ControlSpace® Designer™ software 4.1

Release Notes

23 September 2014

Revision: 1.0

General

This release of ControlSpace Designer software adds Dante™ network configuration and routing, and updates the ESP-88 and ESP-00 II design view to match the look and feel of the ESP-880, ESP-1240 and ESP-4120 processors. It supports the new ESP-00 4ch Mic/Line Input II and 4ch Line Output II cards, and the new PowerMatch amplifier AES-3 Input card. It also adds support for Windows 8/8.1 and resolves a number of high-priority defects.

Firmware

This release includes the following firmware: ESP-880, ESP-1240 and ESP-4120 (v1.130) ESP-00 II (v4.200), ESP-88/00 (v4.200), PMxxxx (v1.430). No updates to CC-64 or CC-16 firmware are required.

A firmware update for all Bose Dante cards is also included (v.1.3.0). This update is performed via the 'Status' tab on the 'Dante Properties' form.

Finally, existing Dante cards for ESP-88/00 II (DNC-E) will require an update to the carrier card firmware. This is achieved using the bundled IOCardPgm utility, found in the "ControlSpace x.x\bin\IOCardPgm" folder. *Note that the ESP control network connection should not be connected via the Dante card during this update.*

Minimum System Requirements

The following are the minimum system requirements for running ControlSpace Designer software:

- Microsoft Windows 7 (32bit or 64bit)
- 1GHz processor (or better)
- 512MB of available RAM (1GB recommended)
- 512MB of available disk space (1GB recommended)
- Minimum resolution of 1366x768 WXGA
- 1 available USB port
- 1 available Ethernet port (100Mb minimum, 1Gb recommended)
- ControlSpace Designer requires Microsoft® .NET Framework 3.5 to be installed for Windows 8, available for download here. Windows 7 includes .NET Framework 3.5 so no additional installation is required.

Note that the Microsoft Windows XP operating system is no longer officially supported.

Changes / Fixes since v4.0

Basic Operation/Update

1. ControlSpace Designer has now been tested on Microsoft Windows 8.0/8.1 (64-bit) and this has become an officially supported platform. Note that running ControlSpace Designer on Windows 8.0 will require the additional installation of the Microsoft® .NET Framework v3.5. You will be automatically prompted to do this when trying to launch Designer for the first time.
2. An 'ESPCalcResourcesError' no longer occurs when checking DSP resource usage or attempting to send a design to an ESP-00 without any input cards.
3. An issue that could prevent a successful FW update for an ESP-880/1240/4120 if the processor had been running for a long time has been resolved. A reboot is no longer required.
4. Occasionally when bringing PowerMatch amplifiers in/out of standby multiple times, especially in elevated ambient temperatures, a false 'ICV_not_OK' error could be encountered. This no longer occurs.
5. Previously it was possible for PowerMatch amplifiers to incorrectly report a fan failure when coming out of standby. This could occur in all models, but was more likely in 4ch models. The issue has now been resolved and no longer occurs.
6. In the previous version, changes made to PowerMatch amplifiers via the Front Panel or USB connection were not being saved correctly following a reboot when 'Save Settings' was engaged. This has now been resolved.
7. An issue was discovered that could cause PowerMatch amplifiers to enter a fault state if their IP address was changed after a design with programming had been loaded. The amplifier will no longer enter a fault state, but for programming to function correctly it remains necessary to send the design to hardware with the correct IP addresses for all devices.
8. An issue that could cause PowerMatch amplifiers to cease responding after receiving fast 'back-to-back' data packets from non-ControlSpace devices has now been resolved.
9. With slower network connections, PowerMatch devices could occasionally timeout before the TCP/IP connection had been completed and a reboot would be required to re-establish communication. This has been resolved and no longer occurs.
10. ControlSpace Designer now supports the new 4ch Mic/Line Input II, 4ch Line Output II and GPIO II cards for the ESP-00 II and ESP-88 processors. It also supports the new AES-3 input card for PowerMatch amplifiers.
11. Front panel LED metering on the ESP-00/88 processors now uses the same thresholds as ESP-880/1240/4120 processors, with red only shown above -2dBFS.

Signal Processing/Algorithms

1. An issue that could result in undesirable 'zipper' audio artifacts when making parameter changes in ESP-88/ESP-00 II designs with multiple Array EQ modules has been resolved.

ControlSpace® Designer™ software

1. Configuration and routing for Dante audio networks is now supported from within ControlSpace Designer. When a ControlSpace device fitted with a Dante card is present on the network, selecting 'Dante Properties' will launch a dialog that will provide control of the Dante settings and audio routing.
2. ESP-88/ESP-00 II processors have been updated to match the look and feel of ESP-880/1240/4120 devices with the same channel numbering, colors and input/output blocks.
3. ESP-88/ESP-00 II processors now support composite input and output control panels allowing 4 or 8 channels to be viewed simultaneously, with full input and output metering added to match ESP-880/1240/4120 devices.
4. ESP-88/ESP-00 II processors now support the updated GPI/O control panels that include activity indicators and the ability to label GPI and GPO pins.

5. ESP-88/ESP-00 II processors now support 64 serial input triggers and support the updated Serial In/Out control panels that include the ability to label, save and load serial strings.
6. Dragging a GPO or Serial output module to a Parameter Set now triggers a selection dialog to ease the process of recalling changes to individual outputs.
7. ESP-88/ESP-00 II Dante outputs will now correctly connect to Dante inputs on other devices and not to analog inputs as before.
8. Previously it was possible to add a second network audio card to an ESP-88/ESP-00 II via the 'Properties Window'. This was incorrect and is now fixed.
9. All label fields in the Selector control panel are now fully visible and can be edited when running on Windows 8/8.1 operating systems.
10. Runtime settings such as the default network address or network adaptor are now correctly stored in the user's application data area, rather than the installation folder resolving Windows User Account Control issues.
11. Existing ESP-88/00 II designs that include the ESPLink output card will be converted to the use the composite ESPLink module to match the newer ESP-4120/880/1240 processors.
12. The generic CobraNet and Dante devices in Project View can now be connected to the CobraNet and Dante connections of ESP and PowerMatch devices as expected.
13. Applying vertical alignment to input or output modules that are shown within a 'dashed' card-group no longer causes modules to become stacked and inaccessible.
14. Hovering over device tabs in the project now correctly displays the user-assigned label for the device.
15. If the device list in network setup had been re-ordered it was possible that an incorrect device could be indicated by the wink feature. This no longer occurs.

Control Centers/Programming

1. PowerMatch and ESP-88/ESP-00-II devices now respond correctly to reverse-taper (A-) analog GPI changes from ESP-880/1240/4120 processors.
2. Designs that included modules, groups or parameter sets assigned to GPI pins #6-8 on an ESP-88/ESP-00 II could cause a fault condition on ESP-880/1240/4120 devices. This has now been resolved.
3. Parameters assigned to GPI pins on the ESP-880/4120/1240 are now correctly synchronized to the hardware state when the design is sent to the hardware.
4. Changes to the bypass parameters of the PowerMatch Band Pass module are now recalled correctly via Parameter Set with ControlSpace Designer disconnected.
5. Previously it was possible for the PowerMatch output level to jump when controlled via the analog GPI on ESP-880/1240/4120 processors. This no longer occurs.
6. An issue that caused ESP-880/1240/4120 devices to cease responding correctly to CC-16, serial input and GPI changes after a while if booted without a network connection has been resolved.
7. Changing ESP-880/4120/1240 assignments on a CC-64 has been optimized and is now consistent with ESP-88/00 devices.
8. Previously it was possible for the front panel of PowerMatch amplifiers to display text incorrectly when changing the standby state via ControlSpace Designer and parameter set or serial command. This no longer occurs.
9. The GPI control panel for ESP-88/ESP-00 II has been updated to include the reverse-taper (A-) option, but this requires the updated GPIO II card to function correctly. When used with the original GPIO card it will operate as normal-taper (A+).
10. In the last release, if timer events included multiple, but not all, devices events for some devices could be triggered at incorrect times. All timer evens will now only be triggered at the correct date/time.
11. It was also possible that timer events assigned to non-RTC devices could fail to execute due to the order in which devices were loaded. Now the RTC device is always loaded first and the non-RTC timer events execute as expected.

12. During daylight savings time, timer events in systems that included PowerMatch amplifiers could be incorrectly triggered a second time an hour later. This no longer occurs.
13. Previously, assigning modules with a large number of parameters such as the 24x24 standard mixer to a Timer event could generate an error when sending the design to the hardware. The capacity has now been increased.
14. The test buttons for serial inputs 33-64 now work as expected when online.

Serial Control

1. Previously, when uploading a new design or saving changes to flash the 3rd party serial-over-Ethernet control port would not be closed correctly, preventing the controlling device from re-connecting. The port is now closed correctly allowing 3rd party control devices to automatically re-establish connection once the upload is complete.
2. An issue that prevented changes to PowerMatch modules (including output and matrix levels) via serial command whilst muted, un-routed or bypassed has been resolved.
3. Querying the last invoked Parameter Set via serial command (GS) will now return the correct value even if a CC-64 is displaying a Parameter Set preview (*).
4. Handling of large 'bursts' of serial commands to the ESP-880/1240/4120 has been improved and should no longer cause an issue.
5. If the network connection to an ESP-880/1240/4120 is lost and restored, the 3rd party control port will now reset and will allow the external controller to re-establish connection.
6. When connected via RS232 the ESP-880/1240/4120 would echo back received characters causing an issue for some controllers. This no longer occurs.

Dante™ Network Audio

1. This release adds extensive Dante™ network configuration and routing from within ControlSpace Designer. The Dante Properties form is accessed by right clicking on a device fitted with a Dante card or via the 'System' menu. Changes to Dante settings (except networking/update) can be made irrespective of whether Designer is online with ControlSpace hardware.
2. An additional 'Isolated_Networks' mode has been included for ESP-880/4120/1240 Dante cards (DNC-R) that separates Dante traffic to the primary port and ControlSpace control traffic to the secondary port for projects where independent networks are required.
3. When working with ControlSpace and Dante audio on different networks/subnets it is important that Dante control is turned off when connected to the ControlSpace network otherwise existing subscriptions may be overwritten. This is done via the 'Disable Dante Subsystem' option on the 'System menu.

Known Issues, Defects and Limitations

The following are the known issues and defects with this release. Information included here can be useful when troubleshooting issues with software or hardware operation.

Signal Processing/Algorithms

1. The gain for a PEQ band in the ESP-00/88 SpeakerPEQ module is internally limited to 18dB despite the control panel allowing values of up to 20dB.
2. It is possible that some paths may not pass audio correctly when there are more than 3-4 AMM blocks in an ESP-00/88 configuration.
3. When using the 'advanced' filter parameters on the PowerMatch Array EQ module, clicking on an up/down button first will insure that all subsequent changes are made correctly. Clicking on a numeric field first incorrectly prevents subsequent changes being made, even though they appear to be working in Designer.

ControlSpace® Designer™ software

1. Since ControlSpace Designer v3.2 it has been possible to select which devices should receive the project file. When downloading it is important to ensure that the correct device is selected or an incorrect design file will be loaded without warning that the design is mismatched.
2. Project directory can cause performance issues in larger systems. When working with larger projects we recommend you close Project directory and then restart Designer.
3. When an input channel of the AMM module is set to 'Use Channel Settings' from another, the values are only updated when the properties window is opened. Either close and re-open the channel properties window, or re-select the source channel from the list.
4. Incorrectly entering characters into numerical fields, such as those found in the AMM control panel can cause unhandled exceptions.
5. The Select Timeout and Backlight Timeout property values are not maintained when performing a copy/paste on CC-16s.
6. Channel and module labels with quotes " or backslash \ will cause a 'CalcEspResource' error and should be avoided. This includes custom labels of Dante channels where these are permitted characters.

Control Centers/Programming

1. Custom mode operation on the CC-64 is not currently supported for ESP-880/4120/1240 processors.
2. Dynamically re-assigning selectors from different devices to a CC16 or CC64 does not work as expected – only re-assign selectors from the same device or use parameter sets.
3. Dynamically re-assigning gains/inputs/outputs from different devices to a CC16 does not work as expected, only re-assign volume controls from the same device or use Groups.
4. 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.
5. Dynamically changing a CC-64 control assignment from a selector to output/gain and back to a selector can cause the audio from the output/gain path to cease.
6. '*' can be shown when navigating back to original channel on CC-16
7. In larger systems it is possible for the CC-64 to become unresponsive when recalling parameter sets that change its lock status or control assignment.
8. It is possible that ControlSpace Designer can become out-of-sync or lose communication with the hardware if large Parameter Sets are recalled in quick succession. Hardware functions correctly when ControlSpace Designer is disconnected.
9. Certain PowerMatch modules do not respond correctly to parameter changes or update ControlSpace Designer when triggered directly via ESP timer events. Use Parameter Sets instead.
10. Whilst most signal processing groups that span multiple PowerMatch devices are maintained when ControlSpace Designer is disconnected, Input PEQ, Array EQ and Band Pass modules are not.
11. The volume levels displayed on CC-64s can get out-of-sync if the same PowerMatch output is assigned to multiple CC-64s. This issue does not occur when using an ESP.
12. An issue can occur with grouped selectors in multiple ESP systems, whereby the CC-16 can appear locked or frozen. A workaround is to assign one of the group members to the CC-16 instead.
13. Mute-only group labels are not displayed correctly on the CC-64 when assigned to the control dynamically. Level+Mute groups behave as expected and using Parameter Sets is an alternative.

14. When changing CC-16/64 assignments via Parameter Set the stored 'Off at Minimum' property is currently ignored by the hardware, but the change is made correctly in Designer.
15. Parameter sets with commas in the label are not displayed correctly on CC-16 and CC-64 user controls.
16. CC-16s assigned to control objects on networked devices are not correctly synchronized to the current level or selection at power-up. Once changes are made, either via the CC-16 or invoking a parameter set, the CC-16 will be synchronized and will display the correct values.
17. Currently the Dante output polarity does not change in response to Timer, GPI or serial events, using a Parameter Set is a workaround.
18. When Parameter Sets that are assigned to CC-64/CC-16 controls span multiple devices and a subset of those devices have been rebooted, or disconnected/reconnected it is possible for incorrect parameter sets to be recalled on those devices. Scrolling through all the possible selections on the CC-64 or invoking a Parameter Set directly via serial command are possible workarounds.
19. Dante and CobraNet outputs can now be added directly to Groups, however an error will occur if the Dante or CobraNet card variant only has 8x input channels. Using gain blocks prior to the output is a workaround.
20. Changes made to ESPLink, Dante or CobraNet inputs/outputs via the CC-16 simulator are not correctly sent to ESPs, changes made via the hardware CC-16 work as expected.
21. When a PowerMatch output is assigned to an analog GPI pin on an ESP the maximum volume should be manually changed to 0dB to prevent the maximum level of the PowerMatch output from being exceeded.

Serial Control

1. System commands (such as Parameter Set recall, or Group level change) must now be sent to either the Main/RTC device or one of the devices included in the Parameter Set/Group, not to any device as it was before. This change is part of the optimization to allow support of larger systems.
2. Changing the port number or disabling serial-over-Ethernet on ESP-880/1240/4120 devices doesn't take effect until the second connection, or after a reboot.
3. PowerMatch input groups allow level adjustment via serial command SG n,l even though they are of Grouping Type " Mute".
4. If an intermediate value for the Redline pre-gain parameter is sent via serial command the same value will also be returned rather than the actual value it was rounded to.
5. ESP-880/1240/4120 devices will incorrectly accept additional connections to the serial-over-Ethernet control port rather than resetting the existing one. Any communication via those connection will be ignored.

Dante™ Network Audio

1. Multicast audio traffic must be filtered from any ports connected to ESP-00/88, CC-64 and preferably PowerMatch devices. Using 'Legacy_Hardware' mode is a convenient way to do this.
2. Dante interfaces are set to 'Obtain an IP address automatically' by default and will take an address from a DHCP server if present, otherwise they use a Link-local address in the 169.254.x.x range. For ease of setup we recommend using a DHCP server set to the same range as ControlSpace 192.168.0.x (avoiding the fixed addresses of ControlSpace devices).
3. Devices with Link-Local IP addresses may not be detected with multiple Network interface adaptors (NICs) active. Disable all other NICs or manually set the NIC to the Link-Local address.
4. It is possible in larger Dante systems using redundancy, where IP addresses are provided via DHCP, that a Dante card may not be detected correctly during boot. Using static or Link-Local (obtain automatically without DHCP server) addresses is a workaround.
5. In larger systems it can take up to a minute to discover all the Dante devices, or to remove all the Dante devices from the list after the network is disconnected.

6. Adding, removing or changing the card configuration of devices in Project View will not update the Dante Properties form while it is open. Close and re-open the form in order to see the changes.
7. Dante signal metering shown in the drag and drop routing view will fail to update correctly in larger systems with more than 16 devices.
8. Multicast flows created in Designer are always created with the maximum number of channels permissible for the device (typically 2 or 8), irrespective of the actual number of channels added in the routing view. This should be considered in bandwidth calculations.
9. Default channel labels for Dante Virtual Soundcard on Mac OS-X are not shown in Designer, but custom labels can be added. PC version works correctly.
10. Currently configuration and routing from within Designer is limited to Dante devices with a maximum of 64x64 channels.
11. In order to successfully configure and route audio to and from the Yamaha MY-AUD16 Dante card from within ControlSpace Designer firmware version 2.4.0 or later is required.
12. Renaming multicast flows on some 3rd party devices, such as the Atterotech unDIO range, can prevent subscriptions from being resolved. Deleting the multicast flow and re-creating is a workaround.

Refer to the relevant Dante Technical Notes, available separately, for more detailed information on setting up and configuring systems that include Dante audio networking.