User License Agreement when it is presented. You will be prompted for an install directory (default is **C:\Program Files (x86)\Comrex\Codec Commander**) and asked whether you want to add the program to the Start menu. Once installed, find Codec Commander in your Start menu or in the install directory and run it.

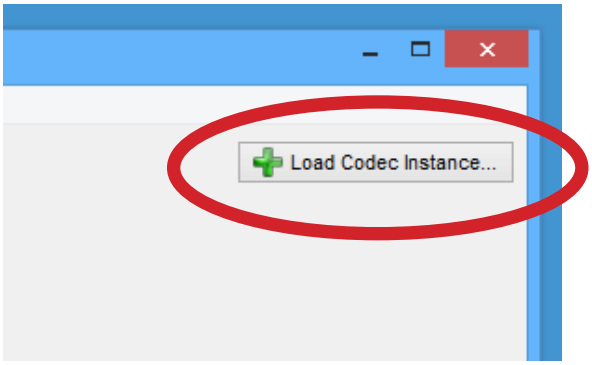
INSTANCES

A connection from Codec Commander to a codec is called an instance.

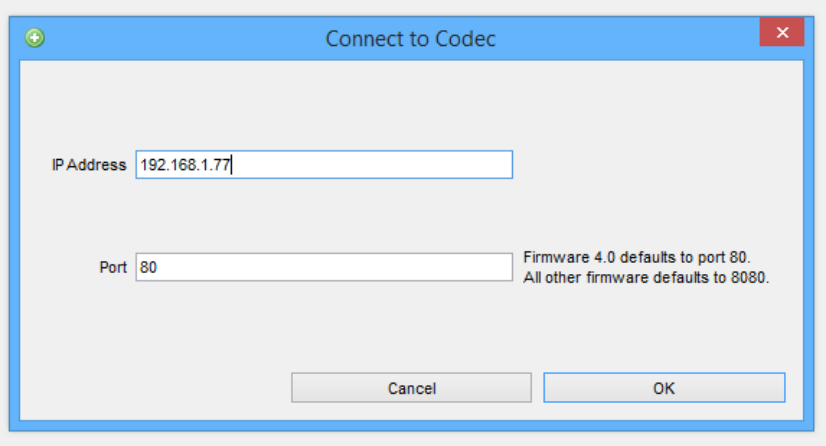
ADDING DEVICES TO CODEC COMMANDER

Once launched, Codec Commander will open as shown below.

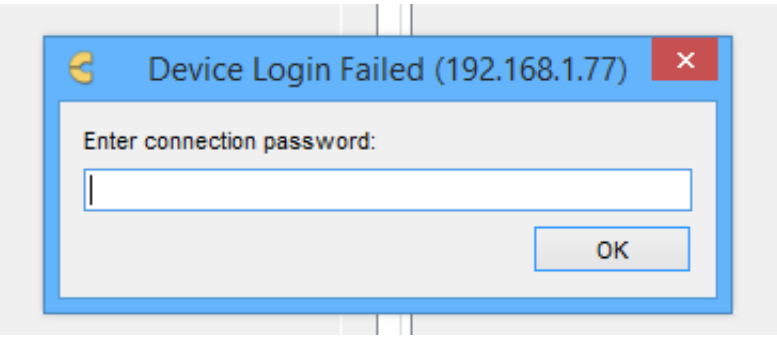
From here, click on the button in the top right named **Load Codec Instance...**



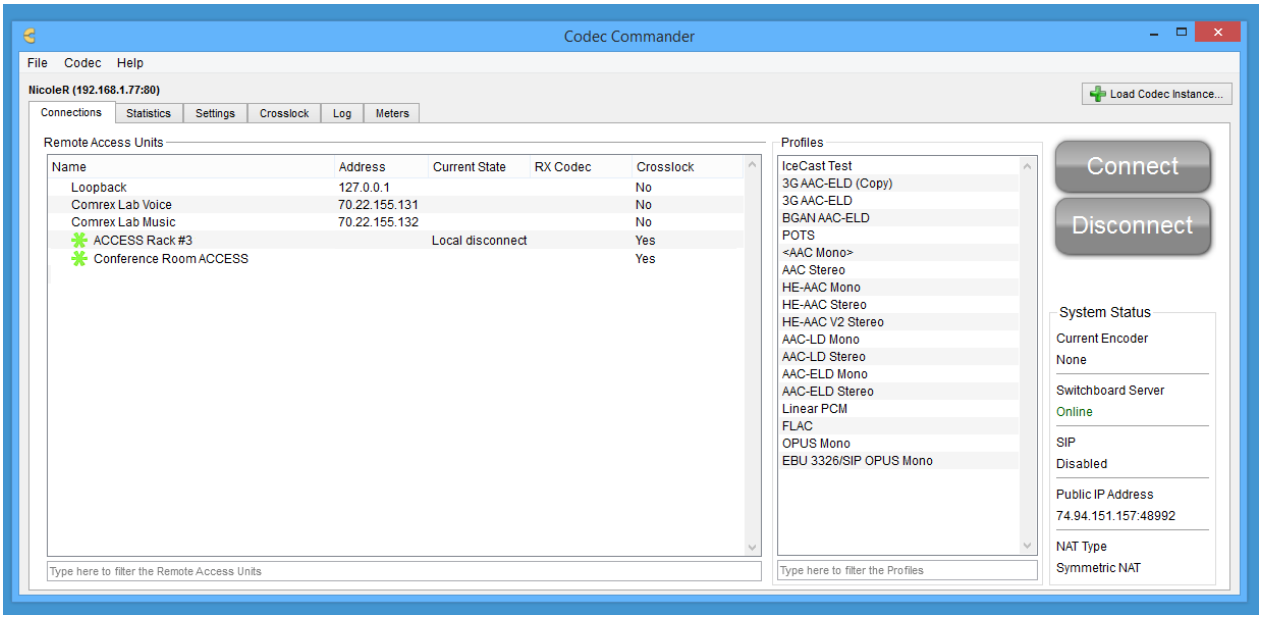
A popup with two fields will appear. Enter your device's IP into the IP box, its port number into the port box, and click **OK**. If the device is reachable, has remote control enabled, and the unit password is still the default password, the device will load successfully.



If the unit has an alternate password, then the connection will fail and a pop-up asking for the correct password will appear.



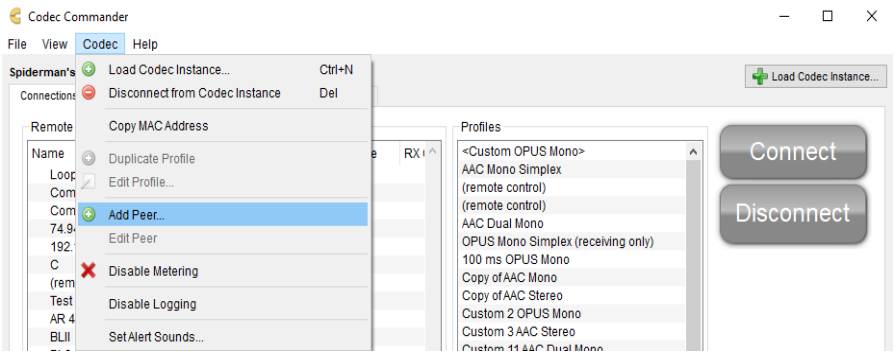
Once your unit is successfully loaded, the Codec Commander screen will populate the codec's information as shown below.



III. CONTROLLING AND MANAGING YOUR CODEC

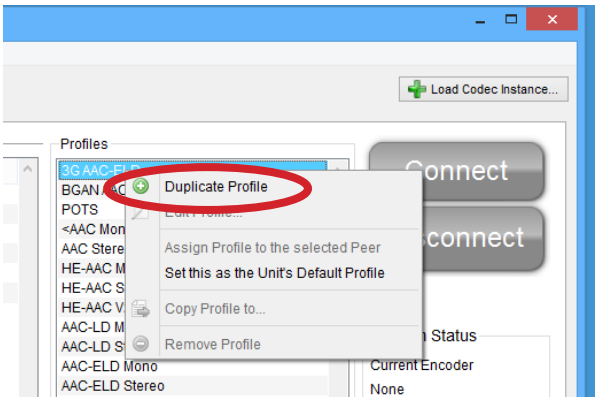
ADDING PEERS (REMOTES)

To add a peer to the device's peer list, click "Codec" menu option and then select **Add Peer**. Fill out the form that appears (unit name, IP address, etc.) and click **OK**. The peer will be added to the device.



ADDING PROFILES

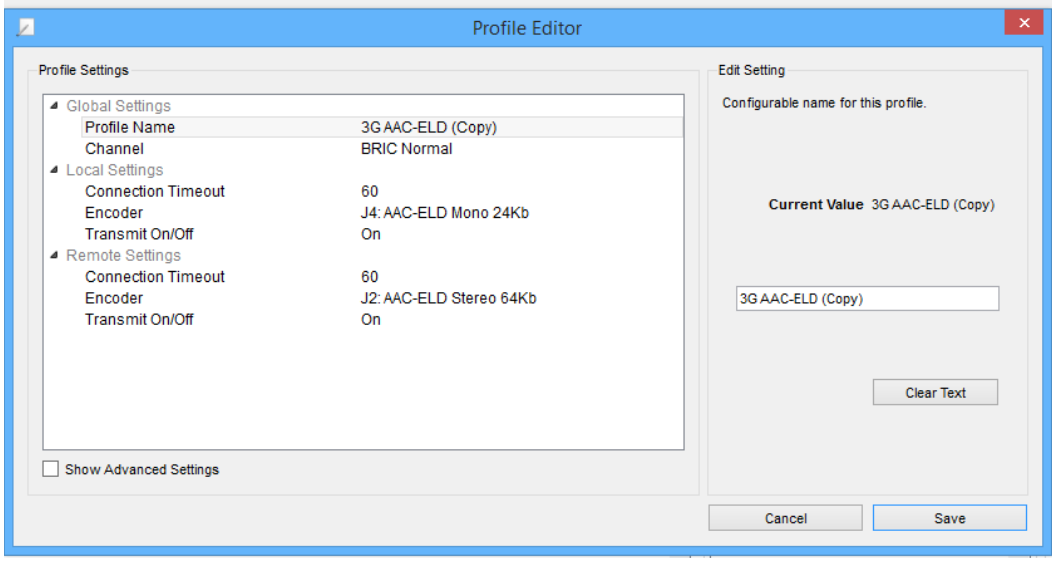
To add a profile to the active device's profile list, you must make a copy of an existing profile. First, select a profile that roughly matches the one you would like to create. Next, right click that profile and select **Duplicate Profile** from the drop-down menu.



A new profile (same name as the profile copied with the text "**(Copy)**" added to the end) is created and will appear in your **Profiles** list.

EDITING PROFILES

Right click the profile you wish to edit and select **Edit Profile** from the drop-down menu. A profile editor will pop up. Use the profile editor to make your desired changes and then click **Save**.



For more information on **Profiles** and settings associated with them, please consult your product manual.

NOTE: You cannot remove or edit factory profiles, but you can duplicate a factory peer and edit the duplicated profile.

REMOVING PEERS/PROFILES

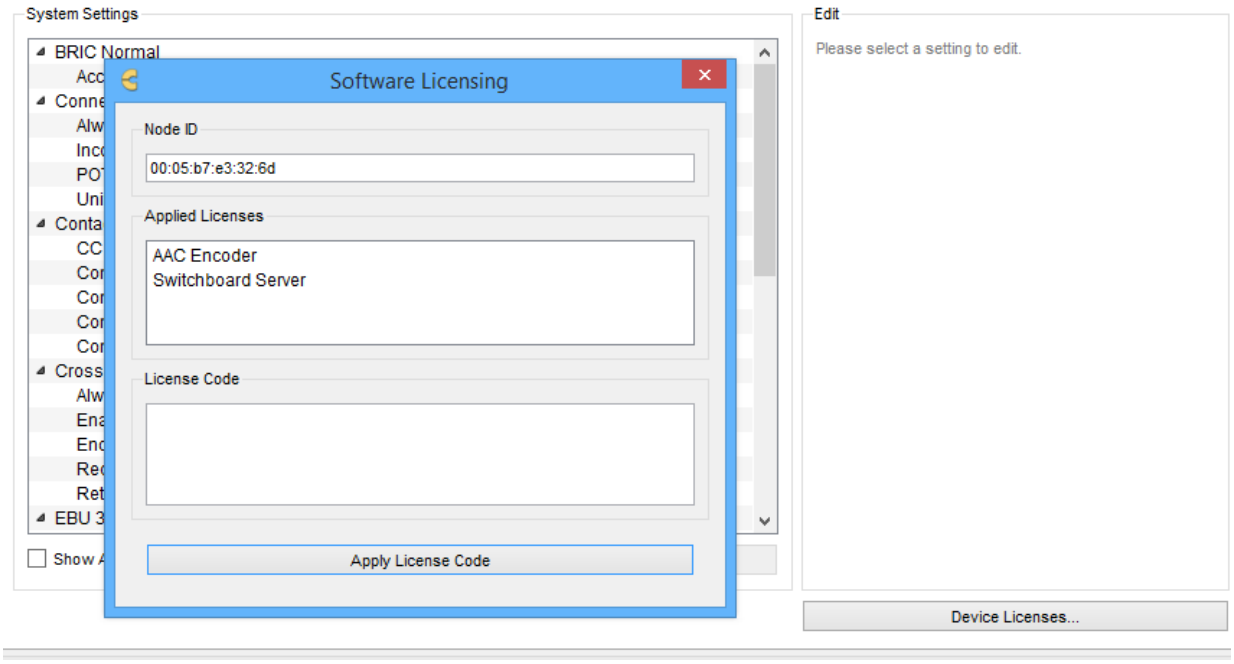
Right click the peer/profile you wish to remove and select **Remove Peer** or **Remove Profile** from the drop-down menu. Confirm action to delete the peer/profile by selecting **Yes** on the pop-up dialogue box.

ADDING LICENSES

Codec Commander allows you to add licensed features to Comrex hardware. License keys are provided by Comrex support for specific features like Switchboard and specific encoders (If not included by default).

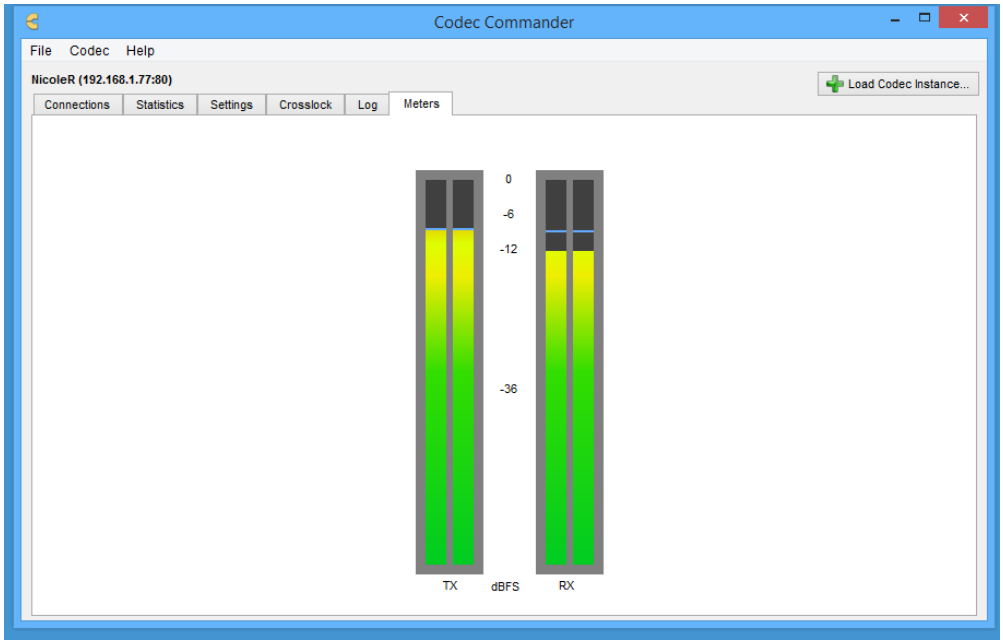
To add licenses to a device under Codec Commander, click on the **System Settings** tab and then click on the **Device Licenses..** button in the bottom right.

The next window popup is where you can view and apply licenses to the units.

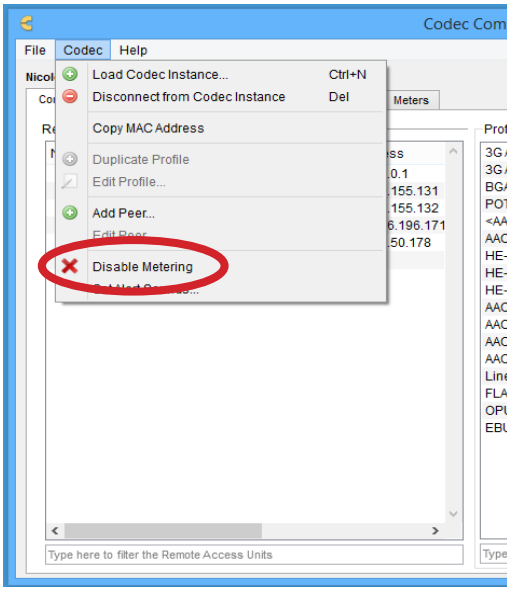


METERING

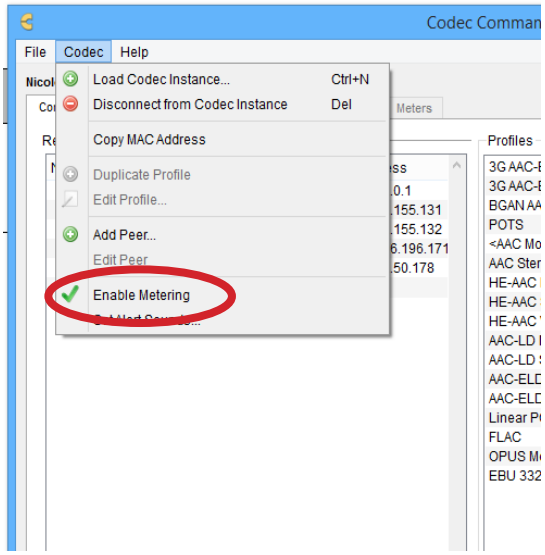
This feature can consume a fair amount of bandwidth, and requires a well performing network to work correctly. By default, metering is turned on.



To disable metering, select **Codec** from the top menu and select "**Disable Metering**."

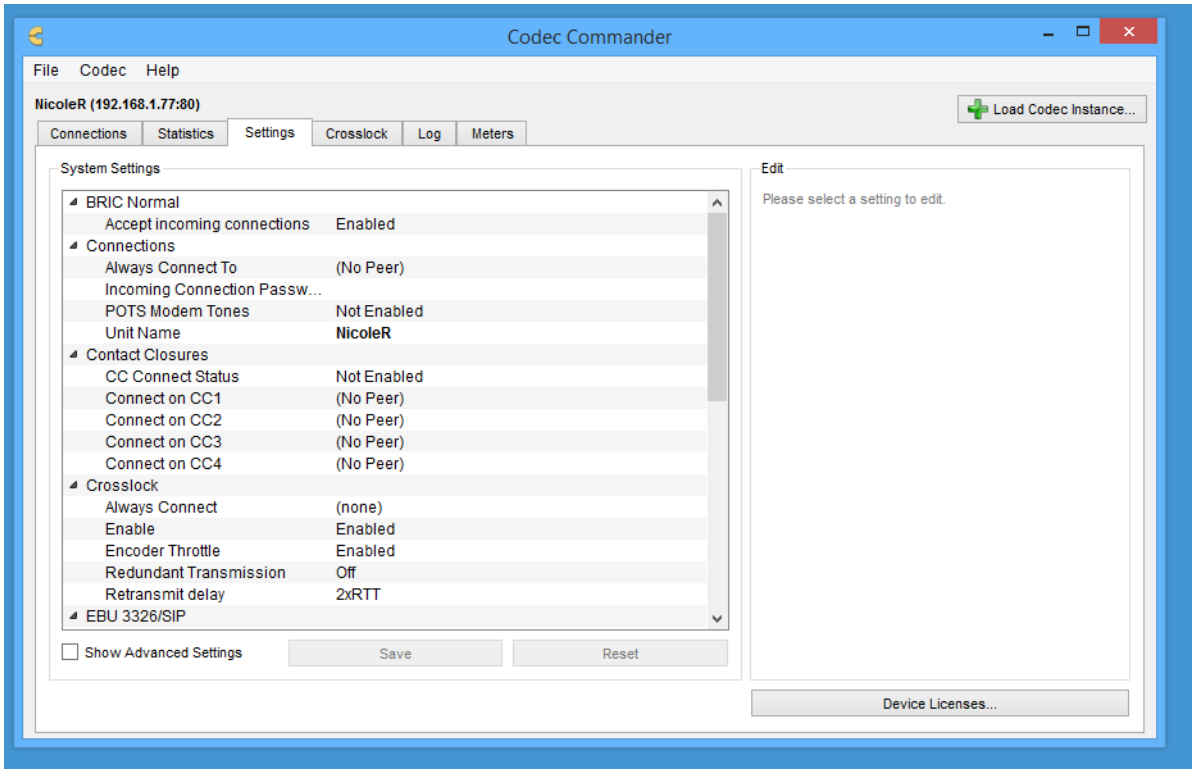


To re-enable it, select **Codec** from the top menu and select **Enable Metering**.



SETTINGS

Codec Commander allows you to change your device settings. These settings are the same available via the unit's Web-based Interface or touchscreen Interface (if ACCESS 2USB Portable), and are described in the user manual for the codec. To modify device settings, click the **Settings** tab. Choose a setting on the left panel, and edit it in the right panel. When you're finished changing your settings, click the **Save** button. If you wish to discard your changes, press the **Reset** button.



TIP: If you are editing the settings of a device, and someone saves edits to the same device, your edits will be overwritten. It is best to only control a device with one app at a time.

WARNING: The Settings editor, (under **Security**), allows you to change a setting titled **Remote Control**. Exercise caution when setting this to **false**. If you do, this will disable the mechanism by which every interface, including Codec Commander, can operate this device. The only way to re-enable this feature is to re-enable it on the device's console GUI which requires you have physical access to the device.

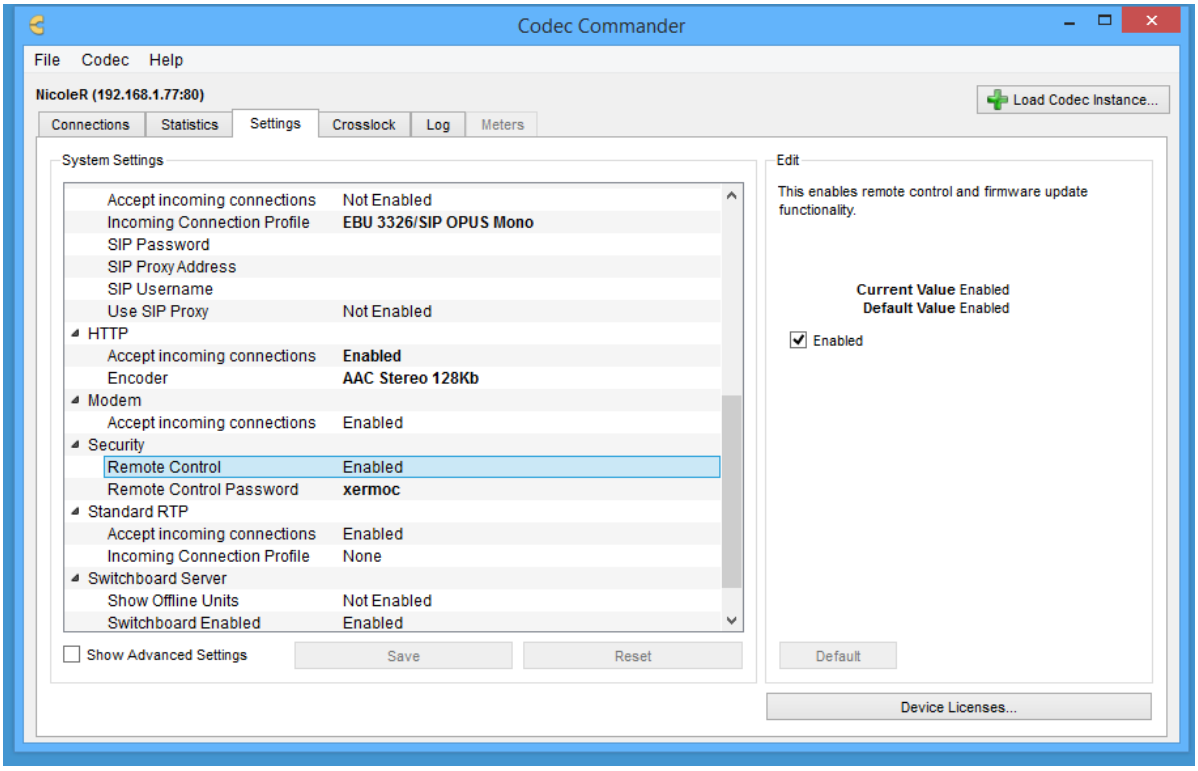


FIGURE 1 **REMOTE CONTROL SETTING**

CONNECTING

Select a device the **Connections** tab and choose a peer from the list. The **Connect** button should light up. Press the **Connect** button to establish a connection.

Note that each outgoing peer needs to have a profile assigned to it (otherwise the **default** profile is chosen). If a profile has been pre-assigned to the outgoing peer, it will be highlighted in the profile list on the right side. You can change the selected profile by choosing another option on the right.

DISCONNECTING

Select the peer you'd like to disconnect from. The **Disconnect** button should light up. Press the **Disconnect** button to disconnect from that peer.

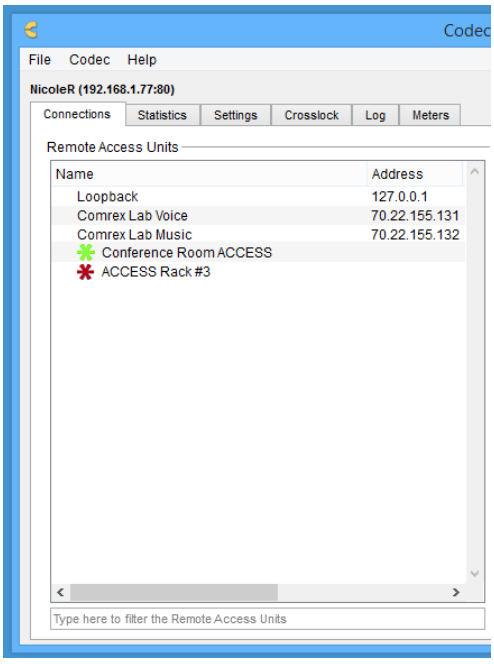
USING AND SETTING THE DEFAULT PROFILE

Devices have a default profile that will be assigned is another profile is not assigned to the codec. You may assign the default profile to a peer by right clicking the peer and choosing **Assign the Default Profile to this peer**. You may change the device's default profile by right clicking the desired profile and choosing **Make this the Default Profile**.

SWITCHBOARD PEERS

Switchboard is an optional feature. It employs a cloud-based server that synchronizes with a codec fleet, displays presence information, and aids in connection.

Codec Commander handles Switchboard functionality. On configured and licensed units, Switchboard peers appear in the **Connections** peer list. Switchboard peers have colored asterisk icons next to their name in the peer list. A gray icon indicates the remote peer cannot reach the Switchboard server. A red icon indicates the remote peer is online, but a network path to the peer is not available via Switchboard.



CROSSLOCK

Firmware version 4.0 and higher offers a reliability feature called CrossLock. This is an entirely new transport layer that adds the following features:

- Error Correction (ARQ and FEC)
- Dual Network support (Bonding and Redundancy modes)
- Enhanced statistics and diagnostics

Use of CrossLock is optional, and requires a Comrex codec running firmware 4.0 or higher on each end of the link.

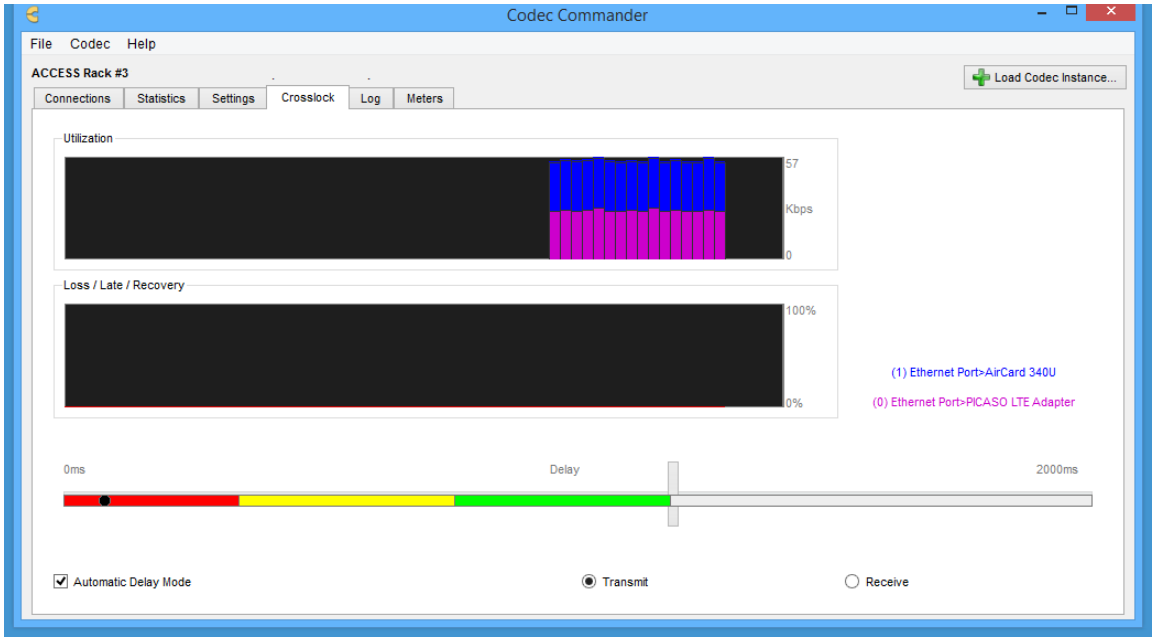


FIGURE 2 **CROSSLOCK TAB**

If CrossLock is utilized, the **CrossLock** tab will show real-time statistics from the CrossLock layer. This includes error correction activity as well as how data is allocated if using multiple networks. The data rate graph moves from right to left over a window of 60 seconds, and has different colors to indicate the total data rate used for each network. CrossLock is able to provide these graphs for both directions in the link. The user can choose between transmit and receive statistics.

In addition to the data rate, the lower half of the graph is dedicated to displaying the status of IP packets that are late, lost or recovered with color-coded bars. It's a visual illustration of the effectiveness of

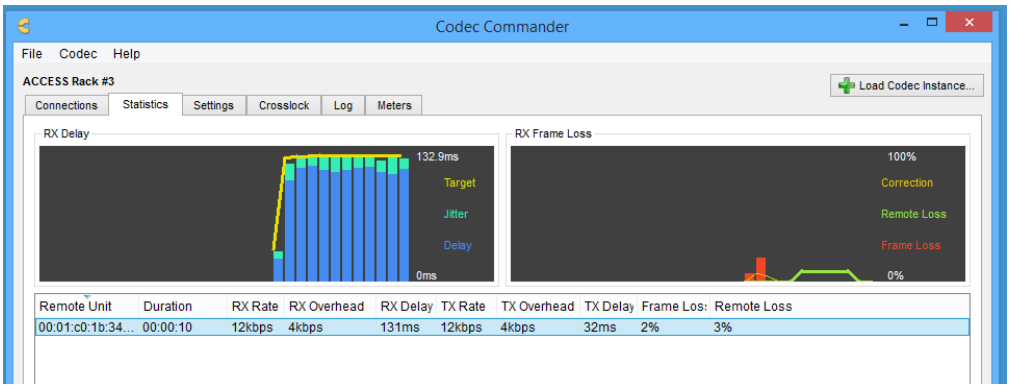
CrossLock's error protection in action. Deep red indicates lost packets that could not be recovered, bright red indicates packets that were too late to be useful, and green indicates successfully corrected packets. The vertical axis of this graph is percentage of affected packets in a one second window. If this graph shows lots of activity, it's time to troubleshoot your network(s) for data loss.

The **CrossLock** tab has a delay slider bar in the lower half of the tab. This gives a visual indication of the delay calculations being made by the CrossLock algorithm, while giving the user the ability to override them by unchecking the Automatic Delay Mode checkbox if desired.

Consult your product manual for more details on CrossLock.

STATISTICS

Codec Commander offers connection statistics similar to the ones provided by the ACCESS, BRIC-Link and BRIC-Link II web interfaces. To view these stats, click on the **Statistics** tab. This tab displays two graphs that represent the quality of the incoming connection as well as details on both the Local (TX) and Remote (RX) ends of the connection.



Note: If you are using firmware 4.0 and higher and are utilizing CrossLock, it is recommended that you use the **CrossLock** tab to monitor statistics. The **CrossLock** tab displays finer details about network utilization and performance and allows you to drill down into individual networks if multiple networks are being used.

SCHEDULING CONNECTIONS BETWEEN UNITS

Codec Commander allows users to schedule the timing and duration of connections between units. These connections can be made on a one-time basis or on a recurring daily or weekly basis. This means that customers who regularly establish connections between given Comrex units (e.g., daily or weekly radio broadcasts) only need to set up the scheduled connections between their units once and no longer have to manually establish these connections.

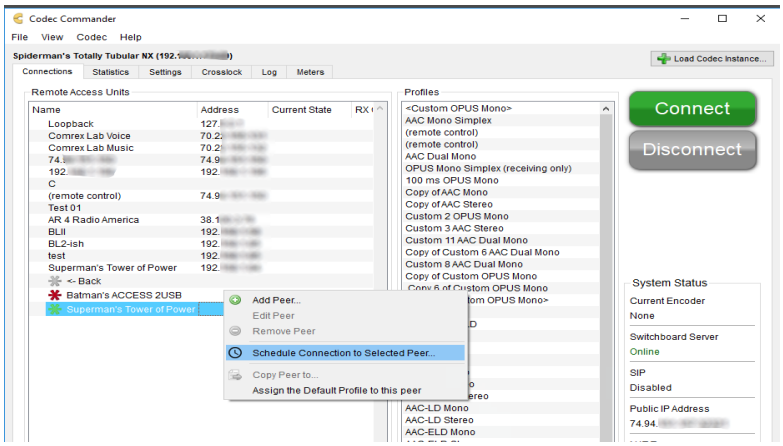


FIGURE 1 **SELECT THE TARGET PEER UNIT**

To schedule a connection, first right click on the unit that will establish the connection (i.e., the unit that will "make the call") and select "Schedule Connection" as shown in Figure 1.

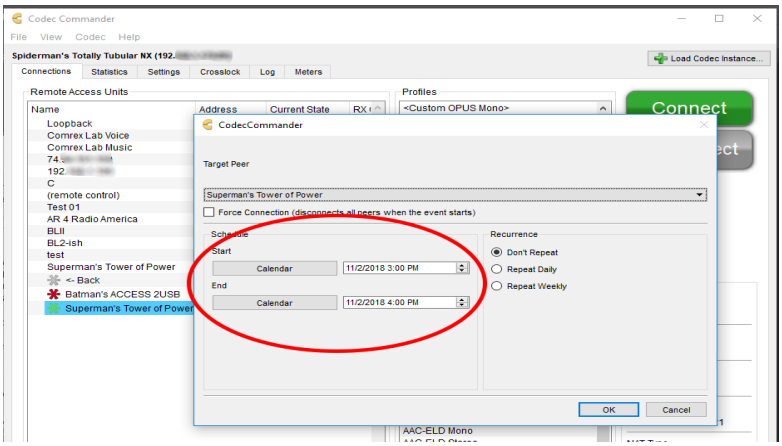


FIGURE 2 **SCHEDULE THE DATE/TIME THE CONNECTION WILL BEGIN AND END**

Next, select the dates and times when the connection will begin and end using the buttons on the left side of the screen as shown in Figure 2 above.

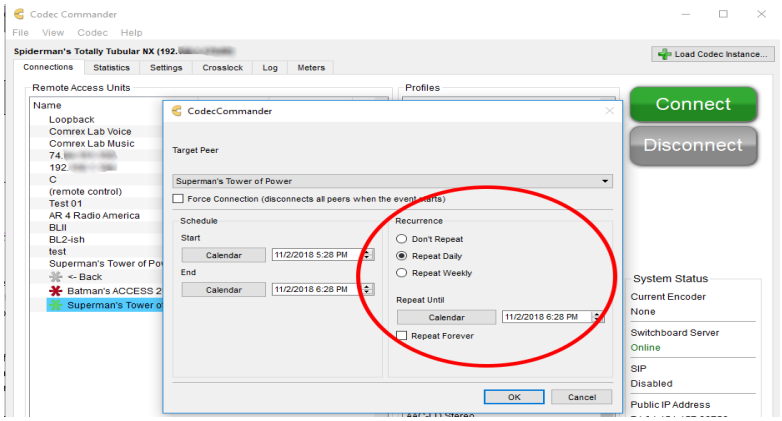


FIGURE 3 **SCHEDULE A REPEAT CONNECTION**

By default, scheduled connections are not set to repeat. If you want a connection to recur on a daily or weekly basis, select the relevant option on the right side of the screen, as well as the date and time when the recurring connection will end (if applicable), as shown in Figure 3.

If you want the connection to continue on a standing basis check the “Repeat Forever” box.

Note: Recurring connections will continue as specified by the user unless the target peer unit is moved or otherwise acquires another IP address. If this happens, the user will need to reschedule the recurring connection using the target peer unit’s new IP address.

Please note: Codec Commander **must** be running for scheduled connections to be initiated or ended. If the program is not running it will **not** establish or end the connections as scheduled. If Codec Commander is turned on after a connection was scheduled to begin, it will then attempt to connect to the target peer unit. Likewise, if the program is turned on after a connection was supposed to have ended, it will then proceed to end the connection. If Codec Commander is closed after a connection has begun but before it has ended, it can still end the connection as scheduled as long as the program is restarted **before** the scheduled end-time.

PEER/PROFILE FILTERING

You can filter the peer and profile lists on the **Connections** tab by typing in the boxes underneath each list. This makes it easier to find what you're looking for on systems with many peers and profiles. Filters that yield no results cause the background to turn red. When a filter is active, the filter box background becomes bright yellow. To remove the filter, simply remove all text from the appropriate filter box.

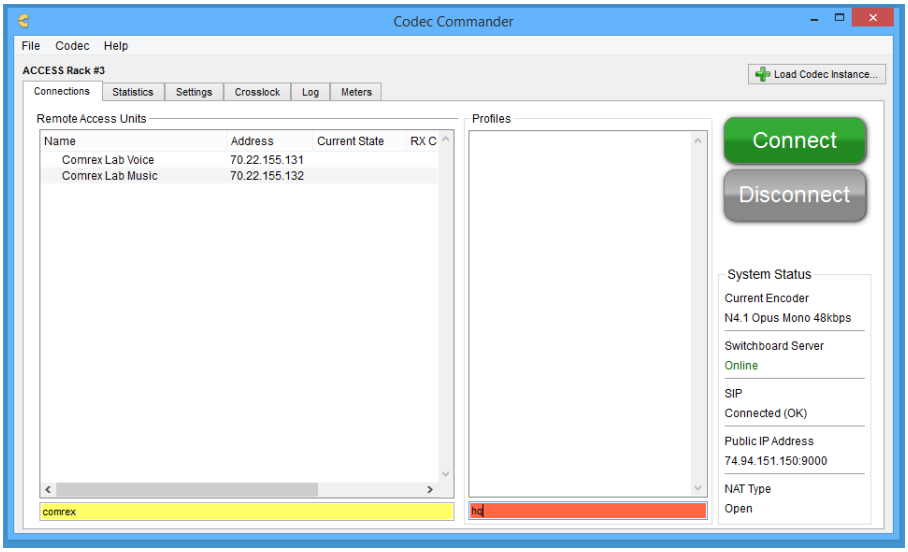


FIGURE 4 **FILTERING**

RESIZING THE PANES

The height of the summary and details panes can be modified by finding the spot between these two windows where the mouse cursor changes from a regular arrow to a vertical resize icon, and click and drag to adjust the interface. Either pane can be hidden by resizing it all the way to zero. To unhide a hidden pane, simply find the resize spot and drag it to open the hidden pane.

RECOMMENDED SYSTEM

Codec Commander currently runs on Windows 7, 8 and 10. We recommend using a system with a strong network connection and at least 2GB of RAM. We strongly recommend using a monitor with a resolution of at least 1024px by 768px.

LOGGING

The Logging feature allows a user to log all activity while the feature is enabled and to view all activity on the unit since they last logged into it. The log contains valuable information like when audio connections start and stop and when a connection loss percentage reached a significant threshold. Customers can use the log to debug connection failures and to determine if an audio connection dropped due to user error or bad network conditions.

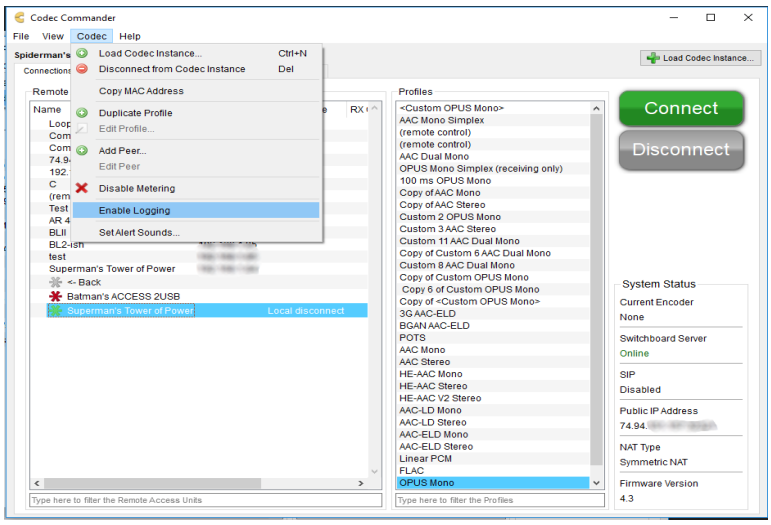


FIGURE 5 **ENABLING LOGGING**

To enable logging, click the “Codec” menu option in the upper left and select “Enable Logging” as shown in Figure 5.

The logging function works best when it’s used for specific purposes and durations. Normal operations don’t require the use of a log. Because of this, and because the device log can grow to be 1,000 lines long and clog up the XML connection between Codec Commander and the device, **Comrex recommends that users disable logging when they’ve finished using it**.

The process for disabling logging is the same as for enabling it, except that the user should select “Disable Logging” instead.

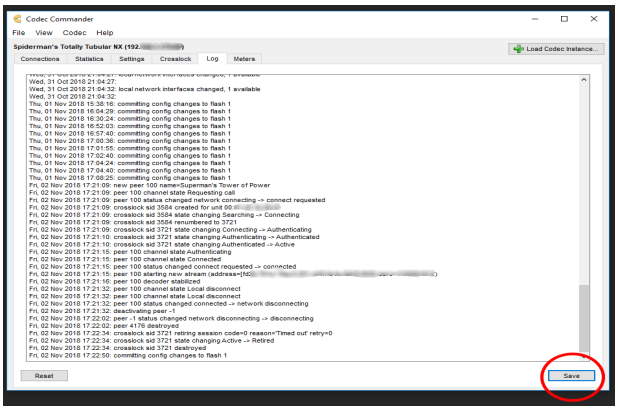


FIGURE 6 **SAVING LOGS**

The best way for users to maintain longterm records of a unit's performance is to save the unit's logs on a regular basis. To do this, select the "Log" tab in the middle of the screen and click the "Save" button in the lower right corner, as shown in Figure 6. The log will be saved as a .txt file.

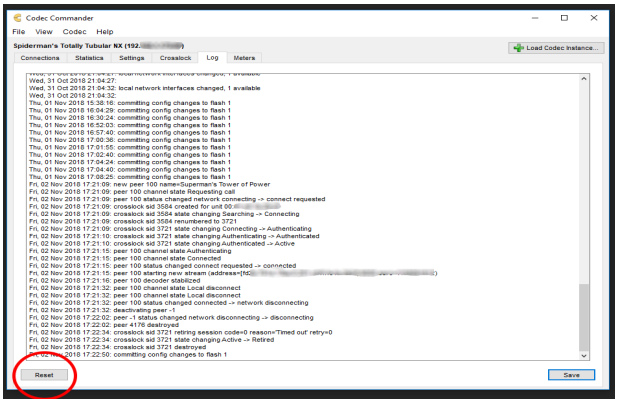


FIGURE 7 **RESETTING LOGS**

In order to ensure optimal performance in Codec Commander, Comrex also recommends that users reset their logs after they've saved them. To do this, users should follow the process to save their log, but press the "Reset" button in the lower left corner instead (Figure 7).

Note: Codec Commander will automatically reset the unit's log once it reaches the maximum size of 1,000 lines. Any log information that hasn't been saved at that point will be lost.

FAQ

What is Codec Commander?
Codec commander is an application that lets you manage and operate ACCESS and BRIC-Link products.

Does it run on Windows?
Yes.

Does it run on OS X?
Not yet, but we are working on a port that will run on intel-based Mac computers.

Does it run on Linux?
We aren't planning on it, but it isn't impossible.

What does Codec Commander control?
Codec Commander will manage all ACCESS codecs, BRIC-Links and BRIC-Link IIs running firmware versions 3.x and higher.

Can I change device settings in Codec Commander?
Yes.

Can I monitor audio meters in Codec Commander?
Yes! Audio metering is shown on the **Meters** tab.

v. LICENSES

COMREX CORPORATION
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FOREGOING LIMITATIONS SHALL APPLY EVEN IF COMREX HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES.

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You shall comply with all export laws and restrictions and regulations of the Department of Commerce, the United States Department of Treasury Office of Foreign Assets Control ("OFAC"), or other United States or foreign agency or authority, and You shall not export, or allow the export or re-export of the Software in violation of any such restrictions, laws or regulations. By using the Software, You agree to the foregoing and represent and warrant that You are not located in, under the control of, or a national or resident of any restricted country.

8. Indemnity.

You shall indemnify and hold harmless Comrex from any third party claims, damages, liabilities, costs and fees (including reasonable attorney fees) arising from Your use of the Software as well as from Your failure to comply with any term of this Agreement.

9. General.

This Agreement represent the complete agreement concerning this license between the parties and supersedes all prior agreements and representations between them. This Agreement may be amended only by a writing executed by both parties.

If any provision of this Agreement is held to be illegal or unenforceable, that provision shall be limited or eliminated to the minimum extent necessary to make it legal and enforceable and this Agreement shall otherwise remain in full force and effect and enforceable. The failure of Comrex to act with respect to a breach of this Agreement by You or others does not constitute a waiver and shall not limit Comrex's rights with respect to such breach or any subsequent breaches. This Agreement is personal to You and may not be assigned or transferred for any reason whatsoever without Comrex's prior written consent and any action or conduct in violation of the foregoing shall be void and without effect. Comrex expressly reserves the right to assign this Agreement and to delegate any of its obligations hereunder. This Agreement shall be governed by and construed under Massachusetts law (without regard to its conflicts of laws provisions) as such law applies to agreements between Massachusetts residents entered into and to be performed within Massachusetts.

The sole and exclusive jurisdiction and venue for actions arising under this Agreement shall be the State and Federal courts in Worcester County, Massachusetts; You hereby agree to service of process in accordance with the rules of such courts. The party prevailing in any dispute under this Agreement shall be entitled to its costs and legal fees.

EACH PARTY RECOGNIZES AND AGREES THAT THE WARRANTY DISCLAIMERS AND LIABILITY AND REMEDY LIMITATIONS IN THIS AGREEMENT ARE MATERIAL BARGAINED FOR BASES OF THIS AGREEMENT AND THAT THEY HAVE BEEN TAKEN INTO ACCOUNT AND REFLECTED IN DETERMINING THE CONSIDERATION TO BE GIVEN BY EACH PARTY UNDER THIS AGREEMENT AND IN THE DECISION BY EACH PARTY TO ENTER INTO THIS AGREEMENT.

Questions concerning this Agreement should be sent to the address set forth below. Any notices or correspondences will only be effective if sent to such address.