Bose Professional Systems Division

Design | Performance | Support

ControlSpace® Designer v3.0 Release Notes

This release of ControlSpace Designer adds support for the new PowerMatch™ PM8500/N Configurable Multi-Channel Power Amplifiers, additional processing modules to support the new RoomMatch™ Array Module Loudspeakers and support for the Windows® 7 operating system.

SETUP/INSTALLATION NOTES

- This release includes firmware for the PM8500/N and updated firmware for the ESP-88 and CC-64. No update to CC-16 firmware is required.

- This release of ControlSpace Designer requires Microsoft® .NET Framework 3.5 to be installed for Windows XP and Windows Vista®, available for download here. Windows 7 includes .NET Framework 3.5 so no additional installation is required.

NEW FEATURES

1. **PowerMatch PM8500/N Configurable Multi-Channel Professional Amplifiers**

   This version of ControlSpace Designer includes many additions and enhancements to support the new PowerMatch PM8500 and PM8500N Professional Power Amplifiers.

   - **Output Configuration**
     Each channel pair can be configured for individual, voltage bridged or current sharing operation to match different loads. In addition two channel pairs can be combined in QuadBridge™ mode to deliver 4x the power of a single channel. The output configuration is defined in the PM8500/N properties.

   - **Connection via USB**
     Direct connection to a single PM8500/N using a standard USB connection.

   - **DHCP** (PM8500N only)
     By default, the PM8500N uses DHCP to obtain an IP address automatically on power-up. DHCP can be disabled from CSD.

   - **Standby Control** (PM8500N only)
     Allows the PM8500N amplifier to be put into standby or turned on remotely via Parameter Set recall.

   - **Limiter Link Groups**
     When linked, gain reduction is applied equally to all members of the Link Group when limiting on any of linked channels occurs.

   - **Load measurement**
     The load impedance of each PM8500/N output may be measured and recorded using ControlSpace Designer for diagnostic or documentation purposes. Reference sweeps are stored within the ControlSpace Designer project file for future comparison.

   - **Monitoring and Alarms**
     The PM8500/N maintains an internal log of alarm and fault conditions that maybe retrieved, viewed and cleared via ControlSpace Designer.

2. **New Signal Processing Modules**

   In addition, to the features described above, new signal processing modules have been added for both PowerMatch and ESP processors to support the new RoomMatch Array Module loudspeakers and our existing loudspeaker range.

   - **SpeakerPEQ Module (with Band Pass)**
     A combined loudspeaker and parametric EQ module with band-pass and alignment delay. Factory preset files are provided for all current Bose Professional loudspeaker products in

parametric EQ format (including limiter settings) that can be unlocked and modified if required.

- **Array EQ Module**
  A new array EQ module can be used to provide array compensation for a RoomMatch loudspeaker array, or to provide room equalization for other types of loudspeaker.

- **Peak/RMS Limiter Module**
  A new, combined Peak and RMS limiter module has been created for PowerMatch to simultaneously protect loudspeakers from excessive cone-excursion (peak) and excessive long-term power (RMS). When loading a factory preset EQ file in PowerMatch the optimized limiter settings for the loudspeaker are also applied. A version is also provided for use in ESP processors.

3. **Windows 7 Support**
    This version of ControlSpace Designer supports both 32-bit and 64-bit versions of the Windows 7 operating system, however 64-bit installations are limited to Ethernet only at this time.

4. **Monitor Mode**
    With this latest version of ControlSpace Designer comes the option of launching in 'Monitor Mode' whereby all design and control programming functions are disabled and the application can be used as a stand-alone graphical user interface for monitoring the system. When launched in 'Monitor Mode' ControlSpace Designer will automatically locate and connect to ControlSpace hardware on the network and synchronize to the 'running' settings. To launch ControlSpace Designer in Monitor Mode you add a "[space]-m" switch to the shortcut properties.

5. **Refresh of Project View devices**
    The palette of devices available in Project View has been refreshed with many new devices added and loudspeakers re-organized into product families. Compatibility with the standard devices included in previous releases has been maintained, but any custom devices would need to be added manually to the new installation. Additional region specific devices can be added by switching the device list in the Bose\ControlSpace x.xx\bin folder. For example: to add Europe only devices to the list rename 'DeviceList.xml' to 'Default.DeviceList.xml' and then rename 'Europe.DeviceList.xml' to 'DeviceList.xml' and restart ControlSpace Designer.

6. **Retrieve Saved Design**
    To simplify the connection process the option to download the 'Saved' settings when going on-line has been removed and replaced with a separate function in the 'System' menu called 'Retrieve Saved Design'. This menu option performs the same function and retrieves the 'power-on settings' but remains off-line so settings can be changed if required before the design is re-sent to the hardware.

7. **Presets retired, use Parameter Sets**
    In order to simplify and streamline the available programming options Presets have been removed and are no longer supported. These were originally introduced as a method for dynamically changing the control assignments for CC-64 and CC-16 user interfaces, but since version 2.x this can be achieved more simply and efficiently using Parameter Sets.

8. **ESP Link Card/PM-ESP Link Card**
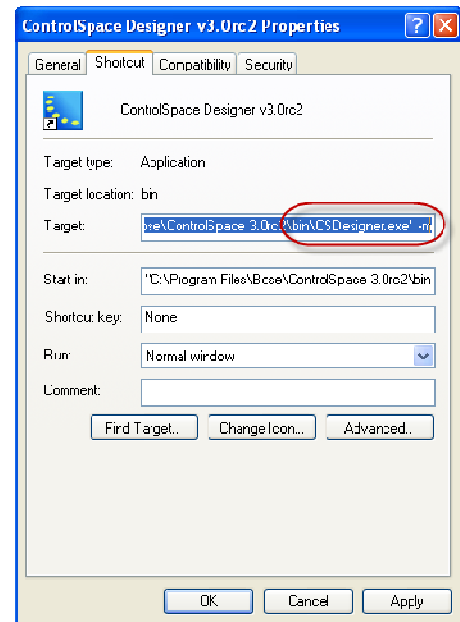
A new ESPLink card is available for the ESP to provide a single cable connection which carries 8 channels of digital audio between the ESP processor and a corresponding PM-ESPLink card available for PowerMatch amplifiers.

9. **CobraNet™ Network Audio Card –** This version of ControlSpace Designer adds support for the CobraNet network audio expansion card for the ESP. This industry-standard technology allows multiple channels of high quality digital audio to be passed across a standard Ethernet network.

The ControlSpace CobraNet expansion card has the flexibility to support any of the following input/output channel combinations:

Card Variant	Routing Slots Used	Additional Card Capacity	
		ESP-88C	ESP-00
16 in, 16 out	4	2	4
16 in, 8 out	3	3	5
8 in, 16 out	3	3	5
16 in, 0 out	2	3*	6
0 in, 16 out	2	3*	6
8 in, 8 out	2	3*	6
8 in, 0 out	1	3*	7
0 in, 8 out	1	3*	7

* Limited by the physical expansion slots available

The internal architecture of the ESP is designed to support up to 64 audio channels divided into 8 routing slots of up to 8 channels each. Typically most expansion cards occupy one physical expansion slot and have four or eight channels so the routing and physical slots are the same. The only current exception is the standard 4x4 input/output expansion card which occupies two physical expansion slots (to allow enough space for the connectors) but only requires one routing slot (8 channels total).

The CobraNet expansion card is different because it only occupies one physical slot but can support up to 32 channels (16in, 16 out) and therefore can utilize up to four of the eight available routing slots. Depending on the channel capacity allocated to the CobraNet card the number of additional expansion cards (other than the standard 4x4 card) that can be added may be less than the physical expansion slots available as demonstrated in the table above.

CHANGES AND BUG FIXES SINCE V2.200

1. The 'High Q' EQ algorithm option is now the default option for any new projects. If the lower-resource option is desired this can be selected in the ESP properties.

2. The default step-size for a volume control on a CC-64 is now 1dB.

3. A condition whereby the operation of Groups or the recall of Parameter Sets could slow significantly with Project Directory open has been resolved.

4. When there were multiple ESPs in the project and groups were controlled via a CC-64, the CC-64 display could be slow to update if the encoder was turned quickly. This has been improved significantly for ESP systems, but in PM8500N only systems the issue can still occur.

5. Under certain conditions it was possible for the CC-64 to appear frozen and operating the encoders would have no effect. This issue has been addressed, however similar symptoms can also be observed if the network connection between the CC-64 and the ESP/PM is lost.

6. If a volume Group was set to the same level by multiple Parameter Set recalls (without the level being changed in-between) it was possible for the members of the Group to become out-of-sync with the master. This has now been resolved.

7. When opening configuration files that originated in v1.001 with ControlSpace Designer v2.200 (or v2.075) it was not possible to add additional devices or processing modules. This has now been corrected.

8. Previously, uploading a design that contained a 402-II full-range loudspeaker EQ or selecting the 402-II full-range option in the loudspeaker EQ module would cause an audible 'pop'. This has now been resolved.

9. An issue that caused selectors dynamically assigned to CC-64s to revert back to their stored value when ControlSpace Designer was on-line has been fixed.

10. An issue that caused CC-64 LED ladders not to light when the assignment was changed dynamically (with no change to the volume levels) has been partially fixed. The LED ladders now light correctly when assignments are changed, but the CC-64 may need to be rebooted after the initial upload. Note that use of dynamic reassignment with PM8500Ns in the project is not currently supported.

11. The CC-64 would occasionally enter 'Custom Mode' unintentionally when processing modules were assigned in the 'Custom Mode' tab and Parameter Sets were recalled. This no longer occurs.

12. An issue whereby a selector module from any ESP other than the 'RTC' ESP assigned to a CC-64 in a multi-ESP project could cause the 'RTC' ESP to halt when the selector was changed via ControlSpace Designer has been resolved.

13. An issue that caused selectors assigned to CC-16s to revert back to their stored value when the re-assignment parameter set was recalled via ControlSpace Designer has been resolved.

14. Previously, unlocking a CC-16 or CC-64 via Parameter Set also removed the control assignments. This has now been resolved for the ESP. Note that locking or unlocking user interfaces in PM8500N only systems is not supported in this release.

15. Once CC-16s are linked to an ESP they move from the top of the Project Directory to their new location under the appropriate ESP. In previous versions this move did not occur until the file was re-opened; it now happens immediately.

16. An issue whereby the Group increment serial command (SH) did not function correctly if the gain was set to –inf has been resolved. With the gain set to –inf the first increment command changes the gain to -60dB and then subsequent commands increment the gain as expected.

17. Actions assigned to the 'Off' state (or minimum volume) of a GPI contact are now correctly invoked at power-up.

18. The pop-up faders in the AMM and Surround card modules now correctly sync to the current level when opened.

19. In previous versions when multiple devices or modules were copied and pasted the labels were assigned in an unexpected order. This has now been resolved.

20. In Up/Down mode on the GPI module the arrows indicating increment and decrement were reversed, this has been corrected.

21. Under certain circumstances it was possible for the data in the Project Directory to become 'stale' and not be updated correctly. This has now been fixed.

22. Previously, it was not possible to connect to an ESP when the hardware IP address had been changed after the design file was loaded. Now you are given the option of correcting this when downloading the file.

23. When opening a configuration file that contains custom or unknown devices in Project View, you now have the option to remove the unknown objects and continue opening the file.

KNOWN ISSUES

1. Due to a change in the file-compression options available under Windows 7 it is not possible to retrieve and open the design file from existing installations directly. Instead the 'Save Retrieved Design to File' option on the 'System' menu can be used to save the file in .cab format to the desktop. Off-the-shelf file compression software can then be used to extract the design file as required. Once the file extension has been changed from .xml to .csp, the file can be opened as normal in ControlSpace Designer.

2. Currently, connection to PM8500/N via USB is not supported for 64-bit operating systems. Although not officially supported, it is possible to run ControlSpace Designer on a 'virtual' Windows XP machine using a VMWare product or Microsoft's 'XP Mode' available for Windows 7.

3. Firmware update may fail when using Windows 7 64-bit OS with certain PC and network switch combinations. In this situation connecting directly using a crossover cable is a workaround.

4. Currently password protection for the PM8500N is bypassed when connecting via USB. Password protection works as expected when connecting via Ethernet.

5. Band Pass and Array EQ bypasses are not recalled correctly via Parameter Set without ControlSpace Designer on-line.

6. Changes made to the EQ gain parameter of a grouped SpeakerPEQ module in the PM8500N are not reflected in the other group members. All other parameters track as expected.

7. Signal processing groups that span multiple PM8500Ns are not maintained when ControlSpace Designer is disconnected.

8. Changes made to PM8500N output levels via Parameter Set, Group or serial command without ControlSpace Designer on-line, may not be correctly reflected in the limiter module and hence it is possible that an incorrect amount of gain reduction may be applied.

9. Where volume or mute Groups include members from devices other than the 'main' device, changes made via the CC-64 simulator may not update the hardware correctly and the two may become out-of-sync. When using 'Monitor Mode' it is recommended that you try to constrain groups to a single device and set that as the 'main' device via the Tools menu.

10. It is possible that ControlSpace Designer can become out-of-sync with the hardware in PM8500N systems if Parameter Sets are recalled in quick succession. Hardware functions correctly when ControlSpace Designer is disconnected.

11. Loading a locked loudspeaker file to a SpeakerPEQ module that is stored in a Parameter Set or Group whilst online can cause undesirable side-effects. In this situation it is best to go offline, make the change and send the design again.

12. The volume levels displayed on CC-64s can get out-of-sync if the same PM8500N output is assigned to multiple CC-64s. This issue does not occur when using an ESP to control volumes.

13. LED ladders on a CC-64 can get out-of-sync with the volume level if the encoder is adjusted quickly in PM8500N only systems. When there is an ESP present in the system this issue does not occur.

14. LED ladders on CC-64s may not display correctly when the assignment is changed dynamically with a PM8500N is present in the system.

15. In systems with multiple ESPs, dynamically re-assigning a CC-64 or CC-16 control from a Group to an individual module, such as a selector or a gain can result in unexpected behavior. The CC-64 or CC-16 may continue to display updates to the Group value even after the control has been changed. The issue does not occur when changing the assignment from one Group to another, or an individual module to another.

16. Use of a CC-16 (connected via an ESP) to control the output attenuation of a PM8500N is not currently supported.

17. The CC-16/64 lock feature and Timers have not been implemented in the PM8500N. These functions are only supported for the ESP only at this time. Any PM8500N parameters included in a timer event will not be invoked.

18. Advanced CC-64 functionality such as re-assigning controls dynamically has not been fully implemented in the PM8500N at this time and should be avoided in PM8500N systems.
19. Serial control of the PM8500N is only partially implemented at this time. Commands issued directly using Serial-over-Ethernet are invoked but it's possible the front panel or ControlSpace Designer may not be updated when some parameters are changed. Commands issued via another device (either another PM or an ESP) are not supported, commands should be sent each PM8500N separately.

20. When a PM8500N is connected via USB and the network address of the hardware and ControlSpace Designer differ, the network address from ControlSpace Designer will be displayed in the update utilities rather than the hardware address.
21. When working with a non-default network address, you need to use either the 'NetworkSetup.exe' utility in the Bose\ControlSpace 3.0\bin folder or the 'IP' serial command to change the network address back to the default.

22. Levels stored at –inf in a Parameter Set will be incorrectly changed to -8dB when the file is saved and re-opened. Setting the level to -60dB rather than –inf is a workaround.
23. The X-Curve function in the Surround Sound Decoder Card is not operational in this release.
24. It is possible that some paths may not pass audio correctly when there are more than 3-4 AMM blocks in an ESP system design.
25. Parameter Sets that include user interface re-assignment are not invoked correctly using the recall buttons in ControlSpace Designer whilst on-line causing the hardware and smart simulator to become out-of-sync. Using a 'dummy' CC16 in the design to recall the parameter sets is a workaround.
26. When an input channel of the AMM module opts to 'Use Channel Settings' from another channel the values are not automatically updated if the properties window is left open. Either close and re-open the channel properties window, or re-select the source channel from the list.

27. When recalling a parameter set that includes a user interface with a 'blank' assignment the smart simulation windows in ControlSpace Designer are not correctly updated. The hardware functions correctly.
28. With certain configurations it is possible that the DSP resource required can be underestimated which can result in audible distortion if a design is loaded with greater than 97% usage. Try to keep DSP resource requirement under 95% or add the DSP expansion card.
29. Gains set to –inf are not saved correctly when using Polish or Russian operating systems which results in an error when trying to re-open the file. This may also be applicable to other languages.
30. It is possible that two or more CC16s dynamically assigned to the same selector object can become out-of-sync when using the 'Select' buttons on the CC-16 simulators in ControlSpace Designer.
31. Pressing Scan in project view with a PM8500/N in the design causes the PM8500 labels to be lost/reset
32. Performing load measurements on channels with grouped delays will cause metering to stop operating, and will generate a network error when going offline.

REVISION HISTORY

v2.200/v2.075 (June, 2009)

New Features

1. **Windows® Vista® Support –** This version supports the Windows Vista operating system and the minor issues found using previous versions of ControlSpace Designer with Windows Vista have been resolved.
2. **Support for .NET Framework 2.0** – This version now supports Microsoft® .NET framework v2.0 and v1.1 is no longer required. This improves compatibility with newer PCs.

3. **Automatic Mic Mixer NOM Limit** – The Automatic Microphone Mixer processing modules have been enhanced and now include a NOM (**N**umber of **O**pen **M**ics) limit option allowing the designer to limit the number of microphones that can be active simultaneously.

4. **Automatic Mic Mixer Gate Active Indicators** – Each input to the Automatic Microphone Mixer block now has an 'Active' indicator on the gate. This allows the installer to visually see which input channels are active at any time whilst on-line. The indicator differentiates between a channel that is fully open (light blue) and one that is open but ducked due to an active priority input (dark blue).

5. **Serial-over-IP Support** – Support has been added to allow the ESP to be controlled externally using the existing serial protocol commands via a TCP/IP Ethernet connection. This allows for easier integration with third-party control systems or for customized control programs to be written for controlling the ESP-88.

6. **New Wire Styles** – Additional wire styles have been added to give designers flexibility to create neater, more organized designs. The new default wire style is 'Orthogonal' (Rounded wires with jump-overs) but other styles can be selected via the 'Wire Style' option in the 'View' menu. For compatibility, configurations created in older versions of the software shall automatically open with the previous straight 'Line' style.

7. **Enhanced EQ Processing** – The EQ processing blocks have been enhanced and include an improved low-frequency, high Q, anti-aliasing algorithm. As this by nature consumes additional DSP resources and for most applications the previous algorithm was sufficient the designer can decide which algorithms to use under the ESP properties dialog.

8. **Surround System Tuning Mode** – To aid installers setting up surround sound systems a 'System Tuning Mode' has been added to the surround decoder card. This allows a choice of test sources to be quickly routed to individual output channels while making system adjustments. The surround card requires v6 firmware for the tuning mode to function correctly.

9. **Surround Card Master Fader in Parameter Sets** – The surround card master fader can now be stored and recalled via a parameter set along with individual channel adjustments.

10. **CC-16 and CC-64 Backlight Timeout –** It is now possible to adjust the backlight timeout on the CC-16 in addition to the CC64. The backlight for the displays can be set to remain on (0 seconds) or turn off after 1 to 30 seconds of inactivity. The timeout property for the CC16/64 can be found in the properties dialog accessed by right-clicking on the device in project view. To maintain backwards compatibility the default timeout values are 10 seconds for a CC16 and 30 seconds for a CC64. The backlight time for a CC64 can still be adjusted on the hardware by pressing banks 1+4 simultaneously but any changes made here will be overwritten when a file is uploaded.

11. **ESP IP Address Changes** - Changing the ESP's IP address no longer requires a hardware power-cycle. After changing the IP address the user is presented with the option of rebooting the ESP, following the reboot the new IP address is active.

12. **Improved CC-4/Potentiometer GPI Mapping** – The operation of the CC-4 user interface has been improved to make better use of the low volume regions of the control. Previously the 8-12 o'clock region produced a minimal increase in volume. The CC-4 can also attain a minimum volume of –inf dB versus -59.5db and can break out of a mute state at minimum volume.

13. **Meter Blocks Optimized** – The signal meter blocks have been optimized and use fewer DSP resources.

14. **DS16 Pendant EQ** – EQ curve for pendant mounted DS16s has been added.

Bug fixes

1. An issue with the serial protocol "Get Level" command reporting incorrect data has been resolved.

2. Incorrect CC-64 labels when the bank controls were assigned with level- or mute-only have been resolved.

3. Help File now opens correctly when using Windows Vista

4. The 'Network Setup' and 'Update Firmware' utilities now operate correctly when using Windows Vista

5. Issues with ControlSpace Designer minimizing have been fixed

6. An issue whereby uploading a file could cause the system to hang when using Windows Vista has been resolved

7. An issue with CC-64 controlling selectors across multiple ESPs has been resolved

8. An issue with CC-64 not correctly changing group levels that were set to –inf at power-up has been resolved

9. Incorrect reporting of surround card status via the serial port has been resolved

10. The CC-64 lock property now functions properly in multi-ESP designs

11. An issue whereby gain levels set to –inf would be saved as -8dB has been now been resolved

12. The sequence in which the Room Combining Mixer properties were recalled by a parameter set caused the 'Local Select' value to be overwritten. This has now been corrected

13. An issue with the serial Group Mute (SN/GN) command not operating correctly across multiple ESP-88s has been resolved

v2.050 (November, 2008)

New Features

1. **Serial Get/Set IP Address command -** The IP address of an ESP can now be read and set via the serial port using the command "IP". See Serial Protocol v2.6 for details.

2. **Serial commands for AMM and Surround Card** – Serial control and monitoring of the automatic mixer block and surround card, including the reporting of the current decoding format has been added. See Serial Protocol v2.6 for details.

3. **Mixer algorithms optimized**. - All mixer processing modules have been optimized and now use fewer DSP resources. Improvements range up to 15% for some modules.

4. **Support for 57,600 baud added -** The ESP now supports serial communication at 57,600 baud.

Bug fixes

1. A communication issue that caused timeout errors whilst trying to upload configuration files using certain types of network hardware has been resolved. Error messages included 'Receive Timeout :XMLFileSendReq' or 'SendNetList' and when subsequently trying to connect a GetProjectFile (EXTRACT) error.

2. An upload issue when attempting to send a design using three or more ESPs that included timers has been resolved.

3. An issue whereby a certain configuration of mixers could cause audio to be routed to an incorrect audio path has been fixed.

4. An issue where the value in blue display area of the CC-16 smart simulator did not match the project tree (white area) has been fixed.

5. An issue causing the CC-16 on one ESP to freeze when controlling a selector module in another ESP has been resolved.

6. Project directory now displays level and mute in input modules correctly after downloading running.

7. An issue where the CC-64 label properties did not match those displayed on the smart Simulator when the CC-64 is stored in a parameter set has been fixed.

8. An issue where the CC-64 max level property was functioning correctly has been fixed.

9. Selectors assigned to CC-64s not displaying the first entry has been resolved.

10. An issue that caused ControlSpace Designer to become slow and unresponsive when surround audio was playing has been resolved

v2.042 (August, 2008)

New Features

1. **Automatic microphone mixer** – Three new signal processing blocks have been added for automatic microphone mixing applications. Inputs can be configured to gate on/off automatically with signal level or manually using PTT contacts. Output can be set to attenuate automatically as the number of active microphones increases thus maintaining feedback stability.

2. **Surround decoder card** – Support for our industry-unique surround sound decoder card was added to the ESP. The card supports decoding of Dolby, DTS and PCM (CDs) digital audio streams.

3. **Copy/Paste Parameter Sets -** Functionality has been added to allow parameter sets to be copied and pasted to create new parameter sets with the same blocks.

Bug Fixes

1. EQ groups that span multiple ESPs now track correctly when off-line.

2. A carriage return (CR) is no longer automatically appended to line feeds in the serial output.

3. Fixed an issue where some files experienced a timeout error during uploading.

4. An issue whereby changes to a locked CC16 took effect after the CC16 was unlocked has been resolved.

5. An issue where an 'Out of Memory' error could be generated under certain conditions has been resolved.

6. A CC-16 zone controller muted by another device or parameter set can now be un-muted by pressing volume +

7. An issue in which the CC-16 asterisk preview updated incorrectly in a multi-ESP configuration has been resolved.

8. An issue where the up button of the minimum volume field in CC-16/64 properties did not work properly has been fixed.

9. Updates to the IP address in the properties window now propagate correctly to the ESP block.

10. An issue where module names required '#' in order for the GA serial command to work has been fixed.

11. The redundant 'Change Network' button in the ESP network setup utility has been removed. The 'Set Network Address' option under 'Tools' should be used instead.

v1.241 (April, 2008)

New Features

1. **Expanded Serial Control Protocol** - Set/Get Module commands have been added to the serial protocol. These allow full control of most signal processing modules & can provide automatic feedback when module values change.

2. **IP address flexibility –** The IP address range of the ControlSpace hardware can now be changed to any value to match clients' sites.

3. **Password protection -** Optional password protection of configuration files and the ESP can be activated for added security.

4. **CC-16 Preview -** CC-16 supports the "*" preview mode similar to CC-64. This allows parameter sets and selector states to be scrolled through (previewed) without changing the audio. The change is occurs after a period of time between 1 and 10 seconds specified by the designer. By default the timeout is set to 0 secs (changes made instantly) to maintain compatibility with older designs.

5. **CC-16 Mute -** The CC-16 will now display 'Mute' (instead of 00) when muted. The CC-16 will also enter the mute state if the volume down button is pressed once the minimum volume is reached.

6. **Daylight Savings Time** - The system will automatically apply daylight savings time to your timers if "Automatically adjust clock for daylight saving changes" is selected on your PC's Date and Time properties.

Bug Fixes

1. When a CC-16 or CC-64's assignment is changed by invoking a parameter set, the settings of the object are no longer changed but instead synchronize to the current value.

2. The EDR cards were not supported correctly in V1.101, this has been resolved.

3. CC-16 default min setting has been changed from -37 to -60dB and the default maximum setting is changed from 0 to +12dB. This makes the CC-16 default settings the same as the CC-64.

4. Upload errors caused by characters such as '&', '/', '<LF>', ',', '>' and '<' have been fixed.

5. An issue where the DSP Resources button caused an error message if a parameter set's label ended with double quotation mark has been fixed.

6. Some previous version files failed to open if a floating point value had been entered in a crossover. This has been fixed.

7. An exception error caused when all modules in the ESP view were selected, copied, and then pasted into another ESP has been fixed.

8. Preset and parameter set names can now accept ',' (comma).

9. Control of groups of input or output modules that span multiple ESPs has been fixed.

10. The CC-64 could not display labels with "&". This has been fixed.

11. The output connector of an output module can no longer be connected other modules.

12. An issue where the CC-64 smart simulator did not correctly update displayed gain values after dynamic reprogramming has been fixed.

13. Various upload issues have been fixed

14. An issue with configurations that included groups stored in parameter sets that spanned multiple ESPs has been resolved.

15. An issue with configurations that included groups of input/output modules stored in parameter sets has been resolved.

16. An issue where "Bypass all" for a grouped PEQ did not synchronize to the other PEQs in the group has been fixed.

17. PEQ settings from v1.001 will now import properly.

18. Bug fixed that incorrectly allowed a group of meters to be created.

19. Version 1.1 prohibited the CC-16 & CC-64 lock parameter from being added to a parameter set. This has been fixed.

20. The labels of each ESP in the "Select ESP to Download" dialog box have been corrected to all be unique.

21. An issue relating to the editing of PEQ snapshot labels has been fixed.

22. The GPI test button state was incorrect in simulator. This has been reversed so that OFF state relates to an open input.

23. Group master fader now includes -∞ level to be consistent with gain blocks and input/output modules.

24. The 4x4 Mic/Line series II card and the original 4x4 Mic/Line card now appear as the same card in ControlSpace Designer.

25. Parameter sets spanning multiple ESPs invoked via the serial port only affected the main ("RTC") ESP. This has been resolved.

26. Changing the CC-64 minimum or maximum volume levels could cause inconsistent behavior, this has been fixed.

27. In certain circumstances the Matrix mixer display did not match the hardware state has been resolved.

28. A Mute level (-∞) has been added to the CC-16. Pressing "Vol -" when the CC-16 is at minimum volume will cause the CC-16 to go into mute.

29. An issue where ControlSpace Designer was out of sync after uploading a design using GPI, with the GPI contact active has been resolved.

30. Copying and pasting input & output slot parameters no longer overwrites the slot name.

31. An issue where recalling parameter sets that include groups on systems that have multiple ESPs' caused settings in another chassis to be affected has been resolved.

32. An issue where DSP resources could sometimes display an incorrect (lower) value has been fixed.

33. An issue where copying parameters from one PEQ to another did not update the Q/BW setting has been fixed.