



## RELEASE NOTES – [3.0.0.5]

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### grandMA2 Software Releases [3.0.0.5]

Dear user,

We are delighted to announce the next official software release for the grandMA2 version [3.0.0.5].

Enjoy the next generation of lighting and video control. If you have any improvements to share with us or if there are any questions, comments or any bugs found, please inform our Technical Support at [tech.support@malighting.com](mailto:tech.support@malighting.com).

Thanks for downloading and enjoy your show!

Your MA Lighting Team

## Bugfix Release Notes [3.0.0.5]

- Support for MA 2Port WM and MA 4Port WM added.
- Fixed - grandMA2 onPC restores maximized windows at start up.
- Fixed - grandMA2 onPC DC Remote Control input at MA onPC command wings.
- Fixed - Possible DMX sheet crash.
- Fixed - Fixture Type Module visualization of High End Systems Showbeam, High End Systems Showgun and Martin Mac Aura.
- Fixed - Crash when pressing User1 x-keys while editing cue numbers at the same console.
- MA VPU version 3.0.0.5 - If the Area of a Pixel Mapper is not names longer than 19 letters, the software does not crash any more.

## Bugfix Release Notes [3.0.0.4]

- Fixed - Crash when executing clone command twice via clone dialog.
- Fixed - Crash when mapping internal screens of MA RPU to external displays.
- Fixed - Pressing Escape at an external keyboard blackouts MA NPU screen until reboot.
- Fixed - Channel Page fader level display of Playback views.
- Fixed - Restoring 15.4inch display backlight settings when ending the screen saver.
- Fixed - Effect Pool indicators refresh when editing effects.
- MA onPC command wing and MA onPC fader wing contact bounce suppression of buttons has been improved.
- Fixed - Sheet Style pool view was accidentally activated for some user profiles when loading show files stored with former grandMA2 versions.

## Release Notes

### grandMA2 Version 3.0.0.2



#### Important:

- The MA-Net2 protocol has changed to support the MA 8Port Node devices. All MA devices need a new network streaming protocol with the 2.9 software. Once updated to the correlating version to grandMA2 v2.9, MA 2Port, MA 4Port, MA 8Port Node, MA NSP and the MA NDP will no longer work in a session with an older network streaming protocol (e.g. grandMA2 v2.8). Down-dating MA 2Port Nodes or MA NSP running in MA 4Port Node Mode to be v2.8 compatible is only possible via grandMA1 v 6.801. All other devices can be down-dated via USB or windows installer only.
- If you would like to update your dimMA system from any version below 7.x please contact your MA dealer or MA directly for any update information. Should you be using grandMA2 together with our dimMA solutions, please get in touch with us, since a console update will now require a NDP update and vice versa. We are happy to assist you.
- The current versions of grandMA on PC and MA 3D require at least Windows XP with Service Pack 3. The latest version of Microsoft's Net. Framework (4.0) will be installed on your computer.
- Hints and known limitations can be found in the appendix at the end of this document.

**Main feature overview:**

- Layout View improvements
- Sheet Style pool views
- Timer Pool containing Countdowns and Stopwatches
- Message center
- Search and Replace
- Auto-create Swatch book Color Presets
- Network Troubleshooting Tools
- Individual Colors per cue and pool object
- Dynamic preset pool
- Preset auto naming
- Extended command-line support when calling objects via name.
- CITP MSEX video streaming at grandMA2, MA 3D and MA VPU
- Unified installer file names and version numbers.

## New functions and features in detail:

- **Layout View**
  - New "Edit selected" button in layout view setup mode encoder bar.
  - New symbol feature settings:
    - "with dimmer" displays color and gobo in relation to current dimmer value.
    - "Always" displays color and gobo disregarding current dimmer value. Dimmer value can be visualized separately via dimmer bar or dimmer value.
  - As it is not allowed to have multiple items of the same fixture inside one layout, a pop-up will warn the user if he tries to change the fixture ID of one item to the fixture ID of another fixture already existing in the same layout.
  - Support of direct action for objects capable of pool playbacks (sequences, effects) has been added.
  - Running pool playbacks will be visualized as mini executor icons inside layout view when assigned to a layout.
  - Sheet Cue Color settings has been added to layout view. User can choose whether to only display the cue colors of playbacks of the current user or the cue colors of all running playbacks.
  - The "Please" hard-key of the Edit layout object dialog can be used to tab through "Add text", "ID" and "confirm" button.
  - Layout object background, border and text color editor provides a "reset color" button which resets the background color to transparent, and the text as well as border color to white.
  - An editable border color has been added for layout view text objects.
  - Multiple image files can be imported into image pool simultaneously.
- Stage View lasso selection respects the order of selection of lasso.
- "Follow mask" button has been added in Stage view.
- **Pools**
  - The frame color can be changed for each pool object by using the command-line command "Appearance" (3 times assign key) and touching a pool object. E.g.: Insert "Appearance Preset 1.5" and choose a color from the pop-up. Possible parameters for command "Appearance" are "r" (red), "g" (green), "b" (blue) or "h" (hue), "s" (saturation),

"br" (brightness). Hue value ranges from 0 to 360, all other parameters have a value range between 0 and 100. E.g.: "Appearance Group 1 /h=180 /s=95 /br=100"

- A "Reset Colors" button has been added to pool options. It removes all individual frame colors of any object inside this pool.
- Frame colors can be copied from one object to another. E.g.: "Appearance group 10 through 15 at group 5" will copy frame color of group 5 to group 10 through 15.
- All pools have a sheet style in addition to the already known Icon mode
- Pools in sheet style mode can hide or show empty pool items.
- All Macro pool items show the red colored special symbols 'C' and 'T' when the 'CLI' or 'Timing' option is disabled.
- **Clock and Timer**
  - The Timer pool containing stopwatch and countdown functionality has been implemented.
  - Stopwatch
    - The Time unit of the stopwatch can be chosen.
    - The effect of stopping and starting the stopwatch can be set to either continuing or restarting from zero.
    - The start trigger can be set to link selected, not linked or link last go. When linked, the commands GO, GOTO, and TOP of the linked executor will start the stopwatch.
  - Countdown
    - When the countdown function is enabled, the following settings will be available (additionally to the stopwatch settings):
    - The countdown can be set to any time between 1s and 24h
    - The alert duration sets how long the pop-up will be seen. Zero means that the pop-up will stay until confirmed, any other timing will automatically close it.
    - Additionally to the pop-up, the user can choose to get an audible alert when the countdown has run down.
    - The alert range can be local (i.e. the alarm will only go off at one station) or global (i.e. the whole session will be notified). Be aware, Special Master Sound out has to be set above zero to hear countdown alarm sounds.
  - The command "Load from default" loads defaults from current user profile. The command "Save to default" saves the current settings as defaults to the current user profile.

- The Timer pool objects show the current time of the timer. The letter S stands for stopwatch, the letter C for countdown, the letter G for global alert and the letter L for local alert.
- The command-line commands GO, PAUSE, TOP and OFF Timer x can be used to start, stop, reset and switch off a timer.
- The Timer can be assigned to executor buttons, x-keys or view buttons.
- The current time of the timer can be assigned as timing of a cue by using the syntax "Assign fade \$timer1 cue 1 please" or by pressing the buttons "Assign Time TimerPoolObject Cue 1 Please".
- All running timers are listed in off menu.
- The timer keyword can be accessed via hard-key: MA + Macro.
- Additional features of grandMA2 clock view.
  - A Date display has been added.
  - Additional time and date formats.
  - Adjustable Time offset for world clocks.
  - In addition to system time, SMPTE and MIDI timecode, timers can be displayed as well. The clock can be linked to any timer by using the select timer setting.
- **Message Center**

grandMA2 Message Center provides an overview as well as a history of status, warnings and alerts.

- The status icons to the right of the command-line show current active warnings and alerts. Most of those icons can be hidden by using the message center options dialog. To open the options menu, touch the yellow ball of the Message Center Overview title bar. Critical alerts like power-loss cannot be hidden.
- All currently valid status symbols, including those that have been hidden, will be displayed as long as the MA hard-key is pressed.
- The message center overview can be accessed by pressing any of the message center icons in the command-line.
- The message center overview provides a list of all currently valid symbols, their description and the number of available detail messages. The "Show All" button will provide a list of all available symbols with description and number of new and archived messages.
- Touching any row inside the message center overview will open the detailed message history of this topic.

- All Message Center messages can be accessed and exported via command-line. Possible commands are "List messages", which will have all messages listed inside the command-line feedback, or "Export messages", which will export all messages into a XML file. The syntax can be filtered by using conditions, e.g. "List Messages /condition=alert" will only list all alert messages.
- A stylesheet has been added to the Messages export. Loading the exported messages.xml using any browser like Internet Explorer, Safari or firefox will display a sortable table of messages. The style folder containing the stylesheet will automatically be copied to the USB drive when messages are exported.
- **Search and Replace**

The Search and Replace function can be used to search for fixtures, presets, values,... and replace these with other fixtures, presets, values,...

- **SEARCH search\_for\_object [[AT] search\_values] [IF search\_in\_object]**
  - search\_for\_object can be any kind of object to search for, e.g.:
    - Fixture 1 thru 5
    - Attribute "PAN"
    - Fixture 2 Attribute "PAN" + "TILT"
    - Preset 4.1
    - Sequence 3
  - search\_values could be:
    - Value 10 thru 20
    - Fade 3 Thru 10
    - Delay 15
  - search\_in\_objects can be any kind of object to be inspected, e.g.:
    - Sequence 2
    - Executor 1 thru 30
    - Preset 0.1 thru 0.100 ..to search for embedded presets or presets containing specific values
    - Preset 4.1
    - Sequence 3



Be aware that searching for presets and effects is searching for fixtures using this preset or effect in presets, cues, and effects. It is not searching for values of this



preset or effect.

- Examples:
  - "Search Fixture 1" - lists all objects containing any Attribute of fixture 1
  - "Search Effect 10 If Sequence Thru" - lists all sequences and cues referring to effect 10.
  - "Search Fixture Thru At Fade 10 Thru 20 if Sequence Thru" - lists all sequences and cues containing individual fade times between 10 and 20 seconds.
- In order to search for e.g. all fixtures stored with a specific color, search results can be used as a filter for the next search. E.g.:
  - "Search Fixture Thru Attribute "ColorRGB1" At 100 If Sequence Thru" - All fixtures that have the attribute Red at 100 will be found.
  - "Search Fixture Thru Attribute "ColorRGB2" At 0 If Searchresult" - All fixtures that have the attribute Red at 100 and the attribute Green at 0 will be found.
  - "Search Fixture Thru Attribute "ColorRGB3" At 0 If Searchresult" - All fixtures that have the attribute Red at 100, the attribute Green at 0 and the attribute Blue at 0 will be found.
- REPLACE search\_for\_object WITH replace\_with\_object [IF search\_in\_object]
  - Replace syntax is similar to search syntax. The additional part of the syntax starts by using the keyword WITH.
  - - ! The Replace syntax can be used in two "modes", either replacing objects or values.
    - ! The syntax "Replace search\_for\_object WITH" without adding a "replace\_with\_object" will delete the "search\_for\_object".
- Examples
  - "Replace Preset 3.1 With Preset 3.3 If Sequence 1" - Replaces Preset 3.1 with Preset 3.3 in any cue of sequence 1.
  - "Replace Fixture 1 With Fixture 201 If Sequence 1 thru 10" - Replaces Fixture 1 with Fixture 201 in any cue of sequence 1 through 10.
  - "Replace Fixture 1+2 With Fixture 2+1" - Exchanges Fixture 1 with Fixture 2 and vice versa in any preset, effect, cue, ... of the whole show file.
  - "Replace Fixture 1 With If Sequence 1 thru 10" - Removes Fixture 1 from all cues of sequence 1 thru 10.

- "Replace Attribute "Tilt" Fade 5 with Fade 10" - The individual fade time of 5 seconds of attribute Tilt of any fixture will be replaced with fade time of 10.
- Hard-key access to keywords:
  - Search - MA + Move
  - Replace - 2x Move
  - With - Move if Replace search\_for\_object is already written in the command line.
  - SearchResult - MA + 2x Group
- When Groups, Filters, Worlds, or Selections are used in search/replace commands, the channels or fixtures included are being searched or replaced. E.g.: If Group 1 contains fixture 1 through 5 the commands "Search Fixture 1 Thru 5" and "Search Group 1" are equivalent commands.
- The command "Searchresult Please" creates a "Search-result-world". This world will filter all Sheets and command lines according to the fixtures, channels and attributes of the current search-result. To exit this world, execute the command "World 1 Please" or select the World you were working with again.
- The command "Selfix Searchresult" selects all fixtures of the current search-result.
- It is highly recommended to use search and replace syntaxes inside Macros. The option /nc can be used to hide pop-ups and result windows when using search and replace.
- New predefined Macros for search and replace.
  - Replace Channels, Replace Fixtures
  - Replace Channels In Sequence, Replace Fixtures In Sequence
  - Replace Values for Channels, Replace Values for Fixtures
  - Search Fixtures in Sequence
  - Search Fixtures in Show file
  - Search Presets
  - Search Values in Sequences
- Setup
  - Patch and Fixture Schedule
    - Patch and fixture schedule and live setup Fixture Position dialog provides an encoderbar for position, scale and rotation having the same functionality as stage view encoder bar.

- The order of the patch and fixture schedule table is kept, even when leaving and re-entering setup.
  - The Fixture type multi patch column includes a multi-patch index
  - The Fixture Type editor has been enhanced: Now there is the possibility to apply a "Minimum DMX Fade Time" to the channel type to limit speed of DMX value change. The minimum DMX time describes the minimum fade time for changing from minimum to maximum DMX value. This setting can be used to limit the speed of the DMX value change of a scroller in order to avoid for instance gel string breaks.
  - Fixtures and Channels that are not included in the currently selected World cannot be manipulated inside Live Setup any more.
- Remote Input Setup
    - An input monitor can be displayed at the bottom of the Midi and analog remote dialog to check incoming midi and analog remote signals. The Toggling title bar Info button will toggle the input monitor.
    - The button "CLI" has been renamed to "CLI on Master" as remote inputs are always executed at the master console.
    - Setup / Show / Remote Inputs Setup: The selection type "Current" has been renamed in "Current Page on Master" to better describe its functionality.
    - Setup / Show / Remote Inputs Setup: Name and Info can be added to each remote input.
    - The Midi note input signals can be offset by any value between -1023 and +1023 for each individual station inside the network config dialog.
    - The "Analogue Remotes" input can be offset by any value between 0 and + 48 for each individual station inside the network config dialog. This offset can be defined in the column "Analogue Offset" and will be added to the incoming Analogue channels. E.g.: If the offset entry is 16, channel 1 becomes channel 17 for this desk, channel 2 becomes 18 and so on. In the column "Midi Offset" the Midi Notes can be adjusted corresponding to the offset.
  - Auto Create
    - To automatically generate color presets for fixtures with Mixcolor attributes there is the new tab "Additional Presets" . In the upper section there are 2 input fields to determine the number of presets . to be generated. The entry in the field "Amount Hue" determines how many different color values ??are generated out of the "Hue"-scale . The entry in the field "Amount Saturation" determines how many different color saturation shades are to be generated . The selection from the field "Use" decides of which Mixcolor attributes the presets are created. If "all Mixcolor" is selected, those color attributes are preferred for each fixture type

which are not RGB. For example, having a RGBA fixture means that the amber LED is mainly used to create different tones of orange color. When the "Encoder Grouping" button is turned on additionally supplemental color channels, such as the color wheel "Color1" with the default value (open), whilst the presets are generated, the default value will be added to the presets (i.e. the corresponding color attributes are added to the Encoder grouping of the Mixcolor attributes). The "Add global Mixcolor " button creates individual global presets for each selected fixture type on the left side. The "Merge global Mixcolor " button creates common global presets for all selected fixture types on the left side at a time. The generated presets will have the name of their H (Hue) and S (Saturation) values ??.

- Auto-create additional presets: Color presets can be created from swatch book. One or multiple colors can be selected by using lasso or pressing CTRL and touching elements of the swatch book. The auto generated name can be set to be the name of the color, the colorkey or both.
- There is a new swatch book called "MA predefined colors" which contains 13 basic colors.
- Software Update
  - Update Software via Network: Separate tabs have been added for every station type in addition to the already existing all tab.
  - Update SW via Network: A menu to select a folder containing update files from USB drive(Console) or from any drive (onPC) has been added. Be aware that the folder is not allowed to contain multiple version of the same update file, but only one file per station type.
- The Disable Blind Button functionality of /Setup/User/Gandmaster + B.O. etc. has been extended. Possible settings are: "Disabled" = Button is disabled, "Blind Edit only" = Button can only edit the blind mode by being pressed for a long time, "Enabled" = Button can be used for blind by being shortly pressed and can edit blind mode by being pressed for a long time.
- Network troubleshooting tools
  - The new command "networkspeedtest" checks the current network performance of any detected grandMA2 consoles, grandMA2 onPC, MA NPUs, MA VPUs and MA 3D devices. Attention: This will block all other network traffic and DMX Traffic for some seconds - don't use it in show situations!
  - After having finished the network speed-test, a pop-up shows all stations with their IP address. The column "time" shows the relation data rate against time. In a 1000Mbit network the value for a console should usually be 0.1. The column "sequence errors" shows how much packets have been sent out of order. "Packets received" shows the percentage of correctly delivered packages. In a 1000Mbit network this value should be

100%. If this is not the case, the reason could be a bad network connection or an overloaded device.

- There is an IP collision detection in the system monitors of all other connected consoles which are not participants of this IP conflict.
- The speed of the network adapters of consoles and NPUs can be changed via the commands "SetNetworkSpeed 100 x" and "SetNetworkSpeed 1000 x". x stands for the last block of the IP address . ATTN: Devices must be rebooted !
- **Sequence and Executor**
  - Cue or Part Cue row background color can be adjusted by
    - using the command-line command "Appearance" (3 times assign key). E.g.: Insert "Appearance Cue 1" and choose a color from the pop-up. Possible parameters for the command Appearance are "r" (red), "g" (green), "b" (blue) or "h" (hue), "s" (saturation), "br" (brightness). The hue value range is 0 through 360, all other parameters have a value range between 0 and 100. E.g.: Appearance Cue 1 /h=180 /s=95 /br=100
    - using the Edit color button inside the edit cue number dialog.
  - The new Sequence Executor sheet option Cue Color Column has been added to choose columns to display any individual cue background color.
  - New buttons for fast access to Edit Next Cue, Edit Previous Cue and Edit Current Cue in Edit Sequence pop-up have been added.
  - Pressing and holding MA+Goto and pressing executor buttons executes "Load Next" at each pressed executor button until releasing MA+Goto
  - The Edit sequence pop-up provides the same command-line interaction as the sequence executor sheet. E.g.: Store, Update, Delete and touch a cue row will execute the referring command.
  - The text of the Edit sequence executor title bar shows the Page, Executor and Sequence ID.
  - The Tracking Sheet can be sorted by Channel ID or Fixture ID.
  - The Tracking Sheet edit values calculator supports relative values in addition to absolute values. E.g.: multiply current value by 2: \*2
- **Presets**
  - A Dynamic preset pool has been implemented. The user can create Basic Window, Presets or Dynamic. This pool is linked to the current type of preset of the encoder bar.
  - The auto-naming of color presets when being stored as new presets has been added.

- The auto-naming of dimmer and gobo presets when being stored as new presets has been added.
  - All auto-named presets will be marked with the special sign "#" in the end. This sign is not a part of the preset name. When updating an auto-named preset, the name will also be updated.
  - Effect layer values can be stored inside Presets. When knocked in programmer or stored inside cues, the presets will be used as templates which are not linked to those presets anymore.
- **Command-line**
    - Macros can trigger Macros. Triggering Macro B from Macro A will result in Macro A waiting for Macro B to finish before continuing with the next Macro Line of Macro A.
    - The possibility to move DMX universes inside the Universe pool, directly or via command-line, has been implemented. E.g. **Move DMXUniverse 2 at 5**
    - The command-line now supports multiple wildcards (\*), even in combination with dots in between. E.g. **Delete Preset \*.\*** deletes all presets of all Presettypes.
    - There are new parameters for the DeleteShow command: **Deleteshow /b** deletes .backup files only. - **Deleteshow /s** deletes .show.gz files only.
    - Addressing executors via command-line has been improved to provide support for calling by name or number.
      - ! All existing cue links and Macros of show files stored with former grandMA2 versions will be converted as far as possible. Please check cue links and Macros of existing shows when loading them the first time with this version. Some cue links and Macros may have to be adjusted.
        - Go Exec "exec name" - start executor with specified name on current page
        - Go Exec "exec number" - start executor with specified number on current page
        - Go Exec "\*"."exec name" - start executor with specified name on all pages
        - Go Exec "\*"."exec number" - start executor with specified number on all pages
        - Go Exec "page name"."exec name" - start executor with specified name on specified page
        - Go Exec "page name"."exec number" - start executor with specified number on specified page
        - Go Exec "page number"."exec name" - start executor with specified name on specified page
        - Go Exec "page number"."exec number" - start executor with specified number on specified page

This can also be used to store to specific executors, sequences or cues by name instead of number.

- New command: **List Attribute thru** will display all available attributes in the command-line feedback menu. This command also exists as a predefined macro.



If new fixture types are included in the show the list will be restructured

- Every Channel / Fixtures keyword can be combined with any Attribute keyword. E.g.: **Fixture 1 Attribute "Pan" at 20** sets Attribute Pan of Fixture 1 at 20 or **Park Attribute "Tilt"** parks the Tilt values of the current selection. Correct naming of attributes can be checked by using the "List Attribute thru" command.
- System variables have been added. These variables can be referred to inside Macros or when using command-line syntax. Predefined Macros like "Off Page minus current" are already using these variables. Available variables are e.g.
  - \$TIME - current system clock time
  - \$DATE - current system clock date
  - \$USER - current logged in user
  - \$USERRIGHTS - User rights of currently logged in user
  - \$FADERPAGE - number of current fader page
  - \$BUTTONPAGE - number of current button page
  - \$CHANNELPAGE - number of current channel page
  - \$SELECTEDEXEC - number of currently selected executor
  - \$FEATURE - name of currently chosen Feature
  - \$ATTRIBUTE - name of currently chosen Attribute

A full list of available system variables and their current value can be viewed when using the command **ListVar**. Be aware, the command **ListVar** lists both system variables and variables created using the **SetVar** command.

- **CITP MSEX video streams**

- The CITP video viewer window can be used to view CITP MSEX video streams of MA VPU and third party media servers at the desk.
- The Setup CITP menu title bar shows the current CITP multicast address. This address can be changed. Changing this address changes the CITP multicast address for all MA stations (consoles, MA 3D, MA VPU) in the current session. Be aware that after having changed this address, the connection to third party CITP stations might not be possible anymore.
- The compression quality of CITP video streams can be chosen per session inside the CITP Network Configuration menu.

- The CITP Video streams have been tested with versions of the following media servers: MA VPU, Green Hippo Hippotizer, PRG MBOX, Arkaos MediaMaster, Coolux Desktop Streamer.
- The CITP video and thumbnail compression format can be changed in the options menu of the CITP Network Config Yellow Ball.

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- ! A CITP connection is not possible when running CITP sender and CITP receiver at the same computer.
- ! The CITP Multicast address can be configured by pressing the title bar button in the CITP Network Configuration menu. The CITP Multicast address 224.0.0.180 is not forwarded by many switches as soon as IGMP Snooping is enabled. The CITP Multicast address of MA products can be switched to 239.224.0.180 in order to use CITP in combination with IGMP Snooping. Be aware that the alternative multicast address 239.224.0.180 is not yet supported by many other media server manufacturers. Please check the compatibility with the manufacturer of your media server prior to changing the CITP Multicast address and enabling the IGMP Snooping while using CITP.

- ! Streaming videos via network needs bandwidth. A single CITP video stream of 30fps generates up to 15Mbit/s. Video streams are sent as multicast. Requesting the same video stream from different grandMA2 consoles or MA 3Ds will not generate additional network traffic.

- Some hints to keep network stability when using CITP:
  - The list below gives a brief overview over the data rate of one 30 Frames per second CITP video stream. When having compressed streams, the data rate varies depending on the compressibility of the video content.
  - Uncompressed RGB8 stream: 15Mbit/s
  - PNG compressed stream: 7Mbit/s up to 15Mbit/s depending on video content.
  - JPG compressed stream: 1Mbit/s up to 8Mbit/s depending on video content.
  - The minimum network speed is 1000Mbit/s. Do not enable CITP in an 100Mbit/s network environment.
  - The maximum amount of CITP network data rate should not exceed 30Mbit/s per physical network. When exceeding this limit, reduce the video stream quality by choosing a higher compression (jpg) or request less different video streams. Otherwise visualizers and video stream viewers running at computers with installed operating system Microsoft Windows may not receive all video stream data resulting in CITP video stream fps dropping below 1 fps.

- ! The MA VPU CITP video streams frame rate is limited to 30fps shared by all requested outputs and 10fps shared by all requested layers of CITP video streams. E.g.: When requesting CITP video streams of Output1 and Output2, each stream will



have a maximum refresh rate of 15 fps.

! The MA VPU reduces CITP video streams frame rate if the CITP network traffic of current connected network exceeds 30Mbit.

- Misc

- The additional Clone menu buttons "All Items to All", "All Items to None", and "All Items to Chosen" have been added to speed up the operation of this dialog.
- The autostop feature uses executor off timing.
- Exec Time can be used for Executor buttons and Executor Faders. The new Executor option "Ignore Exec Time" has been added. When this option is enabled, the referring executor will use its own off time instead of the Exec Time Fader Timing. Show files stored with grandMA2 v2.9.1 and earlier will be converted. All Fader executors will have this option enabled.
  - ! Executor option defaults are valid for fader and button executors. When storing new fader executors, these executors will listen to Exec Time by default.
- Logged-In Remote and Telnet stations are shown in the desk status view.
- Smart View will provide access to a vertical scrollbar if the amount of channel sets does not fit to the current view size.
- Predefined colors have been added to the color picker.
- The color picker also shows color values of currently selected fixtures played back from cues.
- Support of GIF and TIFF image formats when importing images to the image pool has been added.
- A special dialog Shaper has been implemented: the commands Invert B, Set All, Invert All can be accessed via x-keys, when enabling Linked Encoders.
- The new Store Mode Store Look stores the dimmer attributes of all channels, fixtures, and sub-fixtures, all attributes of channels, fixtures and sub-fixtures having dimmer values above zero, and programmer active attributes of fixtures and sub-fixtures not having any dimmer attribute. Be aware, the store look respects Worlds and filters. The command-line syntax is: Store /use=look Executor x.
- The headline of the backup menu shows the name of the currently loaded show file, date and time of last stored version.
- The multi-line info pop-up is closed when pressing please. To add a new line press Shift+Please
- The Pan/Tilt values of fixtures referring to stage markers are updated when their 3D position is changed in stage view.

- The possibility to change the screen title button for the fixture editor pop-up has been implemented.
- Carallon fixture library 10.2 has been added.
- The function load predefined in form editor can be used in graph and table mode.
- **onPC only**
  - The resizing of grandMA2 onPC with deactivated window frame has been implemented.
  - The onPC MA software button will automatically reset after the next execution of any function. Double pressing the MA software button will latch the button until it is pressed again.
  - The encoder setting button is reset after the first action of the encoder setting pop-up is executed.
  - Improved onPC Midi Input handling: The onPC options provide the possibility to choose the midi input device. Also, the command wing midi input can be enabled or disabled. This setting can be found in the yellow ball options menu of grandMA2 onPC.
- **Additional predefined macros**
  - Exchange 2 Channels, Exchange 2 Fixtures
  - List All Attributes
  - Off Page Minus Current
  - Replace Channels, Replace Fixtures
  - Replace Channels In Sequence, Replace Fixtures In Sequence
  - Replace Values for Channels, Replace Values for Fixtures
  - Search Fixtures in Sequence
  - Search Fixtures in show file
  - Search Presets
  - Search Values in Sequences
  - MA-net Speed Test

## MA 3D

- CITP Video streams can be assigned as 3D object texture inside MA 3D using MA 3D object material manager.
- CITP info has been added to MA 3D Video Player.
- The MA 3D selection order is transmitted to other network stations.
- MA 3D warns the user when he tries to add objects in MA 3D while another user is editing the Patch and Fixture Schedule.
- Fixed - MA 3D crash when changing fixture type module class using Patch only/fixture type editor.
- Fixed - Paste of objects in MA 3D 3D object grid view.

## Unified file names and version numbers.

All MA products specific software version numbers have been unified to the grandMA2 release version number. The part one, two and three of the version number of all MA products has to match when connecting these products in a session.

- "gMA2Console\_v3.0.x.x.update"
- "gMA2Console\_v3.0.x.x.imgz"
- "gMA2onPC\_v3.0.x.x.exe"
- "MA3D\_v3.0.x.x.exe"
- "MAVPU\_v3.0.x.x.exe"
- "4port\_v3.0.x.x.update"
- "MANDP\_updater\_v3.0.x.x.exe"

## Fixed Bugs and improved functionality

- Fixed - Crash when leaving setup at a connected console while having assign menu label pop-up visible at master desk.
- Fixed - Crash when cloning from channels to multi instance fixtures.
- Fixed - Crash when unparking a huge amount of lasso selected channels in channel sheet.
- Fixed - Attributes of worlds are not masked when applying the world as temporary sheet filter.
- Fixed - Calculator issue when using open end syntax like "1 thru".
- Fixed - Tracksheet edit calculator does not show special values.
- Fixed - Valid calculator ranges are wrong when having RGB and RGB invert fixtures selected at the same time.
- Fixed - Calculator Clear button does not call default values.
- Fixed - Cloning color data cue data blocks tracked values.
- Fixed - Next cue of content sheet does not follow loops nor load cue commands.
- Fixed - Update windows with active original content only does not show HTP playbacks.
- Fixed - HTP executors are wrongly switched off when overwritten by programmer values.
- Fixed - Button press leads to the loss of feedback of IF, AT and Thru.
- Fixed - Macro line syntax check adds unnecessary spaces between names and dots.
- Fixed - Sheet title button settings are exported and imported together with user profile.
- Fixed - Setting of pool colors are exported and imported together with user profile.
- Fixed - ViewButtonPage names are exported and imported together with the user profile.
- Fixed - Positions of fixed executors are exported and imported together with user profile. Be aware, sequences assigned to fixed executors are not included and have to be partial show read separately.
- Fixed - Import User Profile when focus is set to new line
- Fixed - Crash when trying to receive more thumbnails via CIP than having free memory.
- Fixed - Info icon is displayed in pools while having empty info string.
- Fixed - Mask editor Copy and Clear buttons are not working.
- Fixed - Release Selection command is not executed.

- Fixed - Layout View Default settings per user are not used when creating a new layout view.
- Fixed - Stage marker value "not set" can be knocked in programmer
- Fixed - Context sensitive help of stage view does not show correct help page.
- Fixed - Context sensitive help of CITP window does not show correct help page.
- Fixed - Mini executor, executor sheet and edit sequence dialog shows next cue in list disregarding looping or loading of another cue.
- Fixed - Sequence Executor Sheet focus box cannot be scrolled outside visible area.
- Fixed - Sequence exec sheet blue and green fade bars have been mixed up when using Crossfade A/B.
- Fixed - Tracking sheet mask Selection Only shows some cues not containing any data of current selection.
- Fixed - Numeric keypad and keyboard cursor position is wrong when partly typed commands are edited in-line.
- Fixed - Macros assigned to view buttons cannot be switched off by pressing Off hard-key and view-button with assigned macro.
- Fixed - Fixture sheet flip indicator is not visible when switching to DMX Layer.
- Fixed - fixture sheet column command-line interaction when touching the inside of the grid in combination with Feature Sort.
- Fixed - Scroll encoder cannot be used to scroll inside command filter view and pop-up.
- Fixed - Layout view and stage view title buttons do not show correct color when in blind or preview mode.
- Fixed - Wrong labels in the options menu of playback views.
- Fixed - Choose layer option in setup/show/auto create/group menu.
- Fixed - Single layouts are not exported correctly.
- Fixed - Reset button for the Border color of the edit dialog for the layout objects.
- Fixed - Layout view choose layout button is updated when changing Layouts in the pool.
- Fixed - Permanent button highlight of view buttons with assigned macros.
- Fixed - Stage view follow mode support for mirror class fixtures.
- Fixed - Stage view masking "Seq+" and "Seq-" when selecting another executor.
- Fixed - Enable Mask/Follow Mask button toggling in the stage view

- Fixed - Flash unpress label in timecode encoder bar.
- Fixed - Number display in timecode encoder bar and grid.
- Fixed - Timecode settings pre-roll and after-roll store issues.
- Fixed - Decimal and hexadecimal support for virtual dimmer values.
- Fixed - Skipped patched setting in patch sheet is ignored when entering patch dialog.
- Fixed - Mini executor Off time display of effects assigned to executors.
- Fixed - Effect editor encoders don't come back once editor regains focus
- Fixed - Currently selected drive display in backup menu when changing drive via command-line.
- Fixed - Backup menu Load Show browser always shows detailed view.
- Fixed - Executor labels when loading a show file with enabled option "Force Login"
- Fixed - Windows and Views at Slave consoles when loading show file with enabled option "Force Login".
- Fixed - Speedgroup BPM label in effect editor Speedgroup column.
- Fixed - Presetbar refreshes when changing Presettype, Feature or Attribute naming.
- Fixed - Losing embedded Preset references at target fixtures when cloning fixtures.
- Fixed - Missing preset section names in XML file.
- Fixed - Midi Show Control via Ethernet in combination with loop-back address.
- Fixed - Backspace handling when editing macro lines.
- Fixed - Negative group master display in multi user environment.
- Fixed - Color Preset transformation when exchanging fixtures.
- Fixed - 4 digit display of pool numbers.
- Fixed - Smart view Focus Frame GUI glitch
- Fixed - User1 back-light turns off and remains off after dialog boxes open and close on screen 1
- Fixed - Deleted executors are visible in off menu
- Fixed - Multiple Oops via GUI respects limit of 100 Oops steps.
- Fixed - Focus at unexpected position inside Edit Fixture dialog
- Fixed - BPM effects black border pixels bug.
- Fixed - Crash when sorting load image dialog in image pool.


- Fixed - Wing and Monitor setup in console and onPC.
- Fixed - Store Cue .5 command unexpectedly creates cue 5 instead of cue 0.5.
- Fixed - Executing Goto Cue syntax with any exec button of an executor with width greater than 1.
- Fixed - Enabling Network Protocol option "DMX out If Alone" resets Surface setting to Default surface.
- Pressing User1 or User2 key will switch X-keys to User1 or User2. Pressing List key will switch X-keys to executor buttons 201 thru 220. Toggle functionality has been removed.
- FlashOn and FlashGO overwrites programmer values when Freeze is off. Only Flash will not override Programmer values.
- Compressed command-line prompt, if command-line prompt would take more than 40% of available command line space uncompressed.
- Extended Macro command-line: GO MACRO X as default steps to next Macro line. CALL MACRO restarts Macro.
- Macros assigned to user buttons show the current line and current state while being active.
- Sheet title bars always display mask and world index together with the referring symbol.
- Removed useless "Physical" readout from DMX sheet view options.
- Reduced distance between vertical scrollbar and cell in the DMX sheet.
- Store view to X-button pop-up automatically chooses screen 1 as view button content. User can select other screens inside this pop-up as needed.
- Improved handling of MidiNote command when triggering executor faders. Midi NoteOn commands without velocity will set executor fader to Midi velocity 127. Midi NoteOn commands with parameter velocity will set executor fader to referring fader position. Midi NoteOff commands will automatically set executor fader to zero.
- sACN Default Priority of new show files is set to 100. Priority of existing show files will not be changed.
- Current position of selected camera is stored when storing a new camera in the camera pool.
- Command-line response warning when trying to patch a fixture without assigned fixture type.
- Channel and fixture sheet symbol feature follows into blind mode.
- Improved cloning of Mixcolor fixtures to Scroller fixtures.
- UV color attribute interaction with special dialog color improved. UV attribute is set to neutral when using the color picker to choose another color.
- Fixture At Fixture command uses physical values when available.


- Toggling between day, week and month view is transmitted to other desks using the same user profile.
- Toggling image pool options is transmitted to other desks using the same user profile.
- Big Icon option added to Smart View.
- Stage marker value "not set" can be knocked in programmer
- Mini executor, executor sheet and edit sequence dialog shows next cue also when looping or loading another cue.
- Fixture type grid XYZ column displays On instead of + when XYZ support is enabled for this fixture type.
- Changing fixture position in setup/patch only (live) updates stage view immediately.
- Storing new channel sets in Smart View is visualized in Smart view immediately
- Tracksheet option hides empty cells and empty effect cells.
- Encoder grouping is not ignored any more when calling values from Smart View.
- Unifying multiple individual times using sequence executor sheet I.Fade and I.Delay column, can again be split to separate timings as long as selection order is not shuffled.
- Editing executors with assigned group or special masters or macros does not show an empty encoder bar any more.
- Special Masters cannot be deleted any more.
- Name dialog of export menu input file checks and prevents illegal characters in file names.
- Layout view title buttons Pool Playback and Fast Call are next to each other when enabled.
- Special dialog Encoder: Screen encoder focus is automatically set to Rotate when enabling shaper encoder bar.
- Setup/Network Protocols: disabling "Network out if Alone" will stop all outgoing DMX Data via Ethernet when having only one station in network.
- Partial Show Read
  - Timers have been added to Partial Show Read.
  - Partial show reading filters from another show file includes attribute and layer settings.
- **grandMA2 onPC**
  - Pressing the command wing encoder always opens calculator at Screen 1 and brings screen 1 on top of all other screens.





- Pressing off and any executor soft button in playback view executes the command Off executor and clears the command-line.
- Improved onPC Midi Input handling: The onPC options provide the possibility to choose the midi input device. Also, the command wing midi input can be enabled or disabled.


## Appendix


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Inserting the command "store /remove" or pressing [store][cue][2] and select [remove] in the pop-up will remove the whole attribute with all (!! ) its layers of fixtures having any value or effect layer of this attribute active in programmer. It can be filtered to only remove values, value timings or effects by using the buttons in the stored encoder bar. To remove only specific layers, for example only individual effect fade, the operator needs to open the calculator for these layers and select "remove" in the calculator. Afterwards the operator needs to update the cue, or has to use store /merge to remove the specific layers.
- 


When multiple fixtures are selected with a lasso in the layout view, the snap grid settings to interpolate small position differences of fixture icons are respected. The selection order will always be made inside of one snap grid cell first, afterwards line by line in the direction of the lasso movement.
- 


The network switch IGMP Snooping functionality has to be switched off in order to be able to update MA 2Port nodes.
- 

A grandMA1 compatibility mode is no part of grandMA2 console software 3.0 and later. When grandMA1 compatibility mode is needed, grandMA2 consoles and MA NPUs have to be downgraded to grandMA2 v2.9.1.1
- 


Exec Time can be used for Executor buttons and Executor Faders. The new Executor option "Ignore Exec Time" has been added. When this option is enabled, the referring executor will use its own off time instead of the Exec Time Fader Timing. Show files stored with grandMA2 v2.9.1 and earlier will be converted. All Fader executors will have this option enabled. Executor option defaults are valid for fader and button executors. When storing new fader executors, these executors will listen to Exec Time by default.
- 

Fixture type preset reference contains values only. It is not possible to add any fade, delay or effect data to fixture type preset references.
- 

ASCII show import supports Strand, Transtechnik and ADB ASCII show files.
- 

A CIP connection is not possible when running CIP sender and CIP receiver at the same computer.
- 

Following syntax can be used to switch off faders only or buttons only of current page or of all pages except current page:

  - **Off Executor 1 thru 100** - This switches off all Faders of current page.
  - **Off Executor 101 thru 240** - This switches off all Buttons of current page.
  - **Off Executor 1 thru 100 Page Thru - \$faderpage** - This switches off all Faders of all pages except current.
  - **Off Executor 101 thru 240 Page Thru - \$buttonpage** - This switches off all Buttons of all pages except current.
- 

Addressing executors via command-line has been improved to provide support for addressing by name or number. This can be used when sending playback commands to specific executors or when storing to a specific executor, sequence or cue for example. All existing cue links and Macros of show files stored with former grandMA2 versions will be converted as far as possible. Please check cue links and Macros of existing shows when loading them the first time with this version. Some cue links and Macros may have to be adjusted. When creating new Macros or cue links or editing

existing ones, the new syntax as described below has to be used.

- Go Exec "exec name" - start executor with specified name on current page
- Go Exec "exec number" - start executor with specified number on current page
- Go Exec "\*"."exec name" - start executor with specified name on all pages
- Go Exec "\*"."exec number" - start executor with specified number on all pages
- Go Exec "page name"."exec name" - start executor with specified name on specified page
- Go Exec "page name"."exec number" - start executor with specified number on specified page
- Go Exec "page number"."exec name" - start executor with specified name on specified page
- Go Exec "page number"."exec number" - start executor with specified number on specified page

## Known Limitations



- MA onPC command wing DMX input is supported for the ports "DMX In" and "DMX out A" only. The port "DMX out B" can only be used as DMX out!
- Up to now, the 4Port and 8Port Nodes do not support the SACN protocol.
- Before loading show files stored with grandMA2 v2.7.x the first time with grandMA2 v2.9.x, attribute Colormix4 and 5 and Colordim4 and 5 of self-made fixture types have to be manually adjusted to fulfill the color specification. Amber has to be Colormix 4 invert or Colordim 4 without invert, and White has to be Colormix 5 invert or Colordim 5 without invert. Otherwise, color information of these fixture types will be lost after loading show file with v2.9.
- The Feature name for ColorDim/ColorMix has changed into MixColor. Macros using one of these feature names have to be adjusted.
- Known limitation when loading show files stored with v2.8.x for the first time in v2.9
  - Special Masters have a new data structure in grandMA2 software.
    - All Special Master custom labels will be reset to MA default labels
    - Assignment of 100mm faders will be reset to default.
    - Macros referring to special masters have to be adjusted and have to use the new naming and numbering of special masters.
  - Macros referring to relative values have to be adjusted according to new relative/absolute syntax.
  - User profiles exported to USB drives have to be manually moved from folder importexport to user\_profile folder in order to import these profiles using grandMA2 v2.9
- 4Port and 8Port Nodes have to be updated to v1.0.9 or later to be compatible with grandMA2 v2.9. 2-Port Nodes have to be updated to 1.77 or later in order to be compatible to grandMA2 v2.9.
- Channelset labels of fixture types have to be unique to be visible and accessible in calculator. E.g.: If channel sets of Attribute Shutter are closed, open, open, open, only one open is visible in the calculator. Changing channel set labels to closed, open, open(2), open(3), will result in all channel sets being visible in the calculator.
- When using Agenda and astronomical clocks, grandMA1 and grandMA2 geographical position data input and calculation of astronomical clocks uses longitude coordinates with mixed up algebraic sign according to GPS standard coordinates. Workaround to get a correct astronomical clock until this bug is fixed is to invert the longitude coordinate of

your current position to get the correct calculated times of sunset, dusk, dawn, and sunrise.

- Astronomical clock always calculates time according to standard time zone. Additional summer times are not recognized and cannot be adjusted manually when using sunset, dusk, dawn, and sunrise in the agenda.

## MA VPU 3.0.0.2

- New Version system used for the VPU software that is corresponding to the grandMA2 streaming version.
- The installer has been re-labeled to MAVP\_vX.XXX.X.exe.
- New Fixture Types have been implemented. They are not part of the regular Demo Show-files, but they already are in the grandMA2 library and are used in the Demo Show-files in the download folder of this version.
- New and improved soft-edge mechanism has been added. Each soft-edge can be controlled in its size (Parameter A) and the way the gradient is drawn (Parameter B). Since the new fixture types allow a more versatile adjustment of the gradient, the new default value for the Parameter B is 50%.
- CITP MSEX implemented. The VPU can be used as a Video Streaming Server to a visualizer or console e.g. grandMA3D. Each output and each layer can be streamed independently. The resolution of each stream is limited to a maximum of 64kbyte per frame and depends on the ratio of the rendered output. This will result in resolutions below 200x200 pixels depending on the ratio of the rendered source. The frame-rate is set by the displaying visualizer, and limited by the VPU software. Currently, 30 fps are shared for all outputs (1 output = 30fps, 2 outputs = 15fps each, 3 outputs = 10 fps each). All layers share 10fps (1 layer = 10fps each, 10 layers = 1 fps each, 20 layers = 0.5 fps each). If the complete CITP traffic on the network adapter reaches 25MBit, the VPU will start to limit the output of CITP even more. Only if the the grandMA2 software is connected to the VPU, CITP can be enabled: Setup / Network / CITP CIP Enabled. GrandMA3D, grandMA2 onPC / grandMA2 console or any other MSEX device can then request the streams. In order to monitor CITP streams in the VPU, each headline in the Multi Preview indicates if CITP is requested for that output and displays the outgoing fps. Additionally, the status bar in the bottom of the GUI reflects the CITP status. In the docking frame, a CIP Status Window can be opened to monitor the local and global CIP settings and to see the information of the outgoing streams. If Show Mode gets enabled, CIP is automatically disabled.
- A CIP Window in the docking frame has been implemented. For diagnosis purposes the overall statistics as well as the outgoing resolution, fps and data-rate can be monitored here. To avoid an overload of the network, CIP limits the fps of outputs. If a certain limit is crossed, this general limitation can be restricted even more. The amount of limitation can as well be monitored in this dialog.
- VPU Teaser Mode has been implemented. A VPU software without a dongle can be used for small applications without a watermark
- 



### Important:

Only 2 patched VPU Layers are allowed. Only 1 VPU station is allowed in the session. Only 1 DVI Output can be assigned (Display Settings). Only Video Content below 800x600 pixels can be played back (there is no limitation for pictures or sound files) If one of those limitations is violated, the watermark will be displayed. Teaser Mode status messages are displayed in a docking frame dialog called "Teaser Status" that is displayed by default. If the user disables the docking frame or the Teaser Status window, this dialog will automatically appear if the teaser rules are violated. To avoid permanent pop-ups, this will only happen when the show-file is loaded.



Important:

In order to be able to playback videos without a watermark in the video itself, the user still has to install the full Mainconcept MPEG2 Decoder. The VPU Teaser only changes the watermark of the VPU software. However, it is possible to use the Mainconcept MPEG2 Demo Decoder for testing purposes. Additionally, there is a show-file in the demo folder of the grandMA2 that can be used.

- File Icons in the File Browser are white now, Folder Icons are yellow.
- A Save Show button has been integrated in the VPU software and the internal screen of the VPU plus.
- The Status bar of the GUI window has been adjusted. C1TP is now reflected in the bar (gray check mark means that C1TP is turned on, green check mark means that C1TP Data is transmitted)
- It is now possible to adjust 3 cameras in the status bar
- The status bar of the GUI window shows a number in the green heart when the VPU is in session.
- New effects have been implemented
  - Luma Key Back: does a Luma Key starting from Black Levels
  - Luma Key White: does a Luma Key starting from White
  - Cutout Circle Scale / Size: similar to the existing Cutout Effects but with a circle
  - Sphere: bends the object as if a glass was put in front of the CAMERA\_1
  - Lens Flare: makes a Lens Flare effect; it is adjustable in intensity and position
  - Gamma RGB: corrects the Gamma values for each color channel (R,G and B)
  - To use the new effects please use the attached Master Branch VPU Demo Show file or the attached VPU Teaser file.
  - Hole: creates a hole in the picture (warped)
  - Distort: like a distortion mirror
  - Noise Black / Alpha: creates black noise in the picture
  - Spotlight S/M/B: creates a spotlight in the picture
  - Spotlight Angled: creates an angled beam on the picture
  - Hole Alpha and Hole Black create an "alpha" or a black hole.
  - Spot Angled small, medium and big create an angled spotlight in different sizes.
- If Show Mode is turned on, a docking frame shows the limitations of the VPU system
- JPEG is allowed as an ending for picture files.
- The display of the VPU Light has been edited. PixelMapper and Output3 are displayed correctly now.

- If Show Mode is enabled, the Test Pattern Generator and the Monitor Identification are not displayed in the output any more.
- VPos <>, VRot<> and Vimg <> Thumbnails have been implemented to enable the work with the new sMArt View.
- New Thumbnail handling has been implemented. In the Global VPU settings, the user can define how thumbnails are sent in the network: fast or slow. Slow is the mechanism that was already used. Fast is the new mechanism: created thumbnails are sent as fast as possible. If Show Mode is enabled, no thumbnails are sent (as known from the past).
- Thumbnail Distribution dialog in the docking frame has been implemented. If a Thumbnail Distribution is running, a process bar is indicating the current state.
- Send all Thumbs to Desk and Destroy cached Thumbnails option is now available in the Thumbnail Manager.
- Content Editor / Content Menu: Option "Update Thumb ..." has been renamed to "Update and send Thumb ..." in order to indicate that updating a Thumbnail will always as well result in the distribution of this thumbnail to the network.
- The VPU File Browser now indicates an overall copy status and the Copy / Move Files dialog is now redesigned.
- If the VPU software gets installed on a Media PC / Laptop, a link to the show-files belonging to that version are inserted in the start menu.
- "No Output if standalone" has been renamed to "Output if standalone" and is by default turned on.
- If folders are inserted into the VPU software (Content Editor), then the enumeration of the files is identically with the way windows sorts files.
- If only output 2 and 3 of a VPU Plus MKII or Basic MKII are used and the refresh rate is set to 50Hz, the system is executed correctly now.
- Backup Manager now also works between different types of VPU and supports 3 outputs.
- If the refresh rate of the UI is set to a low value, the edit controls of the Warper are responding faster now.
- In the grandMA2 console Setup / Network Configuration / VPU newly enabled outputs now use the correct refresh rate by default
- Output if Standalone is visible as a button in the grandMA2 console again.
- In the Camera Fixture, more than 2 effects can now again be used at the same time.
- VPos Scale is working again.
- If Color Key is used in combination with Video Effects, the Color Key will now still work.
- If three outputs are used on a VPU Plus, the FPS Display in the internal display is correct now.



- Units are displayed correctly in the Pixel Mapper grid view and the export and import to CSV is correct now.
- It is not possible to make a content distribution to a VPU that is not in session with a grandMA2 any more.
- The selection of points in the Warper is working as it should. Multi selection for points is only processed if either Shift or CTRL key are pressed on the keyboard. If no point is selected, the yellow arrow is not displayed in the top left corner any more.
- If the setup of the console is blocked and the user tries to insert content, the Error Docking Frame is now opened to show the error message.
- In the grandMA2 console and in the settings of the VPU, the Show-Mode button is now always displayed as the first button
- Monitor Identification does now also display the used Camera.
- The positions in drop-down-lists are now remembered
- Negative values can now also be inserted in the Pixel Mapper grid-view rotation.
- If content redirection is configured, a tab key can be used to jump from cell "from" to cell "to".
- Numerical rotation in the Pixel Mapper grid view is working again
- Unused "Video In" slots are not displayed as blue any more.
- A Change of the Pixel Mapper IP now forces an application restart.
- On a Media PC / Laptop the primary MA-Net Ethernet Adapter can also be assigned to the Pixel Mapper output. This is not possible on a VPU to avoid overlapping of the MA-Net and Pixel Mapper Output data streams.
- In the configuration of the Pixel Mapper the local IP is now always displayed in the first line and is marked
- If the S-Blur Effect is used in the Camera, the output is correct now green. If a virtual output is set in the Pixel Mapper, the protocol section is greyed out.
- VPU's do not display a wrong FPS count any more.
- The user does not have to enter a password if a session is joined from the VPU that is not protected with a password.
- If content is inserted in the internal screen of the VPU Plus, the focus stays on the inserted Function Block and does not jump to the first folder any more.
- Long path- and file names are displayed correct now in the File Browser.
- Import Export of CSV Files in the Pixel Mapper is working again.
- Values can again be changed in the y column of the Pixel Mapper Grid.
- VSplit is working again in the Camera Fixture.

- Multi-Texture Objects in combination with VSplit and V\_Offset are working again.
- VPU does not crash any more if Pixel Mapper is changed from "Options" to "Area" tab.
- Content Redirection in combination with Content Distribution is working again.
- Test Pattern Generator is now also displayed in the Multi Preview if the Generator was enabled in the Display Menu.
- VPU software update from older versions is working again.
- Start in Black is working and every status message is displayed again.
- On VPU Light and Basic the Shell is displayed very dark if option is enabled. On a VPU Plus the shell is displayed in the internal screen and thus normally. The UI is turned off if Start in Black is enabled. The option is turned off by default.
- Text Ticker is now working on Layer 11 through 32 as well.
- If a Panel gets inserted in the Pixel Mapper, only valid cells can be edited now.
- If the mouse wheel is used to zoom in in the Pixel Mapper, the direction is now alike to the Warper Editor.
- A Copy / Paste instruction in the Pixel Mapper File Browser is working as expected now.
- In the internal File Browser files can now be copied into folders that are empty. A spare line can be used as a "target" or the ".." list entry.
- If the SBlur effect is applied on a Layer, the dimmer value is calculated correctly again.
- Start in Full Screen was taken out
- grandMA series 1 mode is not supported any more with this version
- The DirectX Countdown has been taken out.

### Known Limitations



- CITP MSEX does not include Thumbnail Exchange to external consoles. This does not affect the regular thumbnail mechanism of grandMA2.
- If the Text Ticker is used in combination with any Pixel Mapper, the text size is absolute, i.e. the size may differ depending on the DVI output if the resolution of the Pixel-Mapper is very small.
- The Text Ticker can only be animated manually if the text is smaller than the visible output on screen. If the text is longer then the visible text on screen, only the text ticker animation parameters in the Composition Feature can be used.
- Sync problems occur when clips run above normal speed.

- VPU Plus only - It is not intended to have the monitor playback on the internal display in frame synchronization to the DVI outputs. The update of this display is running on lower frame rates to save the CPU power of the system.
- The Border Parameter and the Ocean effect do not work in combination.
- Border, Ocean Effect and Image Split Parameter do not work in combination.
- If the Parameters Hue, Saturation, Brightness and Contrast have been programmed in the show-file, the programming of these parameters is lost if the new VPU Fixture Types Version 7.75 and higher are used.
- If the old fixture types are used, everything is working as before, except that the color picker is not working as expected in the grandMA2.
- Single Layer Transition does not work in combination with the Text Ticker.
- Single Layer Transition does not support Layer Reference Inputs.
- There may be a small visual artifact if a Single Layer Transition takes place and the resolution of content 1 is not the same as the resolution of content 2.