

**M A L I G H T I N G**





The ultimate solution:

# grandMA

High Tech by MA Lighting

The latest electronic gadgets guarantee undreamed-of opportunities, surely enough, but all too often, they just succeed in thoroughly confusing us users by their complexity. Not so the grandMA. The MA Scancommander, then, was already an open invitation to experience an entirely new operating philosophy, directly and reliably realizing what designers had in mind. The grandMA goes even further. It shows us just how easy it can be to control a complex light show. Tiresome details are consequently accomplished by the electronic system itself, enabling users to concentrate on what is essential to them – realizing their fantasies in genuine light design. But don't forget – the grandMA is a powerful tool where lame excuses like "I couldn't do it, because..." are futile. grandMA will lead you the way towards the future, and we ourselves will consistently follow up in this very direction.



## TFT Displays

Three colour TFT touch displays with their brilliant contrast are the most distinguishing feature of the grandMA. And what comes in handy: their viewing angles are adjustable to suit individual needs. Additionally supported by two optional external monitors, these freely definable displays offer clear information and fast access to single channels, groups, presets, interactive output sheets and various display options for running programmes.

Depending on the specific task, different kinds of information are required. Via the 18 View Buttons, displays as well as selection fields for various options can be used within a split second to optimize the current performance.



## Touchscreens

### Sensitive-To-Contact

Selecting fixtures, colours or gobos directly on screen allows fast and precise control, while encoders are available for fine tuning at any time.

Even more complex operations can easily be handled from a smart and clear menu logic. Catch a situation at first sight and access the respective solution directly. Once familiar with this working method, you will never want to miss it again. Entering information by pressing endlessly long sequences of buttons – no matter how simple or complicated the syntax is – cannot beat this new mode of getting things done.

# grandMA

## High Tech by MA Lighting

The combination of well-established operating structures, phenomenal design and first-class quality packed with a host of fresh ideas and the latest technologies grants access to enthralling new dimensions. The grandMA offers an absolutely simple – almost perfect – control of extensive light shows with lots of channels and intelligent moving lights.

By no means is the grandMA any kind of substitute for one of the well-established MA boards. It rather embodies a next step in the continuous, future-oriented evolution towards the unlimited prospects of modern light design.

MA users will feel quite familiar with the grandMA right from the start. The basic procedures, known from the Scancommander, have proven to be the optimum solution for controlling intelligent moving lights – and, yes, have even become *the* standard for our industry. Obviously, there have also been a number of changes – controlling a few hundred channels can't do without new intelligent solutions for all the individual, time-consuming operating steps. Basically, however, the grandMA still is a typical MA control board – easy to understand but nevertheless unbelievably powerful.

## High Tech Equipment

has specially high demands on the Controller:

- Easy handling of basic functions
- Direct and clear access to all effects
- Fast creating, storing and changing of programmes
- Detailed pre-recorded sequence with the option to access manually at any time.

### Spreadsheets

#### Flexible Interactive charts

Displays show the current channel values of the grandMA, while named Presets offer an essentially better overview than endless columns of figures. All lists are designed as "spreadsheets" with the additional option of moving or changing single columns. And what's even better, they are interactive, just like the PC or MAC applications you already know. On the Output Sheet, each data field or column to be altered can be directly accessed and modified.

Furthermore, all programmes and sequences can be listed and subsequently modified as well, just like on the output sheet. The flexible screen setup lets you list either just the programmes' titles or individual programmes with all the details involved such as in and out-fade times, delay times or links.



### Motorfader

If a console like the grandMA, employing nothing but a mere 20 faders, is used to control more than 2,000 channels, there is bound to be a brilliant idea behind it all – that much is for sure. The solution is as simple as this: Motorised faders. As soon as these faders have been assigned to a new value, they will immediately jump to its position.

The faders and their respective buttons can be allocated with a host of functions. By choice, they will control

- single channels just like a preset board
- the intensity of single scenes like a memory board
- manual cross-fades to the next scene
- parameters such as speed or cross-fade time
- the brightness of a group of fixtures as with the MA Scancommander
- chases, with all steps assigned to one single push movement
- limitations for the output level recorder

The grandMA's motorised faders realize new and more convenient ways to activate complex programmes, while even several faders can also be assigned to just one single sequence.



# Direct Access to moving lights



Selecting fixtures by groups and the simultaneous control by so-called presets has become the standard for controlling moving lights. Instead of entering individual channel values, simply select the requested effect from a list, e.g. a certain colour. It is now up to the grandMA to ensure which value on which channel will accomplish this colour for the particular fixtures concerned.

## Selecting Fixtures

Touchscreen Displays simplify the control by clarity and the possibility of direct selection. Selected fixtures will be displayed in colour, just as the selection of presets which are available for these fixtures. All fields within one window can be freely located by help of the MOVE button, so that all buttons for various fixtures can e.g. be spread in form of a stage print.

## Selecting Values

All Presets (colours, Gobos ...) are deposited in the internal Personality Library. Presets can also be programmed. There is free choice in the assignment of groups, so that a movement preset can simultaneously adjust the focus of the fixture to the new position.

## Value Display

The Output display shows the actual status of the fixtures. Sequence and measurements of the columns can be freely chosen. A certain colour code marks those values, which are currently being modified via the encoder (red background colour). The very same display can also be used to do blind programming (i.e. without direct output on stage), testing and modifying.



## Working Within The Value Display

Single fields or entire columns can directly be selected via Touchscreen or Mouse. The respective fixtures will automatically be activated – the functions are assigned to the encoders. Values can also be adjusted by mouse movement while holding the middle mouse key pressed.

## Stage-oriented Movement

Just like the MA Scancommander, the grandMA also offers stage initialisation for movement control. This medium offers the follow effect, automatic adaptation of all programmes to modified stage set-up and linear movement of the beam even for moving heads or moving yokes. Additionally to the graphic display of the stage, free-hand-movements can be done directly. (available in Software Version 2.0)



# Dimmer Control

Single channels can be controlled by one or the other method. They can either be used individually according to personal preferences or simultaneously, if so required by the current situation.

## Motorised Faders

If the 20 motorised faders are set to single channel mode, they will go directly to that position, that corresponds with the current output value. Each movement of the fader has direct impact on stage. By switching to the respective next 20 channels, even major installations can be programmed fast and directly.

## Fader Display

The Fader Display shows the values graphically and additionally allows selection via touchscreen. Important channels can be displayed in form of columns or you can go up to as many as 900 single channels, while these would obviously only show in form of narrow lines, but all this can be done on one single display.

## Selection Via Group Buttons

Dimmer channels can also be selected via touchscreen, either single channels or entire groups, e.g. chosen by colour or position. Global modifications, e.g. via encoder wheel, will effect all selected channels simultaneously. If LINK-Function is switched on, channels will be automatically transferred to the motorised faders and can be set individually.

## Channel Value Listings And Numeric Keypad

The value list (here you have the option to give individual names per channel) additionally offers a colour code, where increasing, constant or decreasing values can be identified. The selection and control of these values can, regardless of the chosen display option, of course also be done via the numeric keypad, using the theatre-typical syntax.



# Store & Playback

Being a hybrid control board, the grandMA automatically differentiates between dimmer channels (HTP channels) and controlling attributes of moving lights (LTP channels), so that all effects can be freely combined within the programme. Selective programming – where only part of the channels will be stored per scene for a later combination of programmes – offers astounding possibilities for dimmer control as well. In the tracking mode of a sequence, a channel will only be stored in the very step, in which its value was modified. A specific fine-tuning is always possible, even afterwards.

## Individual Timing – Multi-Part-Cues

Beside a general Cross-fade time and a delay time for switching effects, you can also assign individual times to each channel via the TIME-button. The pre-setting of these times can be done in the same display and the same way as the setting of channel values. Thus one single scene can consist of up to 2048 different parts, what is already as much as an entire programme.

## Playback Fader And Buttons

No matter if total brightness, speed of chaser or manual cross-fade – the user decides, which functions he wants to have available on which fader or button. Optionally you can also assign more than one fader to a single sequence. With the motorised faders you can even work simultaneously on various Playback pages. Forty additional Programme-buttons for LTP-effects ensure most convenient operation, leaving almost nothing to be desired.

## Function-Keypad

A whole set of special function keys is located in the middle of the desk between the Playback-faders and -buttons. Each one of these special functions such as STOP, ON, OFF, GO,... has direct effect on the Playback selected right after. Consequently, functions such as LEARN-SPEED-Button offer an unbelievably fast adaptation to the actual situation.

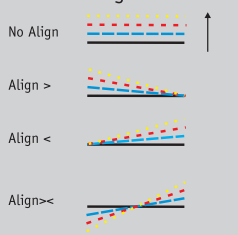
## Sequences And Chasers

The available options for Playback go from simple scene via chasers up to entirely pre-recorded sequences/cue lists. grandMA offers one speciality concerning chaser timing – global beat frequencies, i.e. being adapted to the current situation one time, will cause automatic correction of all effects involved. With sequences, you can assign an individual timing and name to each step in addition to the free assignment of addresses (LINK and LOOP). The Display will graphically show running cross-fades, which – together with the list – does not only offer perfectly clear overview, but also ensures fast access and modifications.



# Special Functions

## Effect of Align Modes



With 2,048 channels, something like 500 dimmers and 120 moving lights, creating a simple chaser can easily turn into a very time-consuming chore. The grandMA offers various options to ensure fast processes, while even more options are to follow in future software updates. Speed is not only a decisive factor for the programming, but also when programmes have to be modified. Using the grandMA's UPDATE function, you can effect your modifications at any time via direct access, automatically correcting the last-activated programme.

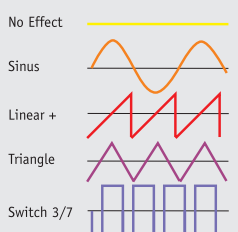
## ALIGN-Function

With the ALIGN-Function you can arrange entire groups of values simultaneously. grandMA arranges values exactly that way, as they have been selected. This sequence can also be stored on group buttons. The selection of different colours for a group of moving lights, the fan-like distribution of light beams or the setting of individual delay-times can be realised by turning the encoder wheel.

## Modulator Effect

Besides the timing function, the Channel Value Display offers another layer – the Modulator. This is where you can assign an effect to each channel, which can be set in size, speed and delay time. Using the CMY colour mixing, where e.g. each channel receives a different frequency, will generate an almost unlimited play of colours.

## Modulator Effects



## Defined Forms Of Movement

Even a circle movement with a group of moving lights is a task, which everyone prefers to be calculated by the electronics instead of himself. In addition to that grandMA offers a wide variety of further forms, which can freely be modified and whose effect will be shown graphically on the display. Movements can be assigned to the fixtures in the Modulator Display. Size, speed and delay-time can be programmed individually.

## Teach-In-Shows

Complex shows can be recorded internally in Real-Time. grandMA takes all Playback-commands and fader-movements. The graphical display with multiple tracks and running time scale gives a perfect overview. Modification of timing can be done directly on screen.



# Hardware & Accessories

The grandMA's robust steel housing accommodates all components required for operation. There is no need for an external computer, interface or power supply, and even the extra monitors are optional. For safety reasons, the grandMA is additionally equipped with an internal UPS (un-interruptible power supply) to bridge power failures of up to 10 minutes.

## Internal Harddisk And Disk Drive

The integrated 2GB Harddisk does not only store the operation system including separate Backup, but also offers enough capacity for various complete light shows with hundreds of Cue Lists. For permanent storage or transmission to a different console, all programmes can also be stored on floppy-disk. The disk drive also ensures for fast software updating – latest software updates can be downloaded from the MA Lighting Homepage free of charge.

## Ethernet And Other Links

In addition to the four DMX-Outputs, the hardware of the grandMA is prepared to transmit even bigger numbers of channels via Ethernet. ESTA is currently working out a standard protocol for this form of transmission, which is going to ensure a compatibility between units of different manufacturers, similar to the DMX norm. Besides the DMX-Input, Sound and SMPTE-Time-Code, grandMA offers additionally a printer port and an RS232 interface, thus guaranteeing for fast communication with various peripherals.

## Maintenance And Software Updates

The Software of grandMA is in a constant process of expansion and perfecting. The way of controlling via menus and display-softkeys enables us to realise the constructive feedback of our partners and technical developments within the software updates. The hardware is only the base offering enough reserves in order to guarantee, that its owner will always be able to participate in the fascinating technical development, even in the future.

The actual plannings for the upcoming updates consist of 3D-movement-control by input via touchscreen, transforming these inputs into movements, CMY colour mixing directly on the display and various additional operation modes for faders.

## Peripheral Units

In order to avoid any unnecessary burdening which could effect the speed of grandMA's electronics, graphic show-simulation on the display was left out on purpose – this effect can be achieved with all standard peripherals without any problems. Other peripherals such as wireless remote control, Auto-Focus-Units for stage initialisation and a Backup-system are still in development at the time of finalising this catalogue. Latest information concerning current status can be read on our MA Lighting Homepage under <http://www.malighting.com>

## Capacity:

- grandMA controls 2048 channels (dimmers and attributes of 8 or 16-bit) with softpatch to 2048 DMX addresses
- Freely configurable monitors with Touchscreens offer flexible operation and precise adaptation to any individual working mode
- Playback works on the basis of dipless crossfade either in Tracking or Non-Tracking mode
- The internal Harddisk stands for virtually unlimited storage capacity of presets, memories, cues and effects

## Front Panel Layout

- Adjustable monitor panel with 3 built-in Touch-Screens with TFT-Colour Monitors 10,4" (26,4 cm)
- 3 Encoders for X-/Y-Selection within the active Monitor Window
- 18 View-/Macro-Buttons
- 4 Encoders with Fast-/Slow-Function for free Choice of Attributes
- 20 Motorised Faders as Executor- or Channel-Faders with 3 directly assigned Buttons
- 40 Executor-buttons for direct Retrieval of Sequences and Chases
- 54 Keys, partly including LED's
- Numeric Keypad linked to assigned Push Buttons
- Noiseless Playback buttons with GO+, GO- and PAUSE
- Blackout Button with Grandmaster Fader
- King-size Trackball (75mm Diameter) for Pan-/Tilt and as alternative Mouse Pointer
- Three-Key-Mouse in Steel Drawer with integrated Mousepad and Diskette Storage
- Integrated alphanumeric Keyboard in separate Steel Drawer

## Basics of operation modes:

### Setup menu for start configuration:

- Basic configuration available on harddisc
- Lamptype library with more than 230 multi-functional fixtures
- All fixtures and channels can be named individually
- Softpatch with Min/Max/Invert per channel
- Definition of new lamptypes on screen

### Display of output and data entry:

- Numeric dimmer channel listing
- Channel fader symbols
- Fixture parameter spreadsheets for status report on moving lights
- Different additional options available

### Selection and data input:

- Selection via group buttons, mouse, Touchscreen or keypad
- Linking operations Thru, + and -, Odds and Evens
- Data input via four Encoders, dimmer wheel or numeric keypad
- Mouse middle click with Mouse-Hold-and-Move operation
- ALIGN option for proportional change of any group of values
- Preset buttons for the scan features





# Technical Data

## grandMA

- Buttons can be freely moved within the window
- Presets grouped together for 10 different functions
- Buttons of different preset groups with different colours
- Free assignment of which channel to be controlled in which preset

### Automatic Effect Generator

- Different effects with access to size and speed applicable to any channel
- Predefined movement figures for Pan/Tilt control

### Store Options:

- Single cues, chase effects or sequences
- Selective Programming for LTP and Tracking mode
- Basic fade times for fading channels and basic delay for switching parameters
- Optional individual fade and delay for every single channel
- Overwrite, Merge, Insert and Add-on option
- Cue-lists in Tracking or Non-Tracking-Mode
- Optionally separate Outfade / Downfade times

### Playback Options:

- Free Assignment between Programme Pool and Executor faders or buttons
- Playback via fader or GO-button with stored timings
- Chaser effects with Auto Run, sound or manual X-Fade
- Auto Loop / Single / Reverse / Bounce / Random
- sequence with individual timings per step
- Go button mode / Auto Timed / manual X-Fade / sound
- Steps can include loops with counter or timer

### Executor faders and buttons:

- Executors organised in pages with optional Multi-page operation
- Working Mode of faders and buttons can be freely assigned
- Up to 3 Executors can be grouped together to control one cue-list
- A block of special function buttons can be applied to any executor

### Fader working modes:

- Brightness Master in HTP or LTP Mode
- Manual X-fade

- Speed, fadetime, Rate for chaser and sequences

### Button working modes:

- On/OFF, GO+, GO-, Pause, Flash up and Flash down
- Fast GO and GO- (<<< and >>>) without fades
- Temporary Flash playback even for LTP channels

### Output Listings and Playback Protocols:

- Channel values displayed in different colours for up/down/wait/extern
- Cue lists spreadsheets with step names and all step data for fast modification

### Direct Access during Playback:

- Any channel can be controlled directly at any time and in different modes
- FREEZE, CLEAR and RELEASE functions
- Pure Modifications of values can directly be stored with the Update Function
- EDIT function for direct access to timing parameters and Chaser/Sequence Step modes

### Adjustment of Hardware:

- Touchscreen calibration individual per screen
- Software Equalizer for Sound-Input
- Different resolutions selectable for Trackerball, Encoder and Wheel

- Adjustable brightness of screens and desk lamps
- Default Store mode, times and parameters
- Default fader and button working modes

### Connectivity

- 4 DMX512 (1990) Output Lines via 5-pin XLR Sockets
- DMX Input for remote with 5-pin XLR Socket and DMX Thru
- Audio Input Line for Mono-Audio Signals >20 mV with 6,3mm Socket
- SMPTE Timecode Entry for LTC Timecode >200 mV with 6,3mm Socket
- MIDI Interface with IN/OUT/THRU
- External Control Input for direct Voltage Signals
- 3 SVGA Output Lines for external Colour Monitors and Service Monitor via 15-pin Sockets
- Parallel printer port Centronic via 25-pin SUB-D Socket
- Ethernet-Interface for Networking (Backup) and Remote Control with BNC-Socket (10Base-2) and RJ45-Socket (10 Base-T) according to IEEE 802.4
- 2 serial Interfaces RS-232C for future Extensions (9-pin SUB-D Sockets)
- Connections for external Keyboard (Mini-D, PS2-Type) and Bus-Mouse (Mini-D, PS2-Type)
- 2 XLR 3-pin Sockets for Goose-Neck Desk lamps (12V with integrated, electronic Dimmer)
- Power Supply via IEC/CEE 22 Inlet Mains Supply Plug (90-240V autoselecting)

### Operating System:

- New designed operating system for industrial applications named VXWORKS (no DOS, no Windows)
- fast cold boot time (less 50 sec)
- Software update via Download from Internet
- Off-Line-Editor in process

### Hardware:

- Pentium Processor with 266 MHz Processor Speed and 64 MByte RAM
- 12 MByte non-volatile Flash-Disk for Operating System, System Software and Installation Data
- Built-in 2 GByte Hard Disk
- Integrated 3.5" Floppy-disk for easy Software Upgrading and external Storage of Show Data
- Hidden Reset button on rear housing
- Built-in UPS (un-interruptable Power Supply) to withstand main power failures up to 10 minutes
- Professional protection against electromagnetic interference in compliance with all relevant European EMC regulations

### Weight and Dimensions:

- Robust steel housing (1200mm wide, 150mm high [monitors not folded up], 670mm deep)
- Weight: 47kg without flightcase
- Including Flightcase: 1275 x 780 x 320mm, 84kg

### Articel numbers / accessories

#### Art.No.

|                         |        |
|-------------------------|--------|
| grandMA console         | 120301 |
| Flightcase excl. wheels | 121007 |
| Flightcase with wheels  | 121008 |
| Desk lamp               | 010206 |
| Dust Cover              | 129992 |