BLACK BOX®
NETWORK SERVICES

Firmware Revision Information

Product Code(s): *DCX3000, DCX3000-DVR, DCX3000-DPT, DCX3000-DVT*

Product Name(s): *DCX3000*

Date Modified: *November 18th, 2015*

Version 1.02 (11-19-2015)
IF YOU ARE UPGRADING THE UNIT FROM VERSION 1.01, FOLLOW THESE STEPS:

1. UPLOAD THE "DCX_V1.02_RECOVERY.bin" FIRST VIA THE WEB INTERFACE USING THE FIRMWARE UPGRADE FEATURE.

2. ONCE YOU UPLOAD THE RECOVERY FILE IN STEP 1, YOU WILL GET A WARNING ON THE USER STATION THAT YOU SHOULD UPGRADE THE FIRMWARE, SIMPLY PERFORM A SECOND UPGRADE USING THE "DCX_V1.02.bin" FIRMWARE FILE.

Component	Version
Switch	1.02.4091
Receiver	1.02.4075
Transmitter	1.02.4075
Switch>>Video FPGA	0.10 (unchanged since 1.01)
Switch>>Data FPGA	0.11 (unchanged since 1.01)
Receiver FPGA	0.17 (unchanged since 1.01)
Transmitter FPGA	0.13 (unchanged since 1.01)

New Features and Enhancements:
- Factory Image Field Upgrade: With this release, it is now possible to perform a field upgrade of the central switch factory (recovery) image. The new factory image is provided as a "special" upgrade image by Adder. The upgrade of the factory image is only recommended in a controlled environment since failure to upgrade may result in a RMA.

Changes since Previous Version:
- Review Web backend callback object when err returned
- Naming fixed on receivers and transmitters
- USB lockup issue fixed for compatibility with Freedom II
- Fix cppcheck warnings
- @ Unspecified unclear on dashboard
- Video blanks on all connected channels (dongle blanking)
- Dashboard page formatting can be incorrect if web browser screen size is changed
- Manually editin the URL to a port that doesn't exist causes the Web app to crash
- Video blanks on individual head (receiving blank)
- Add DCL connection uptime to web diagnostics
- Fixed mix up between transmitters and receivers in the web interface

Known Issues:
- DisplayPort Dongle does not work well with HDMI monitors and ATI FirePro 2260 graphics cards
- If the transmitter is not receiving microphone audio from a receiver it should output silence
- Heavy noise on audio output after repeated switching
- Connecting two audio enabled transmitters to the same Linux PC causes USB lock-up
- Web Interface driven switching doesn't work if the user station has the OSD up
- Sometimes get headphone audio disrupted due to PC temporarily stopping the isochronous out data
- Both heads do not always return when system wakes up from sleep

Version 1.01 (10-20-2015) DO NOT USE

Component	Version
Switch	1.00.4025
Receiver	1.01.4024
Transmitter	1.01.4024
Switch>>Video FPGA	0.10
Switch>>Data FPGA	0.11
Receiver FPGA	0.17
Transmitter FPGA	0.13

New Features and Enhancements:
- Backup cloned EDIDs when backing up and restoring configuration
- Improved Dashboard Feedback
- Audio Support
- DHCP implementation for startup
- Show which transmitters are using which EDID on the Manage EDIDs page
- Mouse launch of OSD
- Diagnostic to show the Central Switch factory version
- Improved factory reset process
- User configuration setting to allow users to enter the OSD using the mouse
- Central Switch ability to route audio packets over the DCL

Changes since Previous Version:
- Video FPGA reporting voffset +1 and total lines -1
- Blue vertical bar showing on OSD thumbnail with 1600x1200@60Hz pattern 3: Gradually
- Changing switch IP address page does not refresh to new IP
- Thumbnails of 1920x1200 video sources are stretched horizontally
- Very occasionally communications with dongle not restored after reboot / reprogram
- Web dashboard, occasionally the computer "badge" will flash to show its got a video feed when nothing is connected.
- On the Configure > Central switch page, the system EDID is often not displayed
- The primary and connected console information on the dashboard screen only works for video-only links
- No error feedback / text shown to the user if the backup configuration file cannot be downloaded

- Monitor can blank at high video resolutions when signal integrity is poor and dependent on active video content.
- Receiver unit overlay positioning on the computer selection screen is not stable when video signal integrity is poor
- Receiver unit interprets HDMI video guard band as active video
- Receiver unit sync regeneration code doesn't operate on first 3 pixels of video blanking
- Receiver unit video timing generator asserts ade_out during active video
- Receiver unit and central switch can indicate HDMI video guard band when video guard band when video is DVI
- No login page when using Firefox 39.0
- Options related to thumbnails are not synchronized
- Boot code only loads kernels up to 4Mb
- HTTP500 server error on every page after deleting the logged in user
- Cannot order RX details by Unique ID, monitor number or monitor model
- Cannot reorder TX details by Unique ID
- The version of 'node' build packages needs to be fixed
- The firmware mismatch feature as currently implemented will cause RMAs
- FPGA SerDes uses the switched clock instead of the synthesized clock for its receive reference clock
- Disconnect logo on the last OSD entry (number 19) is bright when it should be dimmed
- Loss of end of blanking is not reliably detected by the FPGA
- Password shown as plain-text in user create
- Audio packets do not appear to be transmitted correctly
- The FPGA USB code returns valid handshakes for invalid endpoints
- The transmitter FPGA fails to send handshake packets
- The receiver audio output channels are reversed
- Poor audio quality
- Hashed password and salt fields are being sent to browser
- Detection of HDMI video guard band is unreliable when the video source transmits CTL3, CTL2, CTL1, CTL0 = 0001 for video blanking
- Cannot set static IP address
- Changing the description of a unit is not being reflected in windows-Network device name
- Web responsiveness slows over time
- With HTTP server enabled, always redirects to HTTPS
- Manage EDIDs page is showing the incorrect test for Active Transmitter Port
- System version is not shown correctly on Maintenance page
- Individual Console page, Receivers table has additional ordering buttons
- Consoles/ Console X page – connected computer details are missing
- Receiver unit doesn't recognize underscore character during upgrade via memory stick
- Reprogramming a transmitter from the receiver's recovery mode may not always work
- Recovery mode banner is not updating
- Microphone volume control should be applied to left and right channel decimators
- Required dongle version is not reported via Web UI
- Can't upgrade a dongle from 0.01 to 0.05
- There is a significant pulsating sound from side-tone when AGC on and / or when Mic / Mixer / Headphone volume is high.
- Microphone mute is ignored when AGC enabled
- Audio clipping with existing audio codec AGC settings
- Audio DPLL pull range is not wide enough
- Codec master volume control doesn't reflect PC settings after Receiver unit is power cycled
- Upgrade of a Dongle sometimes fails in Extender Mode if the Dongle is not power cycled during the upgrade
- If the upgrade of a Dongle fails in Extender Mode, then there is no error message displayed

- The on-screen instructions during an upgrade in Extender Mode are misleading
- Audio clicks from Microphone
- Incorrect logic operate in web/devices.cc:DEVICES_RebbotBusy()
- Receiver recovery mode sometimes fails to communicate with a connected keyboard
- USB HID reports may not be initialized correctly
- USB HID timeout periods incorrectly set at initialization
- The virtual USB hub within the transmitter must set the self-powered bit even though it is bus powered.

Known Issues:
- DisplayPort Dongle does not work well with HDMI monitors and ATI FirePro 2260 graphics cards
- If the transmitter is not receiving microphone audio from a receiver it should output silence
- Heavy noise on audio output after repeated switching
- Connecting two audio enabled transmitters to the same Linux PC causes USB lock-up
- Web Interface driven switching doesn't work if the user station has the OSD up
- Sometimes get headphone audio disrupted due to PC temporarily stopping the isochronous out data
- USB lock up on DCX with connection to a Freedom II
- Video blanks on all connected channels

Version 0.05 (8-27-2015)

Component	Version
Switch	0.05.3789
Receiver	0.03.3780
Transmitter	0.03.3780
Switch>>Video FPGA	0.09
Switch>>Data FPGA	0.11
Receiver FPGA	0.12
Transmitter FPGA	0.08

New Features and Enhancements:
- Support to select the last channel with previous permissions
- Improved renumbering of computer IDs after removing a computer from the system. Renumbering scheme now matches that used by Agility, which preserves the original computer numbers.
- Enhanced "500 Server Error" messages. When errors are returned from the switch, the client will now see contextual information relating to the issue
- Added "Computer Number" field in the computer description. The computer setup screen now has a field entitled "Computer Number" that is used to define the menu position and hotkey associated with that computer.
- "Fault" LED now reflects the real-time status of the debug and factory headers. The LED will be set if the debug or factory headers are detected during startup.

- Selectable ordering of computers and consoles. The dashboard list of computers and consoles can now be ordered by selecting any of the table headings, rather than just the computer or console name.
- "ESC" keyboard key will now remove the OSD. Pressing the "ESC" key without anything selected will now revert back to what was previously selected.
- When adding a computer, it is now possible to allocate access to all consoles. Simplifies the setup in many installations.
- Delete all computers / consoles. It is now possible to bulk delete computers / consoles from their respective configure pages.
- Allocation of ports without needing to delete them first. Adding further transmitters to computers or receivers to consoles when the unit is fully configured can be difficult as it is necessary to delete them first. It is now possible for the "admin" user to allocate an already assigned port and it will be automatically removed from the existing computer.
- The full list of EDIDs that match with the Agility devices has been added to DCX3000 and can be assigned to individual Transmitters, or system wide.
- OSD control using the keyboard with the following keys:
   *Arrow Keys – highlight computer
   * Enter – Connect in Shared Mode
   * Shift + Enter – Connect in View Only Mode
   * Ctrl + Enter – Connect in Exclusive Mode
   * ALT + Enter – Connect in Private Mode

Known Issues:
- DisplayPort Dongle does not work well with HDMI monitors and ATI FirePro 2260 graphics cards
- No login page when using Firefox 39.0
- Multimedia keys don't work with some keys
- FAE-Mouse pointer moves to the top left corner when idle on Mac using Freedom