SCANCOMMANDER

User´s Manual

Version 4.x
November 2001

Contents

1. Introduction (Version 4.x)

1.1 General remarks

MA Scancommander basic features

The MA SCANCOMMANDER features perfect and easy control of most DMX 512 compatible moving lights and multifunctional fixtures. Up to 16 units can be controlled simultaneously.

Main features of the MA SCANCOMMANDER:
- Access to colours, gobos etc. via labelled buttons.
- Programming of selective scenes with - for example - fixed positions but new colours.
- Transformation of all programs to different stages and different types of fixtures.
- Followspot via Trackball with several different fixtures.
- Slow fades with freely selectable trigpoint for colours, gobos etc.
- Direct access to all functions during running scenes.
- Fader for direct control of brightness.
- Remote inputs for touchboards, DMX 512, MIDI Sound and SMPTE Time Code.
- Unlimited number of fixtures by docking several MA SCANCOMMANDERS.
- Simultaneous control of different types of lighting fixtures.
- Additional 96 channels for dimming or color changers.

Chapter 2 describes the set up, which has to be followed step by step: Choosing lamp type, giving DMX starting address and initializing the stage.

Chapter 3 to 6 describe the direct access to single functions and the programming of scenes.

Appendix 1 lists the types of fixtures, which can be interfaced to the MA SCANCOMMANDER.
When you see ">>...." in this menu, there will be further explanations on this subject. The index at the end makes it easy to find certain subjects.

To be involved in the update service, please fill out the registration card at the end of the manual.

1.2 Specifications and extras

The basic MA SCANCOMMANDER is delivered as a 19" version with 1 desklamp. With this configuration it can perform all functions except labelling your scenes and presets in the display. There is a list of options available that will fit your needs.

Trackball, Computermouse

Makes it easy to control movements. All Atari compatible trackballs or mice can be used. Note: PC compatible mice cannot be used !!

Keyboard

Enables you to label your programs. Any PC-MF keyboard will work. American keyboards may cause some problems by exchanging different letters. (>>Memory Names, Preset Names)

Keyboard drawer

The keyboard, offered by MA, can be mounted in a drawer underneath the SCANCOMMANDER

Board housing

Wooden sides and a front armrest are available.

Backup cue card

All programs can be stored on a memory card in addition to the internal storage. Cards from 32 to 256 kilobyte, type ITT STAR CARD S-RAM can be used.

1.3 Installation

Powersupply

100-240 Volt, 40-60 Hz via Euro plug. No switching of voltage necessary.

DMX 512 output

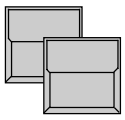
According to USITT DMX 512 (1990) protocol. The output is opto insulated and even better than RS 485 or RS 422. The pins in the 5 pin XLR plug are: Pin 1: ground, Pin 2: Data-, Pin 3: Data+ (Pin 4 and 5: not used)

Other in- and outputs see chapter 9.

2. Setup

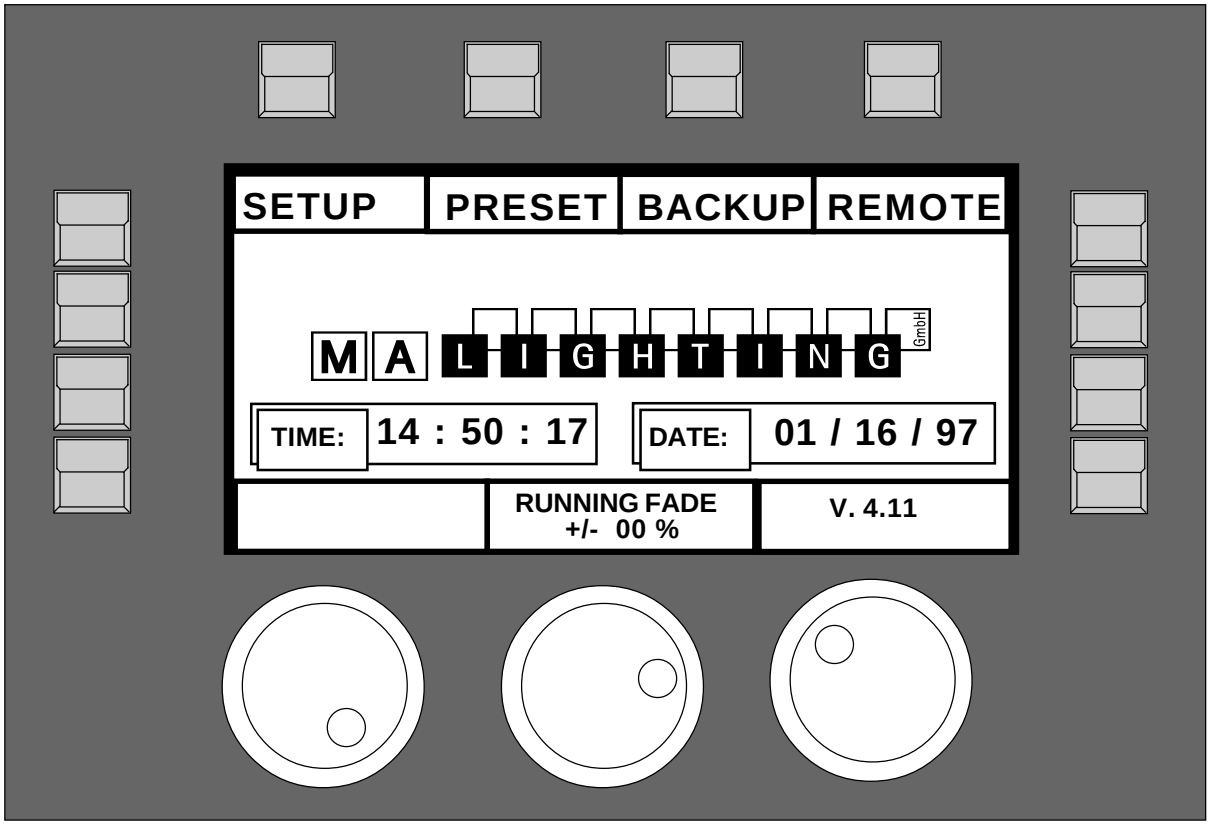
2.1 Top menu

Top Menu



QUIT button (2x)

Starting point for all operations is the TOP MENU. To go back to the TOP MENU during any operation press Quit button 2 x.



Display buttons

The squares in the display show the current function of your 12 buttons around the display. The 3 encoders are dedicated to the 3 lower squares of the display.

Quit button

By pressing the Quit button 2 x you can return to the TOP MENU. The current operation will be cancelled and the board returns to the normal operation mode.

Running fade modification

The encoder wheel no.2 can be used to modify the speed of all active fades (see 9.1 for details).

2.2 Lamp type

The MA SCANCOMMANDER is able to control various lamp types. All necessary adjustments are made by simply choosing a lamp type from the list.

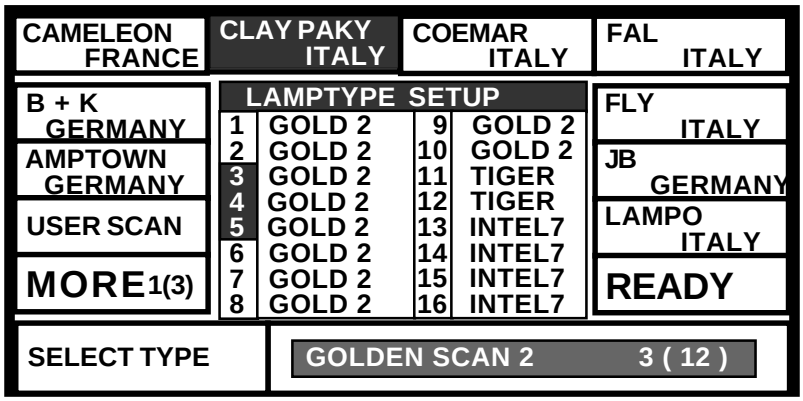
Selecting the Lamp Type Menu

SETUP

The button on top of the display label "SETUP" switches the board to the setup menu.

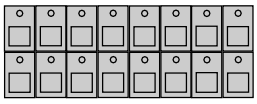
LAMPTYPE

The display shows in 10 sections names of manufactures. MORE turns the page for more manufactures. The list in the centre shows the 16 selected lamp types.



For self-defined scans please choose "User Scan" (see chap. 11). You can call 16 different scans which were defined by yourself previously.

Selecting number of Scans

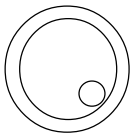


In the "Scan Selection" block the buttons have to be switched on according the number of scans to be registered.

Selecting manufacturer and lamp type

Manufacturer Name

When pushing the desired button, the square of that manufacturer will be shown inverted.



Encoder 1:

In the lower section of the display you find the first types of fixtures of the selected manufacturer. Turning Encoder 1 will scroll through the list of available lamps. If there are "Presets" for the chosen type the scan type will be shown inversely.

Registration of selected lamp type

READY

After selecting the desired lamp type, press READY

INIT:SCANS+VALUES+NAMES

All necessary data for this scan type is now downloaded. The three other kinds of initialization are for registration of different scan types for simultaneous operation.

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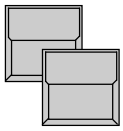
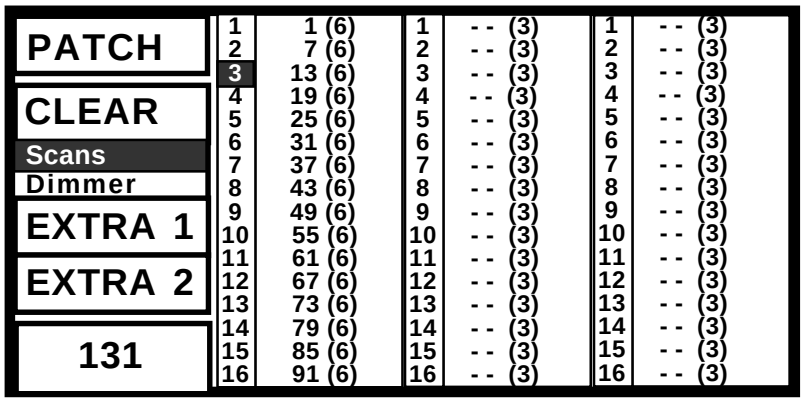
2.3 DMX output addresses

All control signals from the Scancommander are on DMX 512 and are sent on a two conductor cable to stage. Therefore the single scans need to have a DMX start address to know, to which data they must respond.. Usually this address can be selected by a DIL switch directly on the lamp or at their DMX interface.
On the SCANCOMMANDER these addresses have to be set for the individual scans.



SETUP
DMX

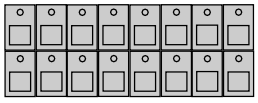
The DMX Output Patch Menu shows three lists of 16 DMX addresses each. The first list concerns the scans, list 2 and 3 are for additional dimmers and color changers (>>Extra1,Extra2) .



SCANS

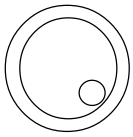
The square SCANS has to be inverted.

Adjusting DMX start addresses



SCAN Selection buttons

DMX start addresses have to be set one by one for all scans. The scans have to be selected by their respective button in the SCAN SELECTION block.

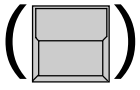


Encoder 1:

Selects the startaddress. An address is only possible to select, if the number of channels, needed for this scan, is freely available (Number in brackets shows the number of channels, necessary for the registered lamptype)

PATCH

Registers the selected address for the activated Scan. To go on the next automatically selected scan has to be chosen.

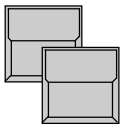


Clear

Clears the registered address and enables the selection of a new start address.

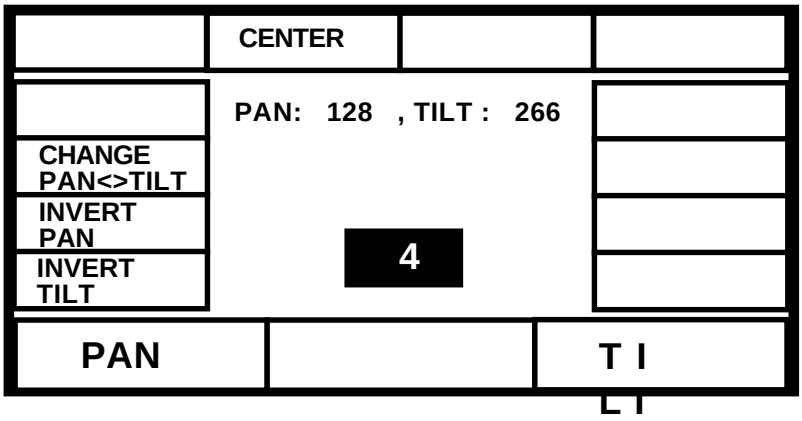
2.4 Movement direction on DMX mode

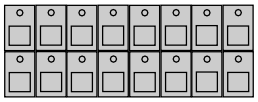
The movement of the beams can be controlled via two of the encoder wheels, an external tracker ball or computer mouse. To reach an ergonomic handling of the trackerball it is possible to do a course adjustment of the movement.



SETUP

DMX MOVEMENT





SCAN Selection

Selection of one single scan.

CHANGE PAN<>TILT

Exchanges the DMX signal of the pan and the tilt channel.

INVERT PAN or INVERT TILT

Changes the direction of the pan or tilt channel.

Using the DMX mode, the values, adjusted on the Scancommanders display, are send directly as DMX values to the lamps.
Beside this mode the Scancommander offers a stage adapted way of controlling pan and tilt. The difference between this two modes are listed in the following chapter and in 3.3.1.

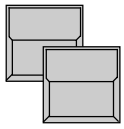
2.5 Initializing of stage

Basic features of movement control

Optionally movement and positions of the light beam are handled as X/Y coordinates on stage. The value 0/0 corresponds to the middle of the stage. Changing the X value relates to movement right or left, changing Y moves between front and backside of the stage. This way of calculation makes it necessary to do an initialization before starting the programming of scenes, but gives you a list of advantages

- Programs can be easily transferred to a new stage setup.
- On followspot mode via trackball all beams stay together.
- Moving the trackball or mouse in one direction will move the beam of all lamps the same direction.

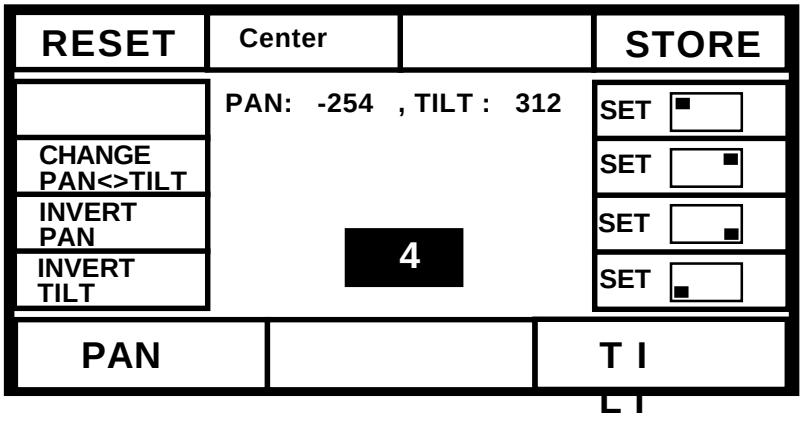
To be able to use these advantages, the stage has to be "shown" to the single scans. This initialization is done by pointing with the beam to the 4 corners of the stage. (The most exact way to do this initialization is by using nearly closed iris or small dot gobo >> see chapter 3 Direct access.)

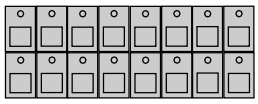


SETUP

STAGE MOVEMENT

The Display shows the MOVEMENT SETUP Menu.





SCAN SELECTION block
Selection of one scan.

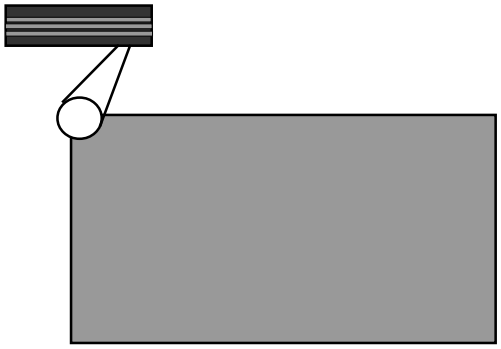
Note:
RESET data can be used for controlling the movement, but cannot be adapted to new stage setups

RESET

Clears all former initializations and gives the scan a standard movement. This is helpful if the movement of the scan in some way is restricted by a former initialization.

Changing movement directions after RESET

After RESET (square inverted) the buttons CHANGE PAN<>TILT, INVERT PAN and INVERT TILT offer the chance of a course adaptation of the trackerball movement to the beam movement.

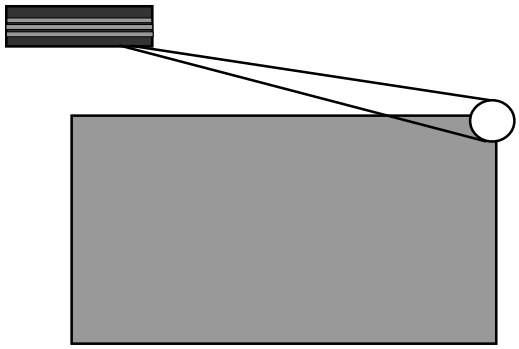


Heading the first corner on the left backside of stage with the beam (To be sure to get the same corner points for all the scans, the corners should be marked on stage with white tape crosses.)

As soon as the beam meets the corner point,

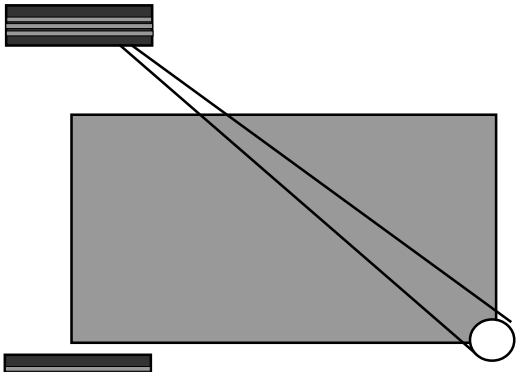
SET - button

stores the position in a temporary data register. The mark " ✓ " shows, that this corner was already adjusted.



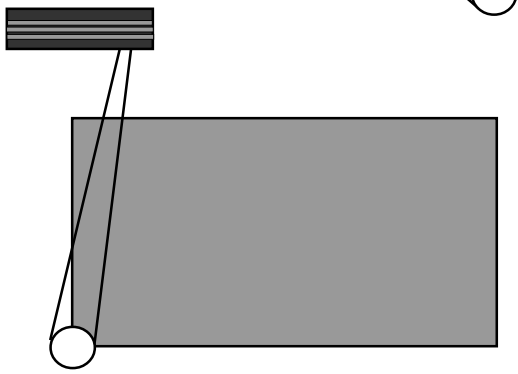
Heading the second corner

SET - button



Heading the third corner

SET - button



Heading the fourth corner

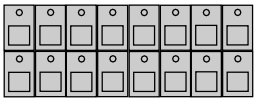
SET - button

! Attention ! ***! STORE !*** button in the DISPLAY

Initializes the new movement. Changing to the next scan without STORE will clear the register of the corner positions.

3. Direct access

Actual Scan Selection



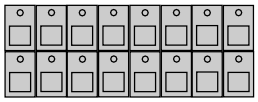
There is constant direct access to the single functions of the scans. Any function can be controlled for a number of scans simultaneously. The LED´s in the Scan Selection block determine, which of the 16 scans will be affected.
The "CLEAR" button beside the "SCAN SELECTION" block clears the selection, the "INVERT" button inverts the actual selection.
"CLEAR"-"INVERT" selects all 16 Scans.

As long as the OPTION button is held down, the lower display button on the left side changes between the SINGLE and MULTI mode.

SINGLE: Only one scan can be selected at once. All other scans will be deselected automatically.
MULTI: It is possible to select more than one scan at a time to be controlled simultaneously.

3.1 Scan groups and brightness fader

Combinations of scans, which are mostly used, can be stored and recalled as groups. In the same time, the brightness master underneath the group buttons are masterfaders for the brightness of this combination of scans.



SCAN Selection
Selection of the scans, which shall be stored as one of the groups.

STORE

Keep button pressed, select "SCAN" to be displayed on white background,

Programming of scan groups

...and simultaneously press...

Group button A-H
Stores the actual scan selection as group.

If you accidentally release the STORE button before pressing a group button, press two times QUIT to return to the TOP MENU.
Group buttons, when pushed during standard running mode, always overwrite the actual scan selection.

! Attention !

To have one or more of the scans lighting the stage, at least one of the group brightness faders has to be up. Even during movement initialization there will be no beam on stage as long as all group brightness masters are at zero.

! Attention !

The function "MASTERS ALL 100%" at the SETUP menu will set all master faders to full on. This makes sense during playback of synchronised shows but should be switched off during standard operation (white background).

3.2 Basic scan functions

3.2.1 Tuning with the encoder

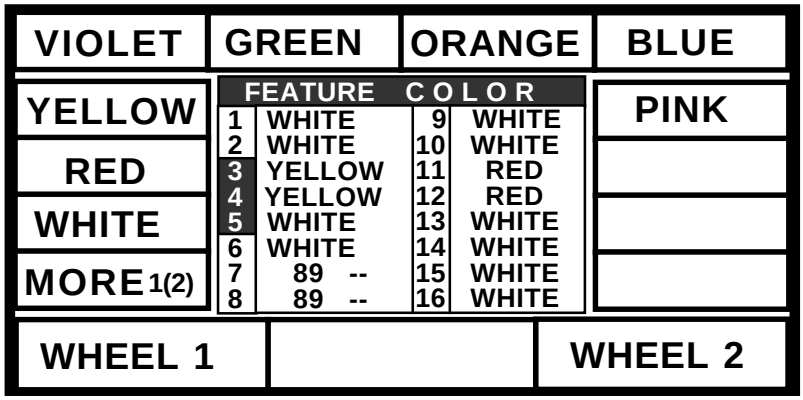
All functions of a registered lamp can be selected and controlled directly. To see any effect on stage, every lamp has to be part of at least one of the groups and its brightness master has to be up.

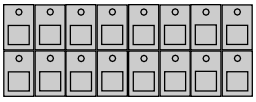
Controlling functions via encoder

FEATURE button

Selection of any function is by their button in the FEATURE block. As soon as the EXTRA LED lites, the red printed functions are valid.

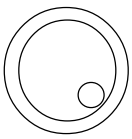
For any selected function the DIRECT ACCESS Menu shows the actual data in a list at the centre of the display. (Right the COLOR display)





SCAN SELECTION

The encoder always controls the scans, which are actually selected in the selection block. Their numbers in the display list are printed inverted and the values are modified when the encoder is used.



Encoder 1, 2 and 3

The three lower sections in the display show the functions, which are controlled by the encoder. The inside part of the encoder controls the function step by step, the outside ring offers a fast and course adjustment. (16 steps per increment).

NOTE:

As it is now possible, to select small beams and to control movement scan by scan, the stage initialization should be done before going on with programming. This is important to have the chance of transforming programs to new stage setups. (>>Movement initialization)

3.2.2 Programming of presets

PRESETS

Using the Encoder Wheels, all functions are controlled in 256 steps. But for most of the functions there are special values, which are used all the time, like the single colours on the color channel. These values can be stored together with a label as PRESETS and can be recalled by the push of a button later on. On direct access the 12 display sections will show these names. For most of the scans these PRESETS are stored internally and are downloaded when doing the lamptype setup. If these PRESETS are not available for the actual registered lamp type, or they are not right and have to be adjusted, you have to swop to the PRESET ADJUST menu.

QUIT button

The display switches to the TOP MENU.

PRESET

The display shows the actual output values and the headline "Adjust Preset".

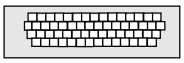
Feature button

Presets can be programmed for all functions. Also for PAN/TILT, positions can be prepared as presets.

Display button of the desired square

Short push (<1/2 sec.) of a button inverts the square.

PRESET names



KEYBOARD

Input of a name with up to 6 characters.

ENTER or RETURN (KEYBOARD)

Stores the name for the preset.

Adjusting values

Adjustment of values via SCAN SELECTION and ENCODER 1 to 3.

Saving a PRESET

1. x STORE button

All Scans, where the function is available, are selected

2. x STORE button

For all selected scans the actual output values are stored as PRESET.

Testing and modifying PRESETS

Preset button pressed for more than 1/2 sec

The selected PRESET will be recalled and can be modified and stored.

After the second STORE the next PRESET can be programmed or the desk will return to the TOP MENU by using the QUIT button.

3.2.3 Playback of presets

Playback PRESETS

(X-Fader in the Feature block zero)

Feature Button

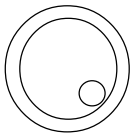
Selects a function for direct access.

Display buttons

In direct access mode preprogrammed PRESETS can be recalled by their button. Similar to the control via encoder, only the scans which are actually selected, will change to the new value.

Display list:

If the actual value of a scan was selected by recalling a preset, the list will no longer show the channel value, but will show the preset name.



Encoder 1 to 3

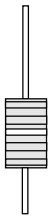
Modifications via encoder:

- Any modification via the encoder will change the display to show the actual output value. If the value returns to the preset value, the display returns to show the preset name.

Preset X-Fades

Slow x-fades to a preset value:

X-FADER (FEATURE SELECTION BLOCK)



The x-fader in the feature selection block sets the time for the slow fade. On any recall of a preset, while this fader is raised to a value above zero, the channels will slowly change from their actual output value to the value stored in the preset.

When recalling a preset for a switch function like gobo, this fader should be down, otherwise the gobo wheels will slowly change to the selected new gobo.

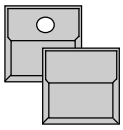
SAMPLE function

The SAMPLE function enables the recall of up to nine presets even for different features simultaneously. The SAMPLE preset commands can be created in advance and are listed in the display, as soon as the SAMPLE button is pressed.

SAMPLE display

SAMPLE - keep button pressed

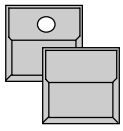
As long as the sample button is pressed, the SCAN-COMMANDER works in the SAMPLE mode.
- the display shows a insert window with up to nine preset recalls.
- Preset commands will not be executed but listed in the Display
- The GO+ button of the sequence will not recall the next step of the sequence, but will recall the sampled preset recalls.



SAMPLE button and simultaneously

any Preset button in direct access

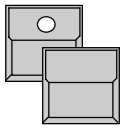
The Preset are not executed, but are listed in the SAMPLE list together with the actual scan selection and the actual x-fade time.



SAMPLE button and simultaneously

GO + button of the sequence section

The listed preset recalls get executed. The list will not be cleared and can be recalled again later on.



SAMPLE button and simultaneously

CLEAR button in the feature section

The SAMPLE list will be cleared.

Any new preset command, which is sampled in the list, may overwrite and therefore automatically clear a former command. (For example if a new command sets a gobo for all scans, any former gobo commands in the sample list are cleared.)

3.3 Movements

PAN/TILT via encoder and Presets

Controlling the movement works basically like controlling any other function. Positions, which are stored as presets, can be recalled by their buttons. The scan selection block shows, which of the 16 scans will go to the new position. When a preset is recalled with a x-fade time greater than zero, the beams will change slowly and with a linear travel from their actual position to the new one.

PAN/TILT coordinates

In addition to encoder and preset playback, there are some functions which are only available for Pan/Tilt.
(two different mode, trackball and mouse, followspot and circle movement)

3.3.1 Movement on direct DMX or on stage calculation

As noted in 2.4 and 2.5 on the Scancommander it can be selected between adjusting the DMX values of pan and tilt directly or adjusting the stage position where the scans are supposed to point to. Although it is possible to swap between this two modes any time, it is highly recommended to select one of the modes as basic for all programs.

Advantages and disadvantages of the two operation modes

DMX direct mode	Stage calculation mode
<u>Setting position:</u> - better control in extreme positions far outside stage - on moving head lamps, pan turns the yokes while tilt turns the lamp - the bump position of the yokes is placed at the same side every time the picture is recalled.	- synchronously control of all scans within the stage - linear movement of the beam even when using moving head lamps. - reaching the bump position of the yoke, the head lamp turns around.
<u>Movements on fade:</u> - depends on mechanical construction of the lamps	- linear movement of the beam within the stage area
<u>Adaptation to new stage setups:</u> - scans have to be mounted exactly to the same position as before or - all presets have to be adjusted	- adapting all programs by initializing the 4 corners - adjustment of single presets
<u>Follow mode:</u> - not possible	- without any problem up to 50% outside stage
<u>Display on the pan/tilt menu:</u> 00 00 to FF FF (optional in % or hexadecimal)	◇ -99 - 99 to ◇ 99 99 the rhomb marks stage coordinates, white ramp marks a fade to stage coordinates

Special regulations on stage oriented movement

- During stage oriented movement mode the value in the display reaches from -99 to +99. The centre of the stage corresponds to 0/0, the corners have values of +/-25. Values outside +/- 25 mean, that the beam is actually outside the stage.
- When a preset is recalled with a x-fade time greater than zero, the beams will change slowly and with a linear travel from their actual position to the new one.
- If the movement initialization was done correctly, any combination of scans, which shows the same values in the display, meet the same point on stage. Outside the stage, this effect will loose its accuracy.

! Attention !

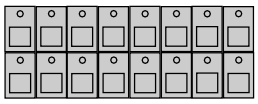
Programming presets for Pan/Tilt makes movement control very handy. 44 positions on stage can be preprogrammed and recalled by their button.
In addition it helps to return to a well defined point if the operation via trackball gets confusing.

! Attention !

During any programming of positions make sure, that the circle radius is set to zero. If only the circle speed is zero, but the radius is greater zero, there is no circle movement visible, but the radius is still valid and will cause an offset on the programmed positions.

3.3.2 Changing the movement mode

Direct setting of the working mode



SCAN SELECTION

Selection of the scans to be changed

OPTION button

keep button pressed and simultaneously press

SET SELECTION TO STAGE MOVEMENT

selected scans, which work on direct DMX mode, will swap to the stage calculation mode and jump to "00 00" middle of stage.

SET SELECTION TO DMX MOVEMENT

selected scans swap to direct DMX mode without changing their position.

The actual mode is marks by "S" or "D" for all 16 scans. Changing the mode via option cancels all running fades.

Changing the working mode can be done by recalling according playbacks

The working mode is stored within any preset, memory, chaser or sequence step. The playback of this programs automatically restores the according working mode. Fades between two positions with different working mode always run in DMX direct mode.

3.3.3 Transforming memories to a new stage

Transforming stage mode data:

Transforming programs to a new stage setup

All movement positions which are stored as presets, memories or scenes, are automatically adapted to a new stage setup, as soon as the movement initialization is done. Therefore it is important to have the first movement initialization done before any program is stored. If the programs had been done on the basic of an exact initialization, no further adjustments are necessary. The same initialization is necessary, if the mounting position or height of a scan has been changed.

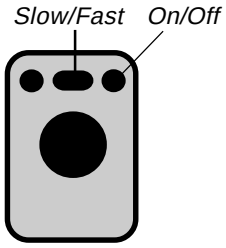
Adjusting preset positions

Preset positions can also be adjusted, if the point they have to hit on stage, has moved. If, for example, the position of the keyboard player has moved, only the preset "KEYB." has to be adjusted, and any memory, chaser or sequence step, which was programmed to meet the keyboard, will recall the right position.

Transforming direct DMX mode data:

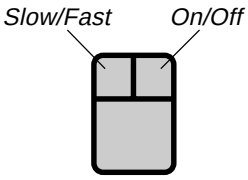
Transforming direct DMX memories

If programs are stored on direct DMX mode the easiest way is to adjust the lamp position as exact as possible.
Otherwise all programs, which are based on preset positions can be transformed by simply adjusting the 44 preset positions. Stage pictures, which are not based on presets, have to be tested and adjusted one by one.



3.3.4 Trackball and Mouse

An Atari compatible mouse or trackball makes control of movement very comfortable. In standard operation mode, no follow spot fixed (see 3.3.3), the mouse will always control the actual selected scans simultaneously. Unlike the control via encoder, the mouse even works when Pan/Tilt is not selected in direct access mode.
The mouse buttons switch the working modes, the new mode will be displayed for one second in the centre of the display.



Right mouse button (outer buttons on the trackball):

Switches the mouse on and off, to avoid accidental movements.

Left mouse button (inner button on the trackerball)

Mouse speed changes between slow and fast.

3.3.5 Followspot mode

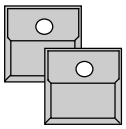
Followspot in standard operation mode

The Pan/Tilt calculation via the stage coordinates has the effect, that all beams, starting at the same point, stay together during simultaneous operation. Outside the stage this effect looses part of its accuracy.
To have a real tracking of a person moving on stage, it is necessary to do the movement initialization of the four corners at about 1.5 m height, otherwise the beams will perfectly light up the feet of the person, but not the body. Therefore the corners have to be marked by a microphone stand or something similar.
In standard operation mode, the mouse controls the actual selected scans.

Fixing the followspot mode

Using the EXTRA-FOLLOW feature, it is possible to fix one group of scans to the mouse. Any change of the scan selection while controlling colours, gobos or any other feature, will not affect the follow selection. The mouse will go on to control their scans.
Additionally the scans, fixed to the follow mode, won't be affected by any memory or playback program.

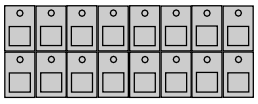
EXTRA LED has to be switched on



FOLLOW

The display changes to FOLLOW FIX Menu with the list of Pan/Tilt coordinates.

SCAN Selection



Selection of scans, which shall be fixed to follow mode.

FREEZE FOLLOW inverted

The selected scans are fixed to follow mode.

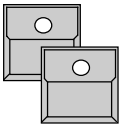
MODE PROGRAM inverted

Standard operation mode. The mouse always controls the actual selection of scans.

3.3.6 Circle mode

Circle movement as a Feature

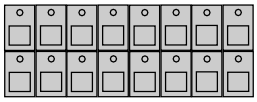
The feature EXTRA - CIRCLE offers direct control of circle movements. The actual Pan/Tilt position will be the centre point of the circle movement, radius and speed can be controlled by encoder. By moving the Pan/Tilt position, the circle will move simultaneously.
Circle parameters can be stored as presets like any other feature and can also be stored within memories, chasers or sequence steps.
(>>Programming selective memories).



EXTRA LED has to be switched on

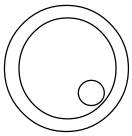
CIRCLE

Direct access to the CIRCLE feature can be done with encoder or presets like on any other feature. At least one preset should be prepared with speed and radius set to zero for all scans.



SCAN Selection

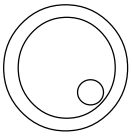
Speed



Encoder 1

Controls the speed. Crossing zero will change the direction.

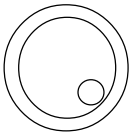
Starting angle



Encoder 2

As long as the radius is zero, a starting angle can be set between 0 to 15 (=F). This helps to start the different scans at different positions of the same circle.

Radius



Encoder 3

sets the radius of the circle.

Terminating a circle movement

Any circle movement can only be terminated by turning the radius to zero or by recalling a preset, which sets the radius to zero.
For keeping control of circle movements and to have the chance to terminate circles as quick as possible, it is recommended to program a preset for circle "OFF".
Using the selective way of programming memories and sequence steps, it is important to have one of the memories S1 to S10 stored as "CIRCLE OFF" memory. (>> 4.3 Selective memories)
When a circle movement is terminated by setting the radius to zero, the beam returns to the centre of the circle.

! Attention !

During any programming of positions make sure, that the circle radius is set to zero. If only the circle speed is zero, but the radius is greater zero, there is no circle movement visible, but the radius is still valid and will cause an offset on the programmed positions.

3.3.7 Movement speed

Handling within the Scancommander

Slow movements are one of the major applications of moving lights. The MA SCANCOMMANDER controls fades by updating the position about 40 times a second. The intern resolution of the SCANCOMMANDER is 1600 steps for Pan and 1600 steps for Tilt. Using one or two channels per direction, the Pan/Tilt informations can be sent with 8 to 16 bit accuracy. Depending on the lamp type, the single steps of the SCANCOMMANDER will be conducted with individual degree of accuracy.

Lamp types with 10 to 16 BIT accuracy

As the DMX 512 signal features a 8 bit resolution, it offers control with 256 steps. A much improved movement control is possible, if the lamp offers a second channel for fine adjustment, reaching a 10, 12 or 16 bit resolution. Unfortunately today only few of the available lamps feature this second channel for high resolution control via DMX 512.

Lamp types with smooth movements by creating intermediate steps

Some of the lamps feature an intelligent logic, which enables the lamp to make smooth movements by creating their own intermediate steps. Therefore these lamps show a little delay on slow movement (Hysteresis). Especially when doing the movement setup, this may cause some loose of accuracy.

Lamp types with a speed channel

Other lamps require that the speed data are sent on a separate DMX 512 channel. As this speed information has to be set by the user any time there are changes between fast movement and slow fades or follow spot operations, it is not very handy.
Setting this speed to maximum leaves no chance to do slow movements, as the lamps will jump from position to position.
Appendix 1 lists the scans, which will successfully interface with the MA SCANCOMMANDER. Unused features such as focus or zoom can be used as a makeshift for lamps which need additional speed information. Controlling the movement speed of these scans can be done by programming some selective memories on S1 to S10, which only set a value on to the speed channels.
(>>4.3 Selective memories)

4. Memories

Any picture on stage can be stored as a memory and recalled by touching a button. If the actual position is created by recalling a preset, any modification of this preset will cause the memory to recall the modified values. Therefore it is no longer necessary to adjust every single scene when adapting programs to a new stage setup.

4.1 Programming of basic memories

STORE button

The display shows a matrix with 16 columns for the scans and 12 rows for the features. "-" in the matrix indicates, that this feature is not available for the registered scan. Small dots in the middle of a square show, that the feature for this scan was set by the encoder wheel, a cross indicates, that the value is a presetvalue.

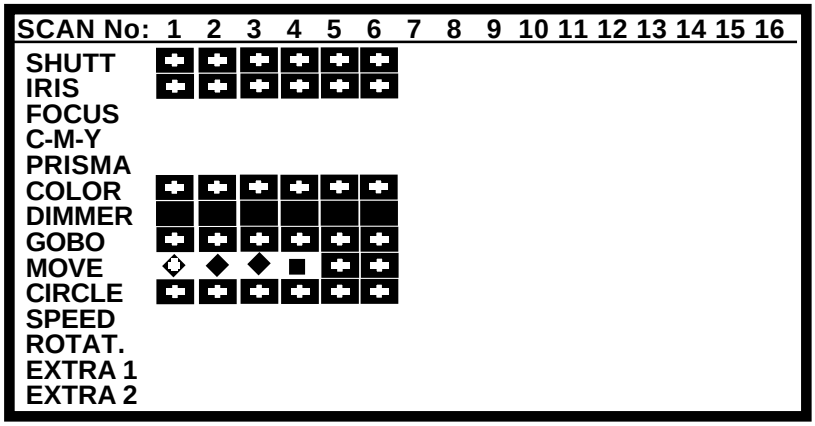
STORE MATRIX when controlling 6 scans.

Preset values

Encoder values

Stage coordinates

For the beginning it is just important, to have all squares in the matrix inverted.
(>> 4.3 SELECTIVE MEMORIES)

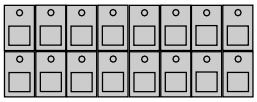


During initial programming operations, all blocks within the matrix have to be displayed in inverted contrast. In case some of the squares are not inverted, press

Selecting the complete STORE MATRIX

1. x CLEAR button in the feature block

The matrix is cleared, all blocks are not displayed inverted.



SCANSELECTION

Use -CLEAR - INVERT to select all scans

2. x CLEAR

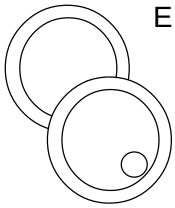
The matrix is completely selected. All blocks are displayed inverted.

Note: if the STORE MATRIX is not completely selected, only some of the adjustments on stage are stored.
(>> 4.3 Selective Memories)

The matrix is stored internally and reconstructed as soon as the next picture is stored.

Trigpoint and x-fade

Features may be selected for slow infade (indicated by the small ramp) or for fast switching to the new value (trig). A trigpoint will set, whether the switching will be done at the beginning, the middle or the end of the fade.
Example: A scan may move slowly from its old position to the middle of the stage, the color is set to change quickly at 50%, means middle of the travel.



Encoder 1
Selects a feature marked by an arrow.

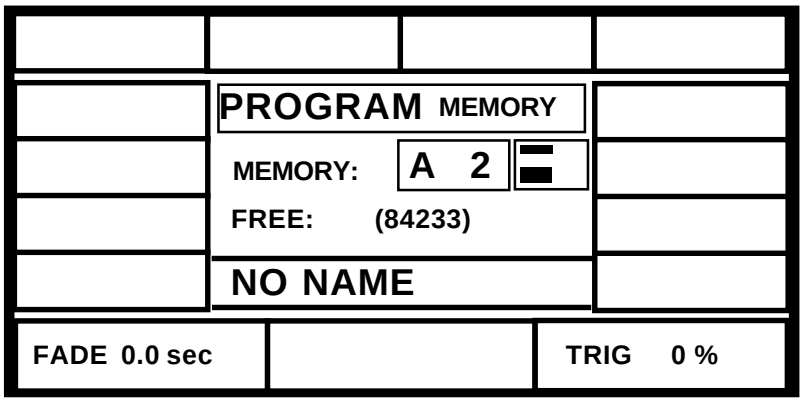
Encoder 2 or 3
Switches between Trig and fade.
Ramp (black triangle): Slow x-fade
No Ramp :Switching at the Trigpoint

Memory pages

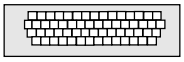
the PLAYBACK area right hand on the front panel offers 40 buttons for memories, whereas the upper 30 buttons can be switched to 4 different pages A to D. The right hand buttons with two LED´s are able to contain chasers. A flashing LED in a page button shows the preselected page. The lower ten memory buttons S1 to S10 stay untouched by the page buttons and should be programmed to contain the mostly used memories.

MEMORY button/ (PAGE A-D)
Selects a place to store the picture as memory.

A small graphic shows the STORE matrix of this memory

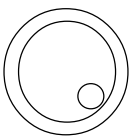


Memory name and parameters



KEYBOARD
Input of a name with up to 14 characters.

ENTER or RETURN (Keyboard)
Stores the name.



Encoder 1 and 3
Sets x-fade time and trigpoint.

Storing a memory

STORE button
Saves the actual stage as a memory.

4.2 Playback memories

Standard Memories

Memories can be recalled by their respective buttons any time. All channels, which had been selected in the store matrix, will be set to a new value. Therefore standard memories with completely selected store matrix will recall one well defined picture on stage. The LED in the last recalled memory lites up.

4.2.1 Playback with programmed x-fade time and trigpoint

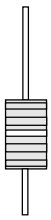
Preprogrammed fade time

For any feature which was set to x-fade mode (small ramp in the store matrix), the output will not switch to the new value but will change slowly with the programmed fade time.
The output of the trigger features will switch as quickly as possible to their new value. The time of switching is set by the trigpoint.

4.2.2 Playback with new x-fade time

Overwriting the programmed fade time

FADE MODE switched to SET TIME



X-Fader in the playback section

The x-fader will now overwrite the programmed fade time.
Switching features will adapt their trigpoint according the new fade time.

Memory button

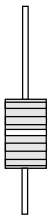
Recalls the memory with the adjusted fade time.

4.2.3 Playback with manual x-fade

Manual cross fades

FADE MODE switched to MAN FADE

As soon as the fader is moved to one of the end positions (LED on), a memory can be loaded for manual crossfade.



X-FADER

Moving the fader will crossfade the values between the start position and the new memory.

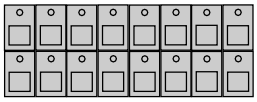
MEMORY button during running fade

FADE LED flashes and the memory will be recalled with its stored fade time.

4.2.4 Freezing of single channels

FREEZE button

The FREEZE function fixes the actual value of single channels. These channels will no longer be affected by any playback.



SCAN Selection
Select a combination of scans

FREEZE button in the FEATURE block
keep button pressed ...(The display shows a matrix. The already frozen channels are displayed inverted.)

and simultaneously press

FEATURE button
The LED inside the FREEZE button lights up. For the actually selected scans the selected feature is fixed.

MEMORY button

The fixed channels get no longer affected by any memory, even if they had been selected in the store matrix of this memory.

Changing the selection of frozen channels

Changing the scan selection and pushing another feature button will create a combination of frozen channels shown in the display.
Selecting a feature where already some scans are fixed will clear the old selection of scans and will freeze the new selection. This way, for single features, the Freeze can be cleared by not selecting any scans.

Controlling frozen channels

Direct Access via presets or encoder will work even on frozen channels. The Freeze only protects against playback buttons like memories.

Clear FREEZE

The complete freeze is cleared by pushing

FREEZE button...

and simultaneously ...

CLEAR button in the FEATURE block
The LED in the FREEZE button is dark.

Automatic FREEZE on FOLLOW MODE

All scans fixed to follow effect by EXTRA FOLLOW Mode are frozen automatically. This is to avoid accidental changes of the beams, which are used to track a person. (>>Fixing the followspot mode)

4.2.5 Display of Memory Names

List of memory names

The names of the memories, set during programming or editing, can be listed in the display.

LIST button at the playback section

As long as the button is pressed, the display will show the names of the actual memory page.

Upper 5 buttons

2. line

3. line

4. line

..

..

Memory S1 to S10 are the same on all 4 pages

MEMORY A/01	MEMORY A/02	MEMORY A/03	MEMORY A/04	MEMORY A/05
MEMORY A/06	MEMORY A/07	MEMORY A/08	MEMORY A/09	MEMORY A/10
MEMORY A/11	MEMORY A/12	MEMORY A/13	MEMORY A/14	MEMORY A/15
MEMORY A/16	MEMORY A/17	MEMORY A/18	MEMORY A/19	MEMORY A/20
MEMORY A/21	MEMORY A/22	MEMORY A/23	MEMORY A/24	MEMORY A/25
MEMORY A/26	MEMORY A/27	MEMORY A/28	MEMORY A/29	MEMORY A/30
S/01	S/02	S/03	S/04	S/05
S/06	S/07	S/08	S/09	S/10

When releasing the button, the desk will return to the last display. This list can be recalled any time, even during STORE or EDIT function, without interrupting the actual procedure.

Permanent display

LIST double click (2 x pushing within 1/4 sec.)

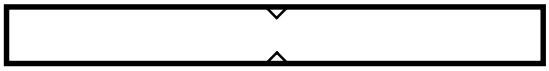
Outside STORE, EDIT or MODIFY the list can be recalled for permanent display by a double click. It automatically switches off when using the display for any other function.

Display buttons and encoder locked

All the functions of the desk remain untouched, but the display buttons and encoders will be cancelled as long as the list is in display.

Setting names via key-board

The names of memory 1 to 30 are displayed with 2 x 7 characters. S1 to S10 get 7 characters each. When typing the name during STORE or EDIT, small arrows mark the beginning of the second 7 characters.



4.3 Selective memories

Working mode of selective memories

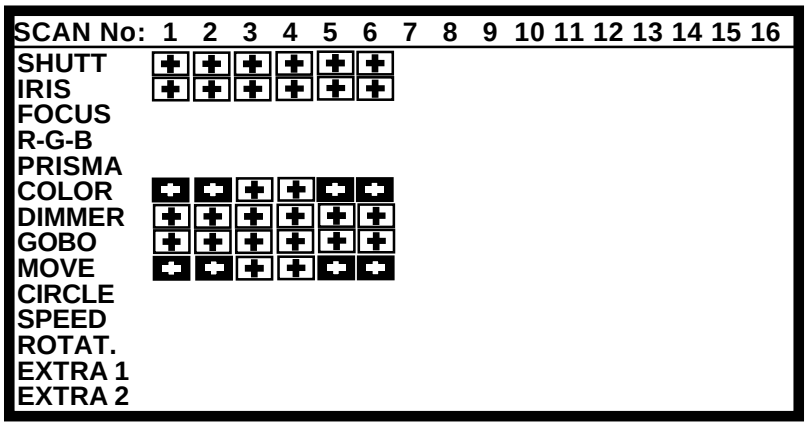
Memories and scenes may be programmed in a way, that they only affect selected channels. When this memory is recalled by its button, all other channels stay untouched.
Example: a memory may be supposed to recall only a new color for scan numbers 1 to 6. The position of the beams, the gobos and all other functions stay unchanged, when this memory is recalled. Scan no.7 to 16 stay completely untouched.

4.3.1 Programming of selective memories

The STORE MATRIX, displayed any time the STORE button is pushed to save a picture, marks out, which of the channels will be controlled by this scene.

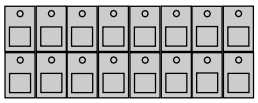
STORE button

A small copy of this matrix will be displayed during the next step and during any edit or modify operation.



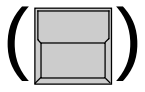
Selecting single channels in the STORE MATRIX

Unlike programming standard memories, on programming selective memories only a part of the channels are selected.



SCAN Selection
Selects the scans which will be affected by the following feature
.

FEATURE button
For the actual selection of scans, this feature is selected. Selected channels are displayed inverted. Changing the scan selection before pushing the next feature button enables you to select any free combination of channels.



CLEAR button in the FEATURE block
Clears the complete matrix. The second CLEAR will select all features for the selected scans. The third CLEAR selects all features for all scans.

The further procedure of storing selective memories is the same as storing standard memories.
The modified STORE MATRIX is saved internally and reconstructed as soon as the next STORE operation starts.

4.3.2 Playback of selective memories

Recalling selective memories works the same way as recalling standard memories, but there are some advantages on programming selectively

Free combination of a number of selective memories:

A memory, setting the position of the scans can join together with pure color memories or pure gobo memories. The same color memory may be recalled during a running chase for movement. Operating in this way saves time when programming up and saves storage capacity.

Saving storage capacity:

On a selective memory, only the data of the selected channels get saved. Using selective memories enlarges the number of chaser steps possible to program later on.

Drawback of selective programming:

Using selective programs requires a good overview of the stored programs. As selective memories affect only selected channels, the picture they produce on stage may be different depending on the picture before.

Example: If the beams are doing a circle and a new memory only contains a new pan/tilt position, pushing this memory will only move the centre of the circle to the new position but will not stop the circle movement. To stop the circle and to send the scans to a new and well defined position, the new memory needs to contain the information "Set radius to 00" and CIRCLE has to be selected in its STORE MATRIX for all the scans.

To avoid confusion on using selective memories, the memories S1 to S10 should be programmed to contain some standard memories with fully selected STORE MATRIX.

In addition there should be some "Stop" memories like "Circle Off", which only set the circle radius to 0 for all the scans, or "Shutter Strobe Off".

4.4 Modifying of memories

Modifying memories, basic structure

A stored memory contains data for:

- Name, x-fade time and trigpoint
- Matrix with trig/fade marks for the features
- Data for the single channels

All these data can be modified without starting from the very beginning.

4.4.1 Changing names and parameters

Changing memory parameters

EDIT button

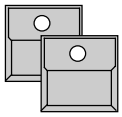
the LED inside this EDIT button is on as long as the edit mode is active.

Memory button

Memory name, x-fade time and trigpoint can be set via keyboard and encoder. Select the next memory or cancel edit mode by switching off the edit button (also possible by quit or any direct access.)

Changing the memory parameters only will not recall this memory to stage.

4.4.2 Changing matrix and data



EDIT button

Memory button

Modifying single channel values or the matrix selection

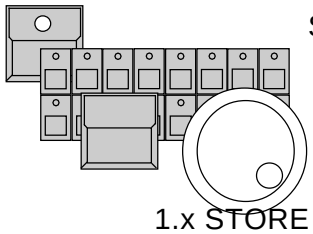
MODIFY button

The selected memory gets recalled to stage and the block "MODIFY" is displayed inverted.

EDIT MATRIX

Edit Matrix has to be inverted, if the STORE MATRIX has to be checked or modified within the next steps.

Feature button



SCAN selection

Preset button or Encoder

Channel values can be modified via direct access.

1.x STORE button

Shows the STORE MATRIX of the selected memory. Selection of channels and trig/fade marks can be modified.

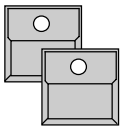
2.x STORE button

Saves the modified memory.

The STORE MATRIX of the last modified memory stays in the temporary storage and will be reconstructed when doing the next store operation.

4.4.3 Copying memories

By recalling



EDIT -

Memory A -

COPY MEMORY button on the display

keep button pressed and simultaneously press ...

Memory B

Copies the memory including name, fadetime and trigpoint settings.

Copy is possible between standard memories, but not possible between chases or sequences.

5. Chaser

The right column of memory buttons contain a second LED. With these buttons it is possible to program single stage scenes as memories or complete chaser programs. Chaser programs are just a list of scenes which change with preselected step time.

5.1 Programming of chasers

Programming steps like programming memories

Programming chaser steps works like programming a memory. Whereas an old memory is erased as soon as a new stage scene is programmed to its respective button, scenes stored to a chaser button will be added to the list of steps already stored.

5.1.1 New chaser steps

STORE button

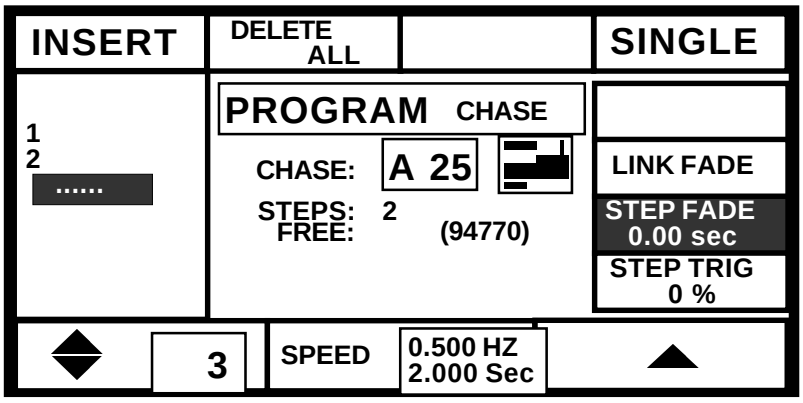
Matrix can be set

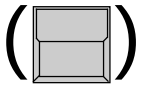
(Prepare your stage plot like on programming memory.)

CHASER button (Page A-D)

Selecting one of the right side memory buttons (5, 10, 15, 20, 25, 30, S5 or S10)

A small graphic shows the STORE Matrix of this step





DELETE ALL

Clears the chase and erases all old steps.

STORE

Saves the stage picture as a new step at the end of the chase

Stop chaser after one run

SINGLE square

Inverted: The chaser will stop automatically when reaching the last step

Normal: The chaser will return to step one and will go on running.

5.1.2 Programming chaser parameters

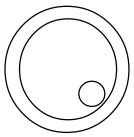
CHASER SPEED
STEP FADE
STEP TRIG

SPEED - sets the time between the different steps

STEP FADE- sets the x-fade time between the single steps

STEP TRIG - sets the trigpoint between the single steps

As the STORE MATRIX may be different from step to step, the listed parameters are global for the complete chaser program.



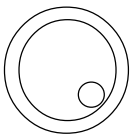
Encoder 2

Speed in Hertz (steps / sec.) and in seconds.

STEP FADE or

STEP TRIG

Inverts the respective block in the display. In case LINK FADE is selected, the fade time is set in percentage of the step time



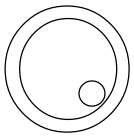
Encoder 3

Changes the selected parameter. The step fade is allowed to be longer than the step time (SPEED). This makes sense if the fading channels are not selected in the next step. Otherwise they will not find the time to do their fade. (>> selective programming)

5.1.3 Insert or delete chaser steps

Step sequence

Any time a chaser button is selected to store a new step, the step counter will automatically jump to the old step number + 1. This way the new picture will be added as the new last step of the chaser.



Encoder 1

Selection of a step number.

Insert a new step

INSERT

Shifts the selected step and all following steps one step back and inserts the new picture at the selected place.

Overwrite an old step

STORE button

Overwrites the selected step by the new picture. The total number of steps stays unchanged.

5.2 Playback chasers

Start a chaser

Chaser programs are recalled by their respective buttons like any other memory. Each step will control output channels according to its STORE MATRIX. Selective programmed steps keep deselected channels untouched.

Termination of a chaser

A second push on a chaser button will not stop the chase but will make it start again with step number one. On the MA SCANCOMMANDER always the latest pushed button has the highest priority. To stop a running chaser, all the channels, which are actually controlled by the chaser steps, have to be overwritten by recalling a memory or preset in direct access.

Partly overwriting a running chaser

Recalling selective memories may overwrite parts of the channels, controlled by the chaser. Therefore the chaser looses its priority on these channels, whereas other channels may still be controlled by the next chaser steps.

A chaser may control color, and movement of the scans. If the color has been overwritten by recalling a pure color memory or any color preset in direct access, the chaser will still go on to control movement, but it has no longer priority over the color. This makes it possible to do the same movement with different colours. In the same way a selective memory may control all features of only one or two scans. Recalling this memory after starting a chaser will cut down the effect of the chase as it can no longer control these scans. The rest of the scans will continue with the chaser steps.

Freezing single channels

Channels, fixed to their value by the FREEZE function, will no longer be affected by chaser steps. After clearing the FREEZE the chaser resumes control of these channels.

5.2.1 Enable Chaser

Chaser recall without going back to step 1

The ENABLE function allows the chaser to resume control of all channels without starting at step 1.

ENABLE button at the sequence section.

Keep button pressed ...

... and simultaneously press ...

Chaser button

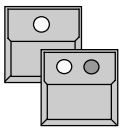
The next step of the chaser is enabled to control all channels according its step matrix.

5.3 Modifying a chaser program

A stored chaser program contains data for:

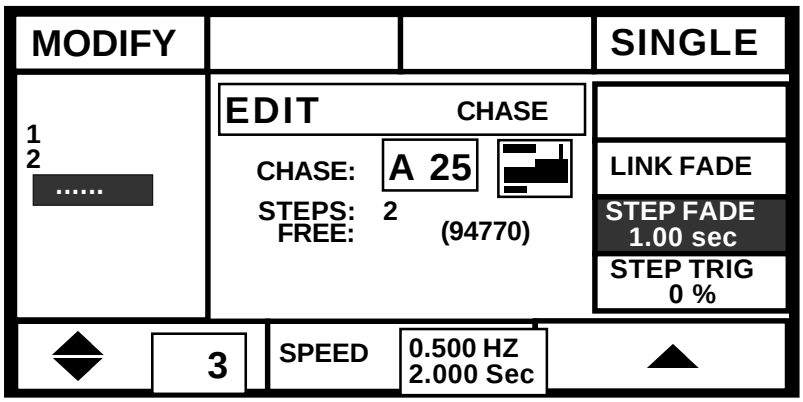
- Name, SPEED, STEP FADE time and STEP TRIG Point
- a STORE MATRIX per step
- a set of single channel values per step

5.3.1 Changing names and parameters

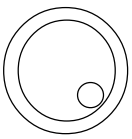


EDIT button

Chaser button

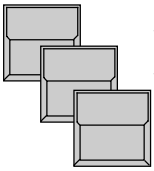


On Line changing of the chaser parameters



Encoder 2

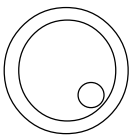
Changing the SPEED of the chase on line.



STEP FADE or

STEP TRIG

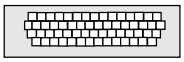
Selection of a parameter.



Encoder 3

Changing the selected parameter. In case LINK FADE is selected, the fade time is set in percentage of the step time.

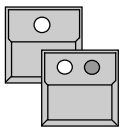
Any change of the parameters will work directly on the running program.



Keyboard with ENTER or RETURN

Input of a new name.

5.3.2 Changing sequence of steps



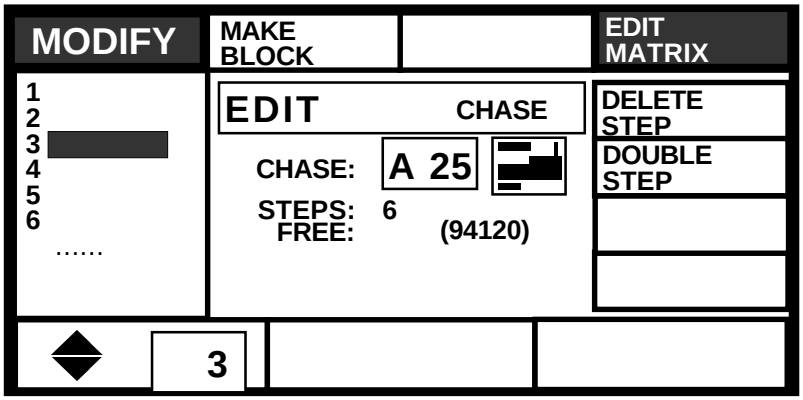
EDIT button

Chaser button

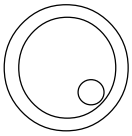
Modify mode shows the steps on stage

MODIFY

The selected step will be recalled to stage and the block MODIFY is displayed inverted.



Testing of the steps



Encoder 1

Scrolls through the steps and recalls the steps on stage.

Deleting a step

DELETE STEP

Erases the selected step and shifts all following steps one step ahead.

Creating a new step

DOUBLE STEP

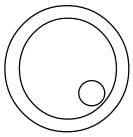
Makes a copy of the selected step and inserts this copy right in front. The new step may now be modified.

(see >> 5.3.3 Changing step matrix and levels)

Block operations

1. x MAKE BLOCK

Inverts the menu block contrast. The block operation mode starts, where a complete set of steps can be handled simultaneously.

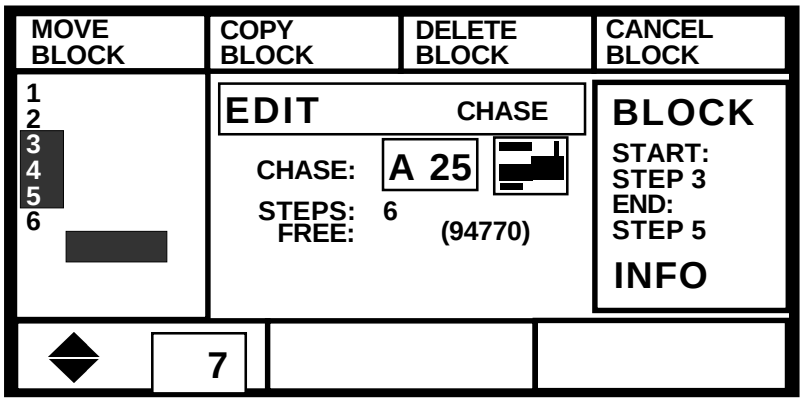


Encoder 1

Selects steps for the following block operations. The number of the selected steps are displayed inverted.

2. x MAKE BLOCK

The four sections on top show the different block operations available.



Encoder 1

Selects a new step number.

MOVE BLOCK

Moves the sequence of steps, marked as block, to the new address. The total number of steps stays unchanged.

COPY BLOCK

Makes a copy of all the steps in the block and inserts these steps at the new address

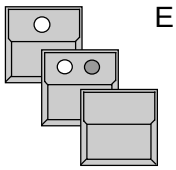
DELETE BLOCK

Deletes all steps marked as block and shifts the following steps ahead.

CANCEL BLOCK

Cancels the block operation mode and returns to the Modify Menu.

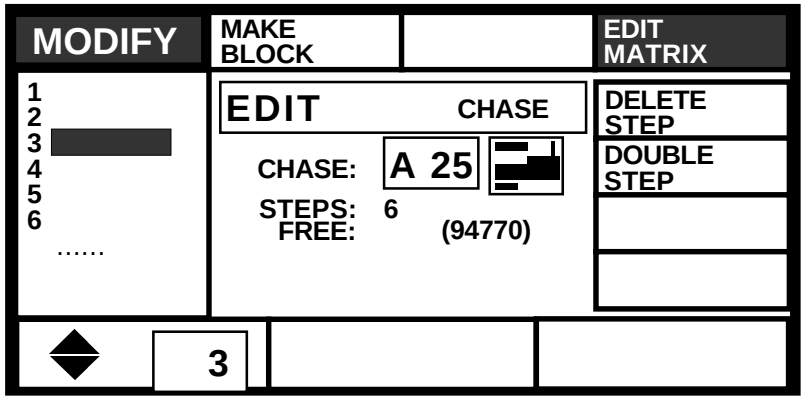
5.3.3 Changing step matrix and levels

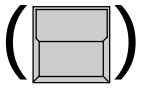


EDIT button

Chaser button

MODIFY

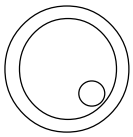




EDIT MATRIX

Edit Matrix has to be displayed inverted, if the STORE MATRIX will be checked or modified within the next steps.

Testing the single chaser steps

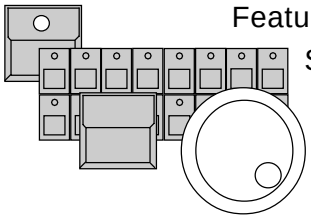


Encoder 1

Scrolls through the list of steps and recalls the steps on stage.

Note: Scrolling backwards through a selective chaser with different STORE MATRIX selections from step to step, will not produce the same pictures as scrolling forward. To be sure to see the right scenes switch off MODIFY, turn to step one and switch on MODIFY. Now, scrolling through the steps forward, will produce the right scenes.

Changing the channel values and the matrix of a step



Feature button

Scan Selection

Preset button or Encoder

Changing channel values via direct access.

1. x STORE button

If EDIT MATRIX was selected, it will show the STORE MATRIX of this step.

2. x STORE button

Saves the modified step and returns to the modify mode.

6. Sequences

Difference between chaser and sequence programs

Like a chaser a sequence contains a list of pictures stored as steps. The additional features of the sequence give the chance to prepare complete light shows and to recall them by the push of a button.

Individual step parameters

- Unlike the chaser steps, every step of a sequence may have its individual parameters. The time, until the next step starts (STEP TIME), the x-fade time and the trigpoint may be different from step to step.

GO MODES

- The steps may be triggered via GO button, by SOUND INPUT, they may be recalled by manual x-fade or on automatic mode with an internal timer and preprogrammed or with an adjusted step time.

Overwriting during playback

- GO MODE, STEP TIME and FADE TIME of the single steps can be set manually to overwrite the programmed parameters.

Linking steps to memories or chaser programs

- Standard chaser programs and memories can be recalled as one step of the sequence.

- A sequence menu lists the actual and next steps

Programming and modifying a sequence works similar to the chaser programs.

6.1 Programming of sequences

Saving new steps works like saving new chaser steps.

6.1.1 New sequence steps

Programming sequence steps

STORE button

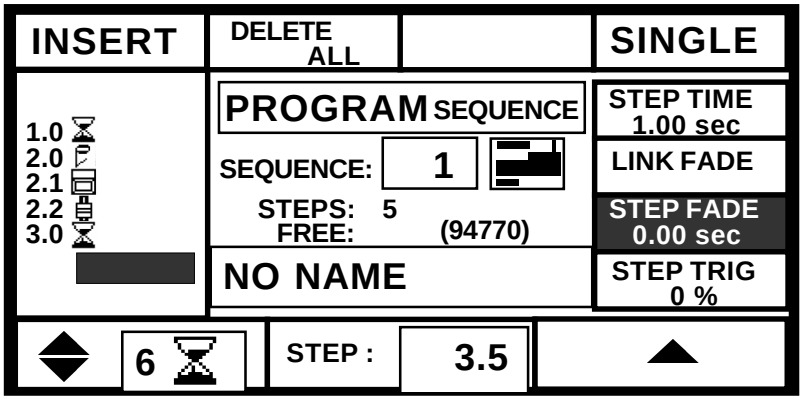
Matrix can be set

(Prepare your stage plot like on programming memory)

SEQUENCE button 1 - 16

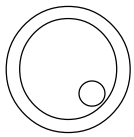
Selecting one of the 16 sequence buttons.

Programming of sequence steps



Compared to programming a chaser step the following functions are available:

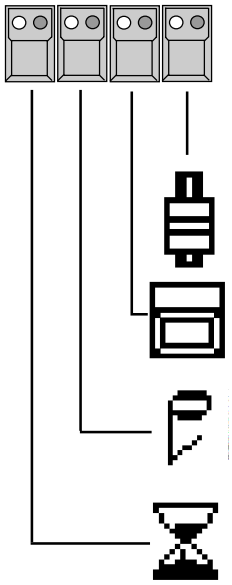
Individual and freely adjustable step numbers



ENCODER 2

Each step has its individual number from 0.0 up to 99.9. Like a name this number will stay with the step during all copy and move operations.
Encoder wheel: first digits
Encoder ring: digits after the decimal point

Different GO MODES



STEP MODE buttons at the Sequence Playback

Sets the GO MODE for this step, which marks, how the step will be recalled when running the sequence. The selected mode is shown by the LED inside its respective button and is displayed on top of encoder 1.

MAN FADE

Manual x-fade via the X-FADER in the sequence area.

GO BUTTON

The step has to be recalled by the GO button.

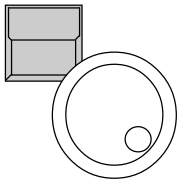
EXT SOUND

The step will wait for a sound impulse.

SET RATE

The step will be recalled automatically, as soon as the STEP TIME of the last step runs out.

STEP TIME for timed step following



STEP TIME and

ENCODER 3

Sets the time between this step and the start of the next one, if the next one is on GO MODE "SET RATE".

All other functions work exactly the same way they do on chaser programming.

Deleting the old program

DELETE ALL

Clears all steps of the sequence.

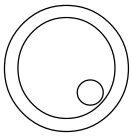
Stop with the last step

SINGLE

Inverted: The sequence will stop automatically when reach ing the last step

Normal: The sequence will return to step one and will go on running.

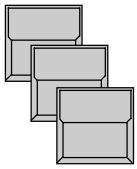
Selecting one step



Encoder 1

Selecting a step number.

Setting the step parameters

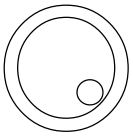


STEP FADE or

STEP TRIG or

STEP TIME

Unlike on chaser steps, the step parameters will be stored individually for every single sequence step.



ENCODER 3

Changing the value of the selected parameter.
In case LINK FADE is selected, the fade time is set in percentage of the step time

Saving the step

INSERT

Shifts the selected step and all following steps one step back and inserts the new stage scene at the selected place.

STORE button

Overwrites the selected step by the new stage plot. The total number of steps remains unchanged.

6.2 Playback of sequences

Starting a sequence

A sequence is started by its respective button like any other memory.

By any memory or chaser, recalled by its respective button after the start of the sequence, the sequence may loose its priority. If the memory was a selective one, some of the channels may still be available for the sequence, if it was a standard memory with fully selected STORE MATRIX, the following steps of the sequence will no longer have any effect on stage.

Red LED in the Step Mode buttons

A red LED in one of the STEP MODE buttons indicates, how the next step has to be recalled. The internally stored step mode is indicated by the green LED´s, but has no effect as long as a red one is on.

Green LED in the Step Mode buttons

Green LED´s: Only if none of the red LED´s is on, the next step is triggered by the internally stored step mode.

GO buttons

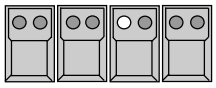
GO+ and GO- buttons are always working, like the EXTERN GO input via 1/4" jack on the back panel does.

Set Time LED

SET TIME LED: if the LED is on, the x-fade time between the steps can be set by the fader. The internally stored x-fade time of the steps has no effect.

6.2.1 Playback of a sequence by GO button

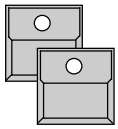
Sequence via GO button



"GO BUTTON" Step Mode selected
(red LED on)

SEQUENCE button 1-16
The LED in the button shows the selected sequence..

GO+ button
Recalls the first step of the sequence

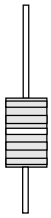


GO+
GO+
Recalls the steps one by one.

GO- button
Recalls the previous step.
Note: When using standard memories, the GO- button will really recall the right stage picture. When using selective programmed steps, recalling a step via GO- may have another effect than recalling this step via GO+.

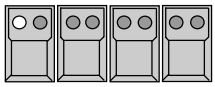
6.2.2 Playback of a sequence with adjusted step rate

Sequence playback with adjusting rate via fader



RATE Fader

Sets the sequence speed between 0.1 and 10 seconds per step. The yellow LED inside the SET RATE button shows the selected speed.



"SET RATE" Step Mode selected
(red LED on)

SEQUENCE button 1-16

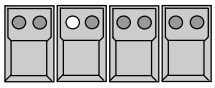
The first step will be recalled as soon as the sequence button is pushed. All other steps will follow automatically with the adjusted time.

6.2.3 Playback of a sequence triggered by sound input

On the backpanel the SCANCOMMANDER offers a 1/4"jack for sound signal input. The 3 potentiometers on the top of the front panel can be used to select a trigger signal. The HOLD LED shows the trigger signal leaving the filter as it is triggering the sequence.

Triggering a sequence via Sound input

SEQUENZ button 1-16



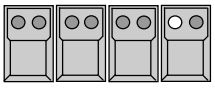
"EXT SOUND" Step Mode selected
(red LED on) The steps of the sequence is recalled by the sound input.

6.2.4 Manual x-fade between sequence steps

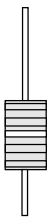
X-FADER has to be moved to one of the end positions.

Manual x-fade step to step (from version 1.40)

SEQUENZ button 1-16



"MAN FADE" Step Mode selected
(red LED on)

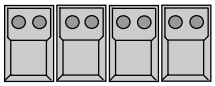


X-FADE fader at the sequence section

Moving the fader will fade between the steps. As soon as the fader reaches the end of its travel, the next step will be loaded for x-fade.
Moving back before the end of its travel is reached will return the output to the last scene.

6.2.5 Playback of a sequence with programmed STEP MODE

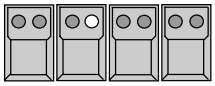
Running a sequence with internally stored STEP MODE



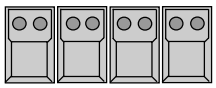
STEP MODE buttons switched off
(All red LED´s off)

SEQUENZ button 1-16

Green LED´s indicating internal STEP MODE



GREEN LED´s inside the SET MODE buttons
Show the step mode of the next step, as it was set when programming the sequence. If one of the green LED´s is on, the sequence waits for a trigger signal. By the GO button the next step can be recalled any time.



No green or red LED inside the SET RATE buttons
The next step will follow automatically as soon as the STEP TIME of the last step runs out.
Note:
The yellow LED inside the SET RATE button will not show the internally programmed STEP TIME, but will always show the rate set by the fader.

6.2.6 Enable Sequence

Sequence recall without going back to step 1

The ENABLE function like on Enable Chaser allows a sequence to resume control of all channels without starting at step 1. A sequence, which has lost access to some channels because of a direct access or memory recall, can now continue as programmed.

ENABLE button.
Keep button pressed ...
... and simultaneously press ...

Sequence button of the actual sequence
The next step of the sequence is enabled to control all channels according its step matrix.

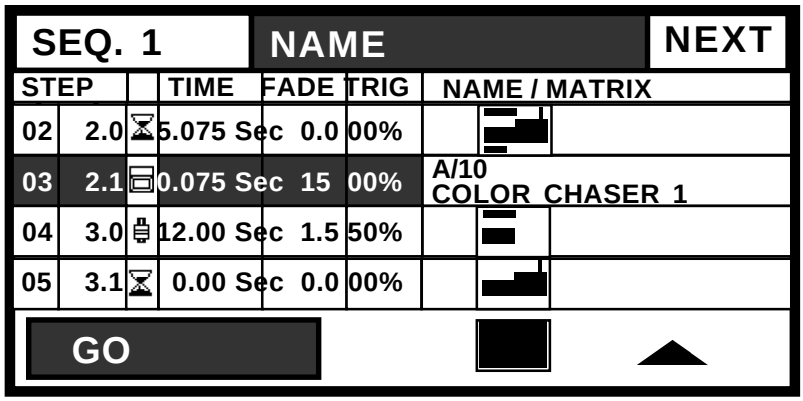
6.2.7 Sequence playback menu

Sequence playback menu

The MENU button at the sequence section swaps the display to list informations about the running sequence program.

MENU button

recalls the menu with number and name of the running program at the top line. The total number of steps is shown in brackets.



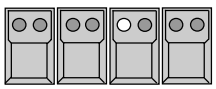
Line one lists the step which was recalled last. Line 2 to 4 show the next steps. Each line shows step number, indicator of go mode, steptime, fadetime and triggerpoint.

Right hand a small graphic shows the matrix of the steps (see 4.3), indicating which channels get affected by this step.
If the step is a LINK MEMORY step, the number and name of the memory is listed instead of the graphic.

Left side on the bottom line the go mode is shown on black background. If the next step is a timed automatic, the remaining time is listed on the display.

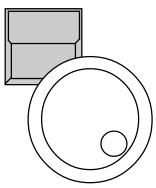
The graphic right on the bottom line shows which channels are still controlled by the Sequence. As soon as this graphic is empty and all channels are overwritten by any memory or preset playbacks - the sequence has no more effect on stage.

Changing step order by jumping to another step number



GO BUTTON Step Mode or
MAN FADE selected (red LED on)

Stops the running sequence. NEXT is displayed right on top of the display.



NEXT button pressed and simultaneously
ENCODER 3

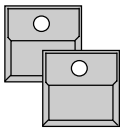
Via the encoder any step number can be selected to be the next step on the sequence.

6.3 Modifying a sequence

All data of a sequence are data of single steps. They can be changed as soon as these steps are selected. Global changes of speed or fade time, as it is possible on the chaser programs, can be done by overwriting the stored values via SET RATE and SET FADE.

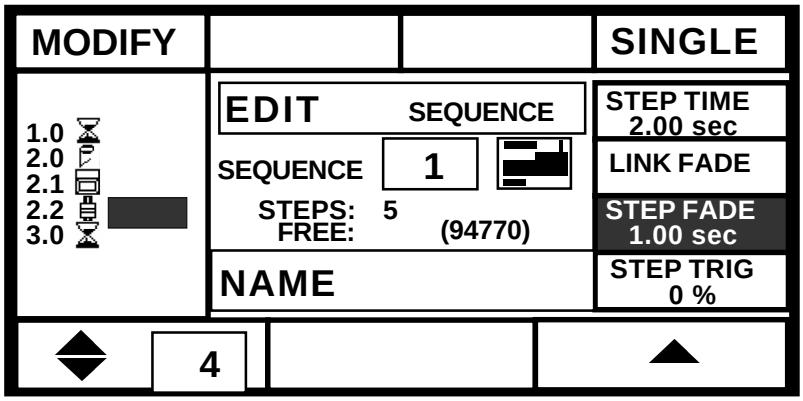
6.3.1 Changing sequence step times

Changing step parameters



EDIT button

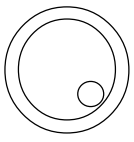
Sequence button 1-16



SINGLE Mode

SINGLE

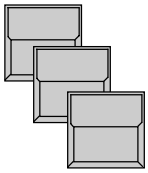
stops the sequence with the last step.



ENCODER 1

Selection of a step. The stored parameter of this step are displayed and can be modified.

Selecting a parameter



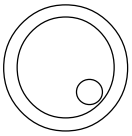
STEP TIME or

STEP FADE or

STEP TRIG

Selection of one of the parameters.

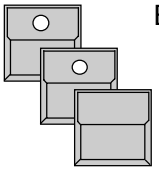
Changing the value



ENCODER 2

Changing the value of the selected parameter.
In case LINK FADE is selected, the fade time is set in percentage of the step time

6.3.2 Changing step sequence and STEP MODES

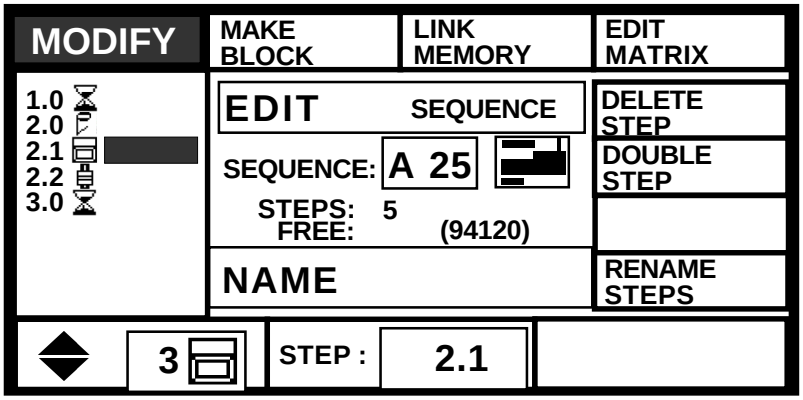


EDIT button

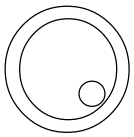
Sequenz button 1-16

MODIFY

The selected step are recalled to stage and the square MODIFY is displayed inverted.



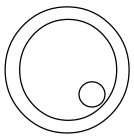
Testing the sequence steps



Encoder 1

Scrolls through the list and recalls the steps to stage.

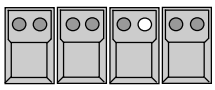
Changing the step numbers



ENCODER 2

Changes the step number. The ring is changing the digits after the decimal point.

Changing the STEP MODE



STEP MODE buttons in the sequence section

Change the STEP MODE of the selected step. The green LED´s and the display show the selected mode.

DELETE STEP

Clears the selected step and shifts all following steps one step ahead.

Erasing a step

DOUBLE STEP

Makes a copy of the selected step and inserts this copy right in front. The new step may now be modified or linked to a memory (>>6.3.4 Recalling a memory or chaser as step of a sequence).

Creating a new step

RENAME STEPS

Numbers all steps consecutively.

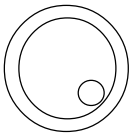
Clearing step numbers

Starting block operations

1. x MAKE BLOCK

Inverts the display square. The block operation mode starts, where a complete set of steps can be handled simultaneously.

Selecting steps

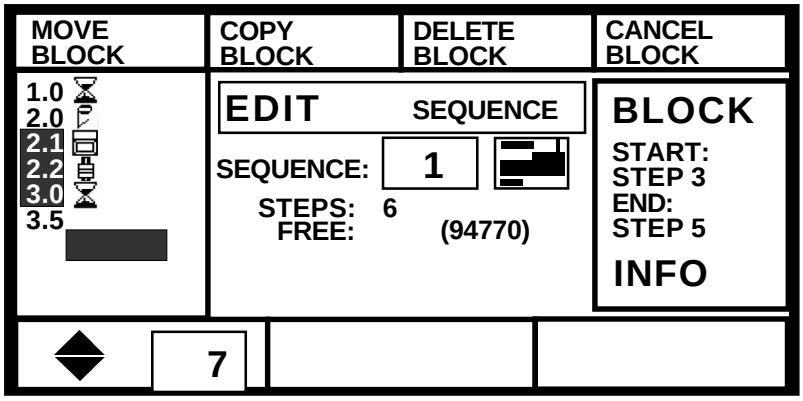


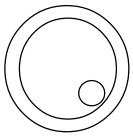
Encoder 1

Selects steps for the following block operations. The numbers of the selected steps get inverted.

2. x MAKE BLOCK

The sections on top of the display show the different block operations available.





Encoder 1

Selects a new step number.

Four different block operations

MOVE BLOCK

Moves the sequence of steps, marked as block, to the new address. The total number of steps remains unchanged.

COPY BLOCK

Makes a copy of all the steps in the block and inserts these steps at the new address

DELETE BLOCK

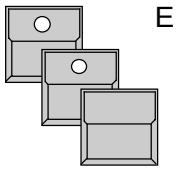
Deletes all steps marked as block and shifts the following steps ahead.

Cancelling block mode

CANCEL BLOCK

Cancels the block operation mode and returns to the modify menu.

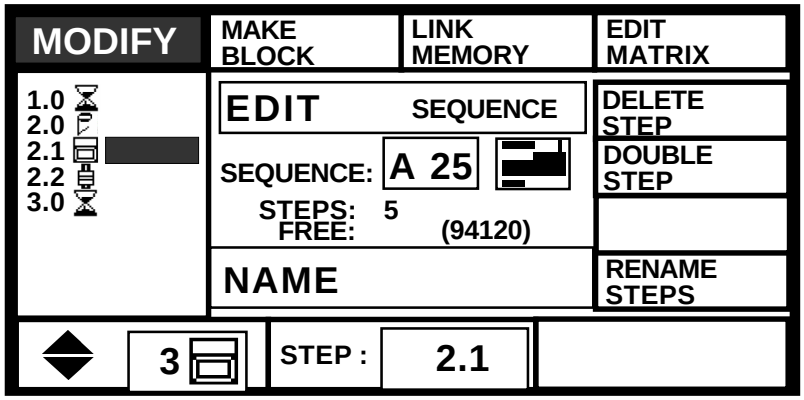
6.3.3 Changing step matrix and levels

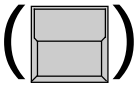


EDIT button

Sequenz button 1-16

MODIFY



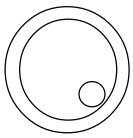


EDIT MATRIX

Edit Matrix has to be inverted, if the STORE MATRIX will be checked or modified within the next steps.

Testing single steps

Encoder 1

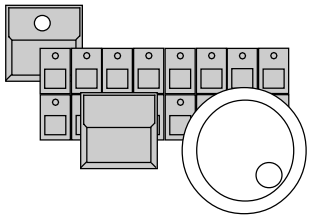


Scrolls through the list of steps and recalls the steps on stage.

Note: Scrolling backwards through a selective sequence with different STORE MATRIX selections from step to step, will not produce the same stage scene as scrolling forward.

Changing channel values and the matrix of a step

Feature button



Scan Selection

Preset button or Encoder

Changing channel values via direct access.

1. x STORE button

If EDIT MATRIX was selected, it will show the STORE MATRIX of this step.

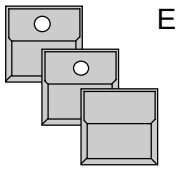
2. x STORE button

Saves the modified step and returns to the modify mode.

6.3.4 Recalling a memory or chaser as step of a sequence

Memories and chasers as steps of a sequence

Memories and chasers of the playback section can be recalled as a step of a sequence. This saves programming time and storage capacity.

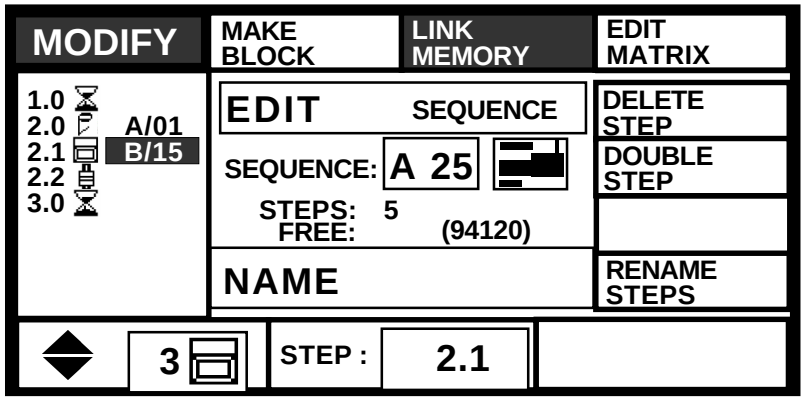


EDIT button

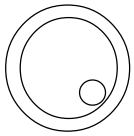
Sequenz button 1-16

MODIFY

LINK MEMORY operation



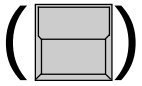
Selection of a step number



ENCODER 1

Selection of the step, the memory will be linked to.

Creating a new step



DOUBLE STEP

Creates a new step which can be linked to the memory without deleting any step.

Linking the step to the memory section

LINK MEMORY

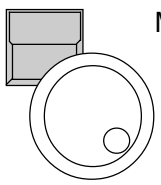
Switching on: (block inverted)
Clears the channel values stored at this step and links the step to a memory. Within the step list in the display a memory number is shown for this step.
Switching off: (block no longer inverted)
Clears the link to the memory and leaves the step as a blind step without any channels selected in its matrix.

Selecting a memory or chaser

MEMORY or CHASER button / PAGE A - D

Selection of a memory by its playback button.

Setting speed, fade time and trigpoint



MODIFY switched off

ENCODER 2

The speed of a linked chaser, the x-fade time and trigpoint can be set by the encoders.

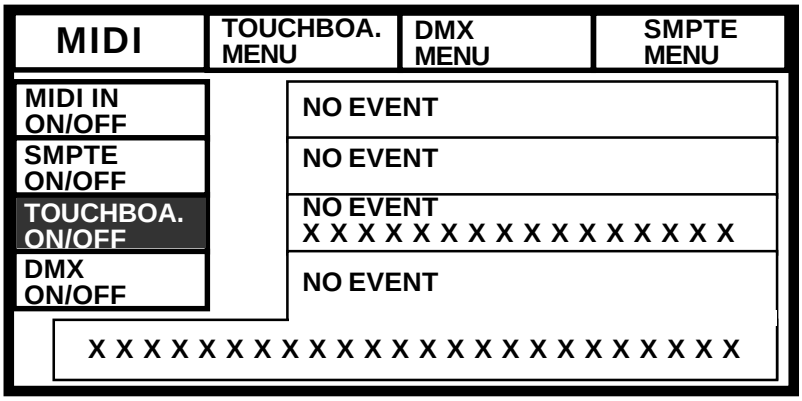
7. REMOTE

The MA SCANCOMMANDER features several remote input facilities. The different incoming signals can be linked to the playback functions of the board.

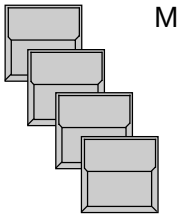
REMOTE button in the Top Menu

The display switches to the REMOTE Top Menu.

REMOTE Top Menu



Switching remote inputs on and off



MIDI IN ON/OFF

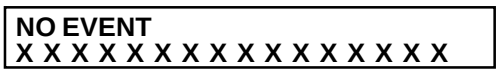
SMPTE ON/OFF

TOUCHBOARD ON/OFF

DMX ON/OFF

An inverted block indicates, that the appropriate input is activated. MIDI and SMPTE inputs can not be active at the same time.

Indicating incoming remote signals



With MIDI the last incoming signals will be listed in the display. With DMX and Touchboard inputs, small icons show the actual status of the input channels.

X Input Channel is not connected to any function.

 Input channel controls fader. Inverted icon shows the value of the incoming signal.

 Input channel controls button. Icon inverted indicates button active.

Across the top of the REMOTE Menu are four buttons which activate the remote initialization menus.

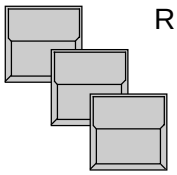
7.1 Remote via Touchboard

7.1.1 Input signal

Touchboard input

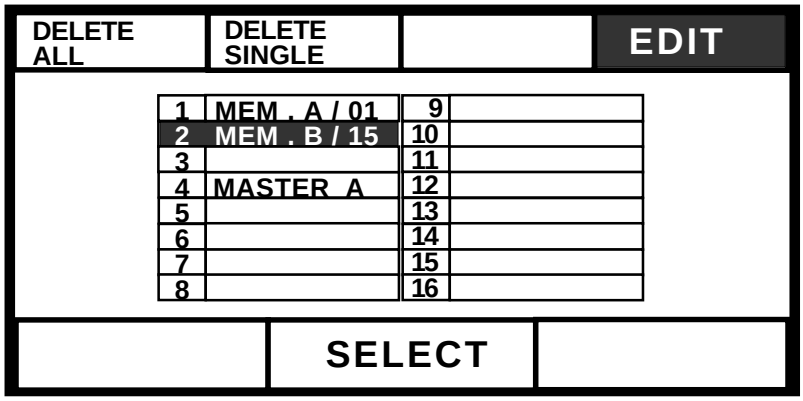
Located on the SCANCOMMANDERS backpanel is a 25 pin SUB-D connector (female) which can be used to interface a standard 16 channel touchboard.
Pin 1-16 : Input channel 1 to 16
Pin 25: Ground.
The touchboard can only be used to control on and off functions.
0 to +2 Volt : Off +5 to +15 Volt : On.

7.1.2 Assigning board functions

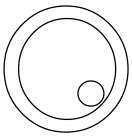


REMOTE
TOUCHBOA. MENU
EDIT

List of input patches

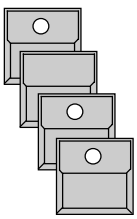


Selection of an input channel



Encoder 2
Selecting one of the input channels 1 to 16 (block is displayed inverted)

Linking the input to one of the playback functions



Memory button or
Brightnessmaster flash button
Sequence button 1 - 16 or
GO button
Links the selected function to this input channel.

QUIT button
Returns to the REMOTE top menu

Activating and terminating the remote input

TOUCHBOARD ON/OFF
Switches the remote input on and off.

7.2 Remote via DMX input

7.2.1 Input signal

Daisy chaining a DMX signal

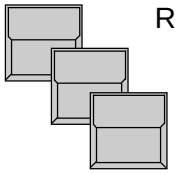
The male DMX 512 input XLR connector on the backpanel can be used to mix the signals of any lighting console with the control data of the MA SCANCOMMANDER and send them to the stage on one DMX line. For any channel which is controlled from both consoles simultaneously, the two values get compared and the highest level will be sent to stage.

Remote via DMX

In addition, up to 24 DMX 512 input channels can be used to remote control single functions on the SCANCOMMANDER.

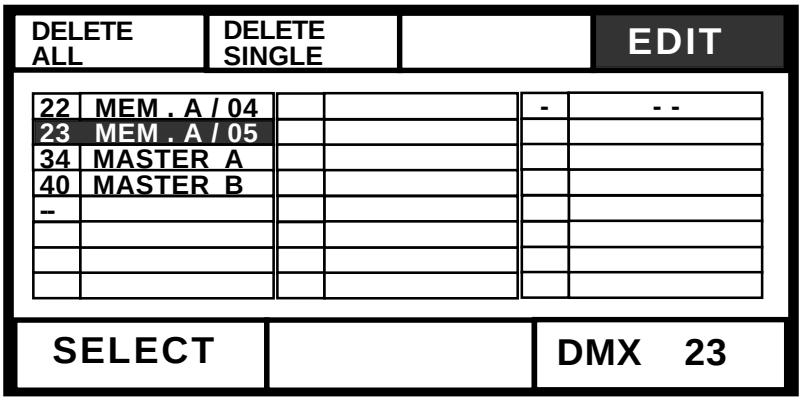
The pin layout for the DMX 512 input connector conforms with USITT protocol. Pin 1 = Ground, Pin 2= Data - , Pin 3 = Data +

7.2.2 Assigning board functions

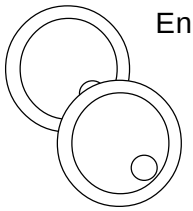


REMOTE button in the TOP MENU
DMX MENU
EDIT

List of input patches



Selection of an input channel



Encoder 1
Selection of one of the 24 squares (inverted)

Encoder 3
Selection of a DMX input channel.

Linking to one of the playback functions

Playback buttons (the same as on remote via touchboard)
Links the selected function to the selected DMX channel.

Activating and terminating the remote input

DMX ON/OFF at the Remote top menu
Switches the remote input on and off.

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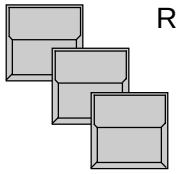
7.3 MIDI

MIDI Sequencer

The SCANCOMMANDER enables to record playback commands like recalling memories, chasers, sequences and GO button pushes on to a MIDI sequencer. During playback of the sequencer, the SCANCOMMANDER will receive these commands as soon as the MIDI input is activated.

7.3.1 Choosing the MIDI channel

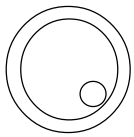
Selecting a MIDI channel



REMOTE at the Top Menu

MIDI

MIDI IN or MIDI OUT will be displayed inverted.



Encoder 1-3

Selection of one of the MIDI channels 1-16.

Activating and terminating the remote input

MIDI IN ON/OFF in the Remote top menu

Switching on and off the MIDI input. (MIDI output works permanently.)

MIDI Data

The Scancommander uses Control Change Data exclusively.

Commands:

The command 1011nnnn (Bn hex) (nnnn=MIDI channel) will always be sent as status byte at first.

Again: "B" means Control Change, "nnnn" the MIDI Channel.

The following two bytes are the data bytes:

Command	1.-	2.Data byte	
push Memory button A1	: 00	+ 00	(Memory A1)
etc.....	etc...	etc...	etc..
push Memory button A30	: 00	+ 29	(Memory A30)
push Memory button B1	: 00	+ 30	(Memory B1)
etc.....	etc...	etc...	etc..
push Memory button B30	: 00	+ 59	(Memory B30)
push Memory button C1	: 01	+ 00	(Memory C1)
etc.....	etc...	etc...	etc..
push Memory button C30	: 01	+ 29	(Memory C30)
push Memory button D1	: 01	+ 30	(Memory D1)
etc.....	etc...	etc...	etc..
push Memory button B30	: 01	+ 59	(Memory D30)
push Sequence button 1	: 02	+ 00	(Sequence 1)
etc.....	etc...	etc...	etc..
push Sequence button 16	: 02	+ 15	(Sequence 16)
push Go+ button	: 03	+ 00	(Go+)
push Go- button	: 03	+ 01	(Go-)

7.4 Master-Slave Operation

Controlling more than 16 scans

When controlling more than 16 scans, two Scancommander or an additional Extension unit (see 7.6) can be linked in a master-slave mode. All operations are controlled via the master board, at the slave only the display and the single scan selection buttons keep on working.

7.4.1 Installation

Installation for master-slave operation

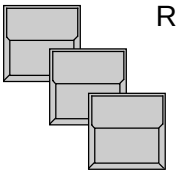
MIDI OUT connector of the master has to be connected to
MIDI IN at the first slave unit.
More slaves can be added using the MIDI THRU port of the previous slave

The DMX output of all coupled units can be used as separate DMX lines.
Via the DMX input and by patching all scans to different DMX address numbers, the control signals of more than one Scancommander can be send on one DMX line.

7.4.2 Starting the couple mode

Activating the couple mode at Remote MIDI

The first step is to prepare the slave units



REMOTE at the Top Menu
MIDI
MODE SLAVE has to be inverted

The last step is to set up the master board via REMOTE - MIDI - MODE MASTER. If a SLAVE is used with a software version smaller than 4.20 it is then really necessary to press the button "Mode: Old master".
The following RESET will send all necessary data from the master to all slave units. If any slave comes later than the master, it will wait for a master reset (lowest display button left side or switching off and on the master power supply).

7.4.3 Working on master-slave mode

As far as the setups are not done before starting the couple mode, the first steps will be SETUP LAMPTYPE, DMX and MOVEMENT.

Transfer of all functions to the slave unit

All functions including trackerball movements, group selection and brightness master are send from the master to the slave units.

Just the single scan selection button have to be operated at the according units. To make sure that during DMX PATCH and MOVEMENT SETUP only one scan is handled at a time, all other scans have to be deselected manually.

Instead of a second Scancommander, a 19" Scancommander Extension can be used as slave (see 7.6).

7.5 SMPTE TIME CODE

SMPTE and EBU Time Code

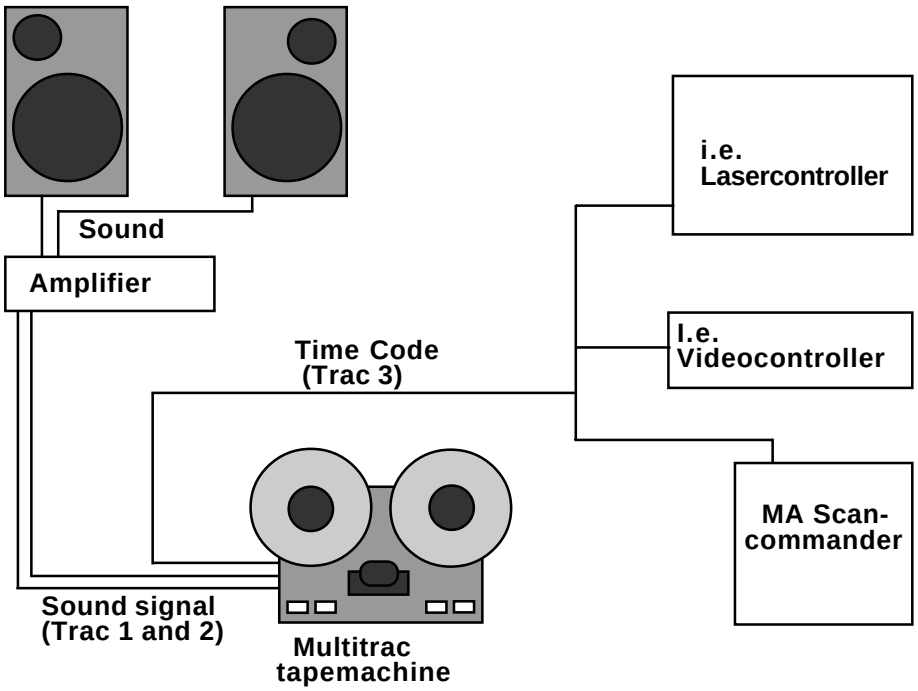
Complete shows can be synchronized via Time Code. The Scancommander works with 24 to 30 frames per second. Selecting the right frame number will be done automatically as soon as a Time Code signal is supplied or can be selected manually.

7.5.1 Time Code Network Technics

Time Code synchronization

Time Code synchronization can be used to recall the programs of one or more controllers simultaneously to a recorded music.
SMPTE and EBU Time Code are digitally coded time informations, which for example can be recorded to a separate track of a tape machine. The frequency domain covers 1 to 2 kHz. Usually this Time Code will be recorded when preparing the music for a presentation, but it can also be added afterwards by any sound studio. When using stereo sound it is necessary to have at least a third track on the machine, for preparing a Time Code show .

Time Code generation



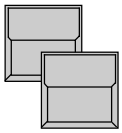
Synchronized playback

During playback of the tape the Time Code signals are sent to all connected controllers. Each device has stored in memory, which program has to be recalled at which time.
The Time Code input at the Scancommander is on the 1/4" jack at the backpanel.

7.5.2 Live recording of a Time Code show

Recording a show

The RECORD mode enables to type in the program during running Time Code.

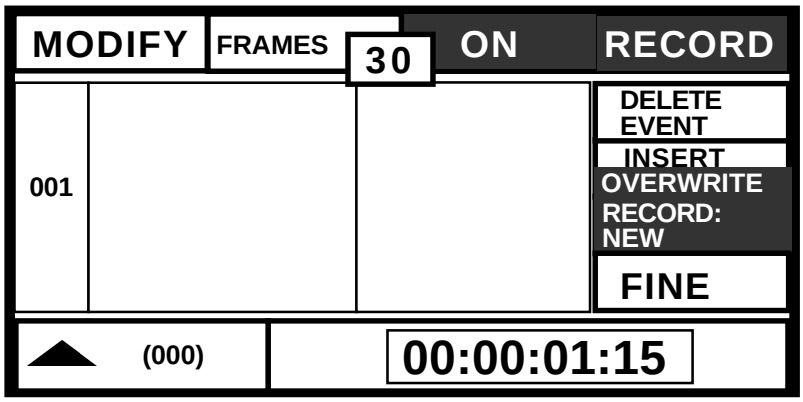


REMOTE at the Top Menu

SMPTE MENU

The display shows the SMPTE Menu with a list of the programmed events.

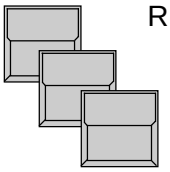
SMPTE menu



ON - OFF SMPTE

Parallel to the ON/OFF button in the Remote Top menu this button will switch on and off the Time Code input.

Select record mode

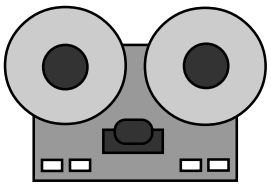


RECORD

OVERWRITE mode and

RECORD : NEW selected (blocks inverted)

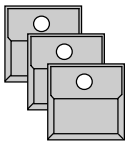
Start Time Code



Tape playback start

The Scancommander shows the incoming time on the display as
hours : minutes : second : frames.

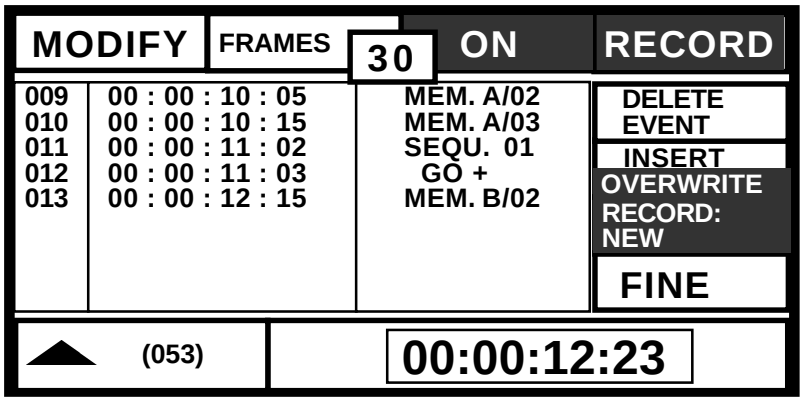
Record events



Memory, Chaser, Sequence, Enable, GO+ and GO-

Running the show synchronously to the music, the Scancommander lists all playback commands with their exact time in the display.
NOTE: The brightness masters are not recorded. Fading in and out the brightness on Time Code shows has to be done by recalling appropriate memories or steps.

List of Time Code events



Terminate record mode

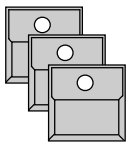
RECORD

Switching off the button will terminate recording.

Beside recording a new show, the Scancommander offers different modes to complete or replace parts of an already stored show. Three options can be selected when recording (Time Code ON and RECORD selected) :

Insert additional events

INSERT mode selected



Memory, Chaser, Sequenz, Enable, GO+ and GO-

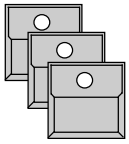
The already stored show is played back synchronously to the music and every new playback command, selected by its button, will insert a new event.

Overwrite parts of a show

OVERWRITE -

RECORD : NEW mode selected

(like explained for recording a new show)



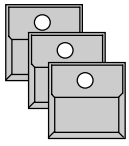
Memory, Chaser, Sequenz, Enable, GO+ and GO-

Within the recorded period all old events are erased. To keep parts of a show, RECORD has to be switched off before the running Time Code reaches this period.

Overwrite starting with the first modification

OVERWRITE -

RECORD : PRESET mode selected.



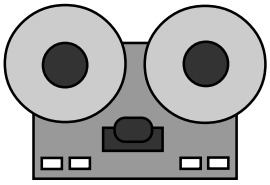
Memory, Chaser, Sequenz, Enable, GO+ and GO-

The old show is played back and keeps unchanged. The first push of a playback button starts the record mode and all following events are erased until Record is switched off.

7.5.3 Time Code Playback

Playback start via taperecorder

Switch off RECORD mode



Tape machine

When starting a new playback of the tape, the Time Code will be sent to the controllers again. As long as the Time Code input is active, the Scan-commander will recall the events as they are stored inside.

The Remote Top menu shows the incoming time and the last event. The SMPTE menu shows the actual section of the event list.

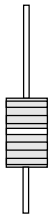
Unreadable or missing Time Code signal

STOP in the SMPTE menu

The input is waiting for a Time Code signal.
NOTE: Never record any event while STOP is displayed. The Scancommander now records more then one event on the last frame and will clear the SMPTE show because of illegal timing.

NOTE !

Brightness gets controlled by the master faders of the desk



Master Fader

As the brightness masters are not recorded on Time Code, they must be up during playback. Optionally the SETUP function "MASTERS ALL 100%" can be switched on.

Periodical playback

Playback of Time Code synchronized shows recommend no further operation at the Scancommander. Every time the tape starts to send the Time Code, the Scancommander will recall the programmed events. Even after switching off and on the power supply, the Scancommander will stay in the Time Code playback mode.

Overwriting a running Time Code show

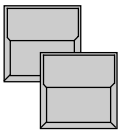
During a running Time Code show, all functions of the Scancommander stay active and can be used for manually overwriting the program. Only a GO+ or GO- command of the event list will have no effect, if the running sequence was started manually. All other events will work as if the according playback command was selected directly. To stop the Time Code show and go on manually, the Time Code input has to be switched off. Returning to Time Code any time will continue the show with the events, stored for this section.

Starting playback in the middle of a show

A Time Code show can be started at any point of the tape. Using selective memories or sequences this may cause changes in the effect on stage.
(GO commands do not recall well defined stage pictures, but do just trigger the last selected sequence to go to the next step).

7.5.4 Modifying a Time Code program

Beside the Record mode, single events of a show can also be created or modified step by step.



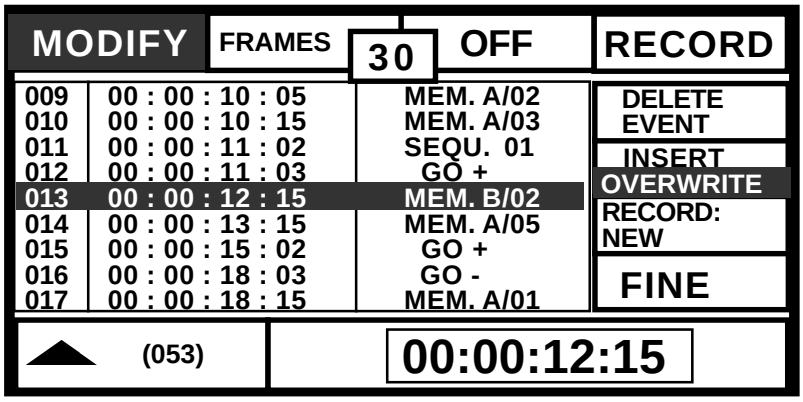
REMOTE

SMPTE MENU

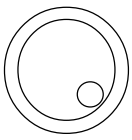
The display shows the SMPTE menu with a list of the programmed events.

Modify mode

MODIFY (block displayed inverted)



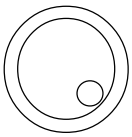
Selecting a single events



Encoder 1

Scrolls through the list of the programmed events. Scrolling up will recall the events step by step.

Changing the event time



Encoder 2 and 3

Change the time of the selected event.

FINE

When FINE is selected, the encoder will change the time in single frames or minutes, otherwise they will do a course adjustment.

END OF RANGE Display

The time of an event can only be selected within the period of the last and the following event.

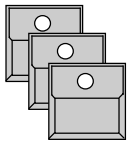
Deleting a single event

DELETE EVENT

The selected event will be erased from the list.

Changing the playback command of a single event

OVERWRITE mode selected:

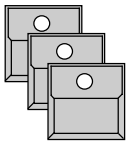


Memory, Chaser, Sequenz, Enable, GO+ and GO- button:

The selected playback will substitute the old command.

Inserting a new event

INSERT mode selected:



Memory, Chaser, Sequenz, Enable, GO+ and GO- button:

One frame before the selected event the playback command will be inserted as a new event.

Error warning

INSERT NOT POSSIBLE

Display

There is no frame available to insert a new event.

MAKE BLOCK operations:

Like on chaser or sequence modify, it is projected to offer block operations also on the Time Code list. This will be added within one of the next updates.

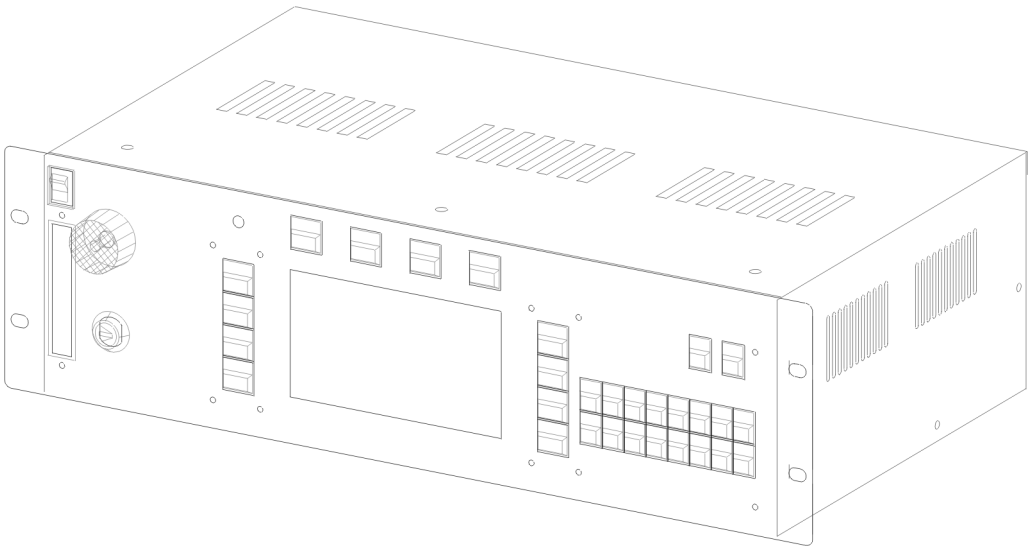
7.6 The Scancommander Extension Unit

The SCANCOMMANDER EXTENSION is a 19" unit with
- display with 12 display buttons and one encoder
- 16 scanselection buttons,
- cue card slot
- keyswitch
- all input and output connectors of a Scancommander

MASTER-SLAVE mode
Using the Extension as slave it will be switched to slave mode like a Scancommander. As noted in 7.4 only the display and the single scan selection buttons will work.

REMOTE operation (DMX, MIDI, Touchboard)
Programs can be set up at a Scancommander and transferred to the Extension via the cue card. The remote inputs can be used to recall the playbacks. As the Extension unit has no brightness master faders, the SETUP function "MASTERS ALL 100%" has to be switched on as long as the masters are not remote controlled via DMX. All necessary steps to start the remote operation can be done at the Extension unit directly.

STAND-ALONE operation (SMPTE Time Code)
For playback of SMPTE Time Code synchronised programs the Extension can be used as a stand-alone unit.
(SETUP function "MASTERS ALL 100%" has to be switched on).



8. Dimmer and color changers

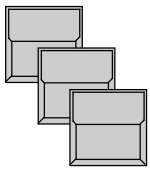
Dimmer and color changer

In addition to the channels for the 16 scanners, the MA SCANCOMMANDER offers additional 96 channels to control dimmers, color changers or any other DMX receiver. Like the features of the scans, these channels can be selected via EXTRA 1 and EXTRA 2 and can be controlled via encoder or presets.
To include these EXTRA channels in any memory, chaser or sequence step, they have to be selected in the STORE MATRIX when storing any scene.

8.1 Assigning EXTRA channels

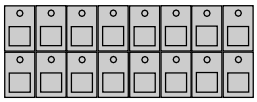
Initialization by setting a DMX address

Because the EXTRA channels control only simple functions, there is no need for a major initialization process as with full function scanner. The units get initialized as soon as a DMX address is registered in the SETUP DMX menu. EXTRA 1 and EXTRA 2 can each address 16 units with up to 3 channels each. The exact number of channels per unit is automatically adjusted according to the free DMX channels following the selected address.



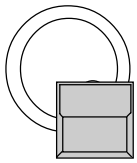
SETUP
DMX
EXTRA 1 or EXTRA 2

Selection of the unit number



Scan Selection
Any time, EXTRA 1 or EXTRA 2 are selected, the 16 buttons no longer represent the 16 scans, but the 16 units of the EXTRA 1 or 2 .

Selection of a DMX address



Encoder 1
Sets a DMX address.
PATCH

Number of channels per unit

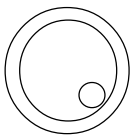
Each EXTRA unit may have up to 3 channels (number in brackets). The actual number will be adjusted automatically according to the free DMX channels following the selected address.

8.2 Direct access to EXTRA channels

EXTRA 1 and 2 on direct access

EXTRA button inside the feature block must be on
The red labels under the feature buttons become valid.

EXTRA 1 or EXTRA 2 button (red labels)
As with controlling scan features, the actual selection will determine, which of the channels get controlled simultaneously.



Encoder 1 to 3
Control the channels of the selected units.

8.3 EXTRA groups and brightness master

EXTRA 1 and EXTRA 2 groups

EXTRA 1 and EXTRA 2 have their own groups.

STORE

Keep button pressed and select one of the EXTRA

and simultaneously

GROUP buttons A - H

Stores a group for the EXTRA selection.

During EXTRA 1 or EXTRA 2 in DIRECT ACCESS the group buttons recall the EXTRA groups instead of the scan groups.

When controlling color changer on EXTRA channels, this groups can be set to be not under the control of the master faders. On dimmer channels EXTRA can be set to be mastered by the fader.

EXTRA controlled via the brightness masters

SETUP

The display buttons right hand side allow the following settings:

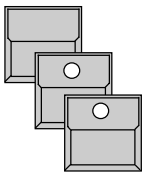
The values on display will be send to stage independent from the master faders (color changer).

The values on display will be reduced according the setting of the group faders.

8.4 EXTRA presets

EXTRA 1 and 2 Presets

As on any scan feature, for EXTRA 1 and EXTRA 2 presets can be programmed and used for quick and direct access.



PRESET in the top menu

EXTRA turned on

EXTRA 1 or EXTRA 2

The display shows the *ADJ.PRES* EXTRA x Menu

Controlling color changers via EXTRA becomes very easy by using the presets. As with the color channel of the scans the different colours can be prepared and labelled in their display blocks.
Even controlling dimmer channels via EXTRA is more handy when certain values are stored as presets. For every EXTRA there are 4 pages offering 44 presets. As the value of the single channels may be different within a preset, complete lighting cues can be stored as presets.

8.5 EXTRA channels in memories

EXTRA 1 and 2 as part of playback programs

EXTRA 1 and EXTRA 2 channels like any other scan feature can be selected in the STORE MATRIX.

By using selective programming, it is possible to program memories or steps, which control only the EXTRA channels, whereas other memories may control only the scans and keep the dimmers and color changers untouched.

Programming the EXTRA 1 and 2 via a standard lighting console

Instead of setting the values for EXTRA 1 or 2 via the encoder wheels or presets, it is possible to set the values via a standard DMX console, connected to the Scancommanders DMX input.

1. The DMX output of the lighting console goes to the DMX input of the Scancommander, the Scancommander DMX output goes to stage.

2. EXTRA 1 or 2 units get patched to the same DMX addresses like the lighting board channels. The Scancommander will compare the incoming value and the Scancommander setting for the values and the highest will be send to stage.

3. 

The DMX INPUT in the SETUP menu has to be selected

4. STORE
Storing any memory or chaser step will take the DMX input values as set at the lighting console and will store it within the Scancommanders memory. The actual values at the Scancommander are ignored.

5. When modifying a picture via EDIT-MODIFY-STORE the Store will work as regularly.

Playback of the composed memories

After programming the memories, the lighting console can be disconnected and the memories can be recalled via the Scancommander.

!! ATTENTION !!

To avoid clearing the EXTRA channel by any STORE operation, switch off "EXTRA X DMX INPUT" as soon as the lighting console is disconnected.

9. Utilities

9.1 Display index

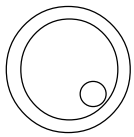
Active special functions are listed in the Top Menu.

Display index

No index:	No special function active, trackerball switched off
MOUSE:SLOW	Trackerball working on high resolution
MOUSE:FAST	Trackerball working on low resolution
SINGLE	Scanselection set to single scan mode (change via OPTION button)
MIDI IN/OUT	MIDI Remote active
MASTER	Console operates in master mode (see 7.4)
00:00:15	SMPTE TIME Code input active

Global modification of all running fades

RUNNING FADE
+/- 00%



In the Top Menu encoder number two can be used to slow down or speed up all running fades simultaneously

Indication of any fixed channels

FREEZE/FOLLOW Active
When recalling any memory, chase or sequence step, single channels may be frozen via the FREEZE function or via MODE FOLLOW. Therefore the memory can not be reproduced completely. This restriction is displayed by a short alert showing "FREEZE/FOLLOW ACTIVE "(see 4.2.4 and 3.3.3)

9.2 Storage of programs

Intern storage capacity of the SCANCOMMANDER

The SCANCOMMANDER stores all programs internally. The number of scenes, which fit the storage capacity, depend on the size of the single scenes.

- Memories controlling scans with 4 to 6 channels will need less space than scans with 12 or more channels.

- Selective memories or steps only keep the data for the selected channels. This way they also save space.

Therefore the exact number of scenes, possible to store internally, ranges from 600 to more than 6000. The storage space still available is displayed by FREE:(.....) during any STORE operation. As soon as the limits are reached (Display shows: NOT ENOUGH MEMORY), some of the unused programs have to be cleared (see 9.3) or modified to selective programs.

9.2.1 Backup on to memory card

Backup on cue card

Beside the internal storage, programs can be stored externally on to cue card. Storing on a cue card can be done in sections, for example only SETUP data or only memory and chaser programs.
The SCANCOMMANDER will accept cue cards of the type ITT Star Card S-RAM from 32 to 256 KByte, but as accessories it is recommended to use a 256 KByte card.
The card fits into the slot on the upper left side of the frontpanel, the arrow on the card has to point to the left side.

BACKUP on the Top Menu

The SCANCOMMANDER changes to the backup menu and tests the card.

WRITE : ENABLED - PROTECTED

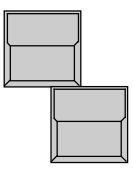
A small switch on the card can be used to protect the programs stored in the card.

FILES : ..... and FREE : (.....)

Number of files already saved on the card and freely available storage capacity.

New cards have to be formatted after adjusting the battery.

Formatting the cue card (only for new cards - clears all data on card)

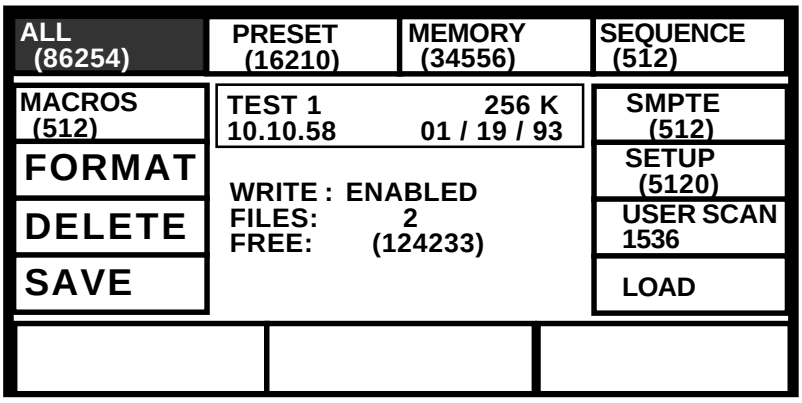


FORMAT

A name can be set for the card via the keyboard.

OK.

Formats the card, clears all data on the card and prepares a file administration.

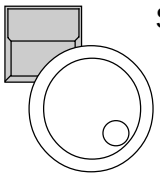


Selecting a section for backup operation

ALL / PRESET / MEMORY / SEQUENCE /
SMPTE / SETUP

Selects the section to be stored or loaded. The according block is displayed inverted.

Save data to card



SAVE

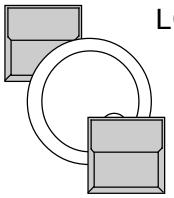
ENCODER 1

Scrolls through the list of files on card, available for the selected data type. ("....." offers to create a new file, to be named via keyboard.)

OK.

Saves the selected data section into the card with name, time and date of storing.

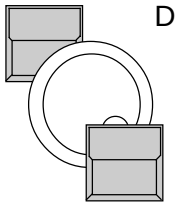
Load data from card



LOAD - Encoder 1 - OK

Loads all data of the selected file into the boards internal storage register and therefore overwrites the data, already stored in the desk.

Deleting a file on card



DELETE

Encoder 1

Selection of one of the files on card

OK.

Deletes the file on card.

!! ATTENTION !!

The date of inserting a new battery should be noted on the cue card in order to replaced it after 1 year. When exchanging the battery the card will keep its memory for at least 30 second.
Please remove the card from the desk as long as the card is not in use!

9.3 Clearing programs

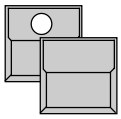
CLEAR ALL

A CLEAR function allows to clear all programs within the Scancommanders intern memory.
Keep all four buttons on top of the display pressed down when switching on the Desk.

The Scancommander swaps to the CLEAR menu. Section by section the programs can be deleted. Every clear has to be reconfirmed by "OK" or the process can be stopped by "CANCEL".
By pressing the CLEAR ALL button all programs will be deleted simultaneously and all saved parameters will be reset to default values.

Clear single memory, chase or step

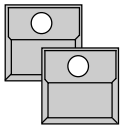
Clearing a single memory is done by overwriting the old memory with a new one with completely cleared STORE MATRIX.



STORE button

CLEAR button in the feature section

Clears the complete matrix.



Memory button

STORE button

Overwrites the old memory with a pseudo memory, containing no data.

Deleting a single chase will be done by STORE - CHASER - DELETE ALL in the program chase menu.
Deleting a single chase step can be done via EDIT - CHASER - MODIFY - DELETE STEP.

9.4 Keyswitch

Protecting programs

The keyswitch right on top of the front panel allows to protect the programs against unauthorized modification.

ACCESS ALL

All functions of the Scancommander are available

LOCK PRG

All playback functions are available, programming or modifying pictures is not possible.

LOCK DESK

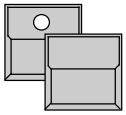
All buttons, encoders and faders on the front panel are locked, but internally running programs go on. Playback via any kind of remote input or master slave communication keep on working.

9.5 Macros

The five macro buttons A to E right beside the cue card slot offer the possibility to sample different key strokes to one single button.

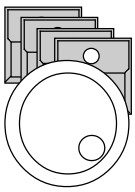
9.5.1 Programming macros

Start of programming a Macro



STORE
MACRO A

The display returns to the Top Menu, but a small display "RECORDING MACRO X" marks that all following functions are recorded.



All buttons but the single scan buttons including the mouse buttons, get listed in the macro

ENCODER movements get only listed within the BACKUP menu

End of programming a macro

MACRO A

Selecting the macro button a second time closes the list and stores the macro.
"RECORDING MACRO A" disappears

In case the maximum step number is reached (22-62 depending on the kind of button), the macro is stored automatically with "MACRO FULL".

Macro playback

Playback of a macro:

MACRO A

Every time the macro button is used, the Scancommander will repeat all listed operations.

Deleting a macro

!! ATTENTION !!

Macros can not be listed in the display. All special macros, including any programming or deleting commands in their list, should be cleared as soon as they have done their job.
Deleting a macro is done by
- STORE
- MACRO
- MACRO

9.5.2 Macro user examples

Simplify the chase programming:
- STORE
- CHASER x
- STORE

must be stored as a macro.

Playback of a few memories (with delay):
The Scancommander can store up to 50 button instructions.
If a macro recalls
- 20 x Memory A/1,
- 10 x A/2 and then
- A/3 ,

so will be first done A/1, after 0.4 second delay A/2 and after 0.2 second A/3 . Longer delays can be realized by programming chases or sequences.

Exchange of all memories:
A macro is stored :
- BACKUP
- MEMORY
- LOAD
- Encoder on file list start
- Encoder on file
- OK
- QUIT

a second macro loads an other memory file.
With these two macros a complete set of new memories can be loaded very fast.

Start of a follow action with the actual scan selection:
With the macro
- Pan/Tilt
- Preset "Vocal "
- EXTRA
- FOLLOW
- FREEZE FOLLOW

the actual scan selection can be set to position "Vocal" and at the same time fixed on the trackerball.

10. Inputs and outputs

Mains (Power Supply)

The Scancommander can be connected to an AC Powersource between 90 and 240 Volt AC (40-60Hz).
The powerswitch is located on the front panel at the top right hand side.

DMX 512 output

The DMX output conforms to USITT DMX 1990. Every unit using this protocol can be successfully interfaced with the Scancommander.

The DMX Output is optically isolated and exceeds the RS485 Norm.

Pinout: pin 1 = Shield
pin 2 = Data -
pin 3 = Data +
pin 4 = not connected
pin 5 = not connected

DMX 512 input

The DMX Input allows operation of two different functions:

a. All incoming DMX-Data will be merged with the Data produced by the Scancommander. The highest value takes precedence at the DMX output.

b. To remote various functions of the Scancommander via DMX, e.g. coupling a lightning desk and a Scancommander. For configuration see “Remote”.

Sound input

The connector is a Mono or Stereo Phone Jack 6,3mm and the input is galvanic insulated. Input impedance is ca. 3K Ohm, the threshold is min. 3 mV. The electrical connection is tip and sleeve. The Sound Input controls are located on the upper left side of the front panel.

Adjustment: Turn the volume control until the left LED begins to light; higher inputs are limited automatically. To get the best results, the frequency control should be turned to the left for low frequencies (50 Hz), to the right for high frequencies (2 kHz). ”Hold-Off” control should be initially set full left.

To avoid double triggering of a bass drum for example, rotate “Hold Off” as needed. At full right, “Hold Off” time is a full six seconds.

SMPTE Time Code

The Sound Input doubles as the Time Code Input.
The electrical connection is the ring + common (galvanic insulated). The input impedance is ca. 3 kOhm, the minimal level ca.200mV.

Remote GO input

The Remote Go input is a 6.3 mm Phone Jack connector.
a) For electrical contact-switch use the ring and tip.
b) For 5 Volt Impulse use the tip and common.
Danger! Maximum 5 Volt at this input; a higher voltage may damage the Scancommander.
The connection is a 25 pin Sub-D.

Touch board input

This input is used to control 16 different functions (similar to the DMX-Input). For the configuration see “Remote”.
Pinout: pin 1 = function 1
pin 2 = function 2
etc.…
pin 25= common
The threshold level is between 4V and 10V. Input impedance is 100 kOhm.

Trackball or mouse

Necessary to work comfortably in the Follow Mode and to set the Pan/Tilt position.
The trackerball connector is compatible with the ATARI norm. PC compatible trackerballs will not work with the Scancommander.

Keyboard

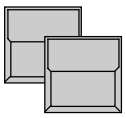
Necessary to enter the names of the Memories etc. The connector is a 5pin Din. Every PC compatible AT/MF-keyboard can be used.

ATTENTION!!

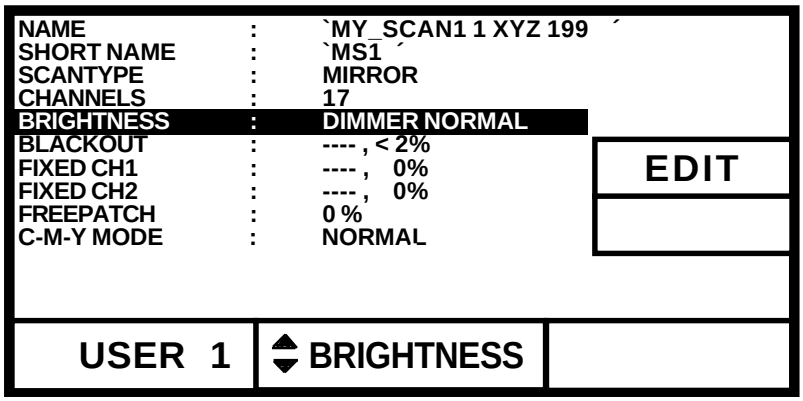
All DMX512 and analogue inputs and outputs must be shielded and the shielding must be connected to the ground and the case of the corresponding plug.

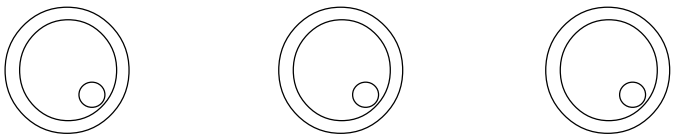
11. Defining your own Scans

Starting with software version 4.x the Scancommander now offers the possibility to define your own lamptypes. These lamptypes can be then used like any other default lamptype in the LAMPTYPE SETUP.
This new feature enables the adaptation of the software to new scantypes which are not listed in the factory setup or lamptypes which has changed their channel order. All characteristics (e.g. name, type, channel order of DMX control and brightness master functions) can be programmed for up to 16 free definable types.



SETUP
MAKE LAMPTYPE





Encoder 1:
Selects the number of the free definable scan between 1 and 16.
Attention: This number does not correlate with fixture number 1 to 16 which has to be assigned later. So the lamptype "USER 1" can be used for all 16 lamps in the LAMPTYPE SETUP.

Encoder 2:
Selects the line to be edit.

Encoder 3:
Selects some parts of adjustments. If the adjustments are more complex, the EDIT button will lead to further menus.

Explanation of the different parameters

NAME : `MY_SCAN1 1 XYZ 199 ´

SHORT NAME : `MS1 ´

The name of the lamptype (19 characters) and the shortname (6 characters) can be entered by the keyboard

Mirror or headlamp

SCANTYPE : MIRROR

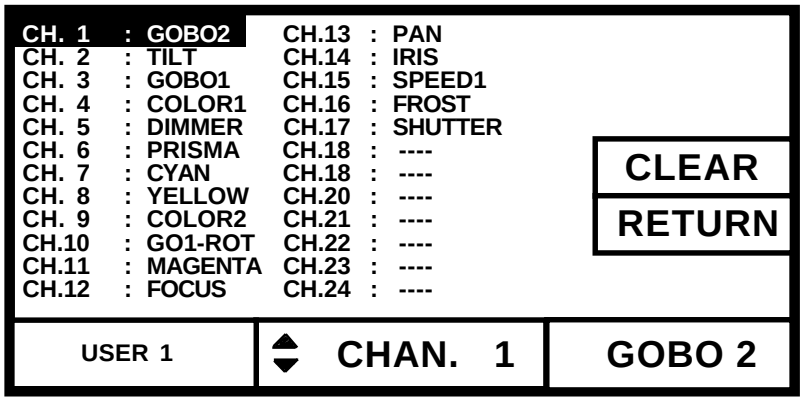
Selection of MIRROR or HEAD (e.g. Vary* lites). This function is only valid for the stage movements.

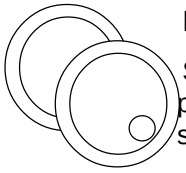
Channel order

CHANNELS : 17

EDIT

leads to the menu for the channel order:





ENCODER 2 and 3:

Selection of the DMX channel (inverse) and the corresponding function. These channels must be selected and set up one by one.

24 channels can be programmed to the functions of the Scancommander. These functions can be selected by encoder 3 in the following order:

Gobo 1	Zoom
Gobo 2	Shutter
Color 1	Speed 1
Color 2	Speed 2
Dimmer	Special
Cyan	Gobo1-Rotation
Magenta	Gobo2-Rotation
Yellow	Prism Rotation
Prism	Pan
Iris	Pan fine
Focus	Tilt
Frost	Tilt fine

CLEAR

Deletes all settings starting with the selected channel for this user type.

RETURN

Leads back to the MAKE LAMPTYPE menu.

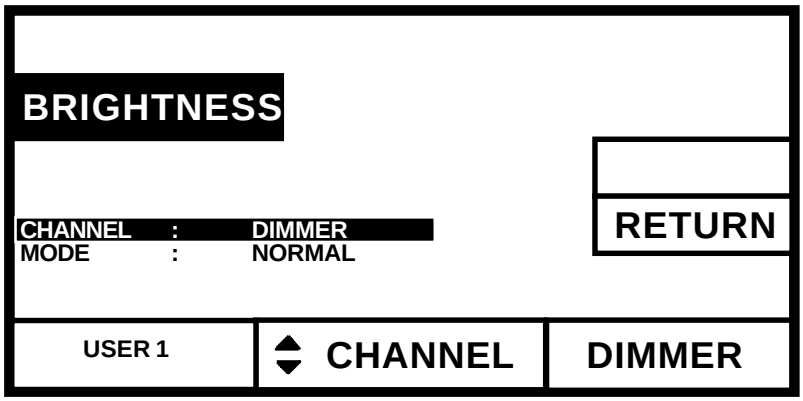
Assignment of the brightness master

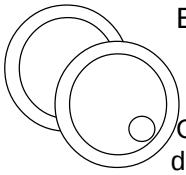
BRIGHTNESS : DIMMER NORMAL

The brightness of different groups can be controlled via the Scancommander´s brightness master. The channels that are affected by the brightness masters, are programmed in the BRIGHTNESS and BLACKOUT menu.

EDIT

leads to the menu defining the brightness master





ENCODER 2 and 3:

Select the line and function

CHANNEL: Here the channel can be selected to be dimmed by the brightness master (normally dimmer).

MODE: NORMAL resp. INVERS
INVERS must be selected if the scan for level=00 is 100 % on.

BLACKOUT : SHUTTER, < 5%

Corresponding to the BRIGHTNESS menu a channel can be selected which will be set to 0 if a specific threshold (e.g. 5%) is reached.

Special functions

Fixed channels

FIXED CH1 : ---- , 0%

FIXED CH2 : ---- , 0%

This functions enables you to set two channels to a fixed level. This channel must be connected first to an unused function of the Scancommander. Than it can be fixed in the FIXED CH1 resp. FIXED CH2 menu to a specific level. Later this channel will not be affected by any function of the Scancommander.

!

(For example: The (Lightwave research) Studiocolor needs channel 16 to be set at 00).

Free patch of one of the scan functions

FREEPATCH : -----

The last function of the filed channel list can be separated optionally from the other DMX channels of the scan. Later this function can be patched separately. Therefore it must be selected by the third encoder.

(Example: In the VL5 of Vari*Lite the dimmer is separated from the other control channels and is controlled by an external dimmer. By the FREEPATCH function this dimmer address can be entered separately)

If a lamp was defined in the FREEPATCH menu it will appear in the LAMPTYPE SETUP menu as follows:

- button

here the lamp can be selected and patched separately

Adaptation of the colour mix function

C-M-Y MODE : NORMAL (optionally INVERS)

Up to now the scan manufacturers do not agree to an uniform colour mix. Some work with C-M-Y, others with the R-G-B colour mix. To reach a better control of the colour mix function the C-M-Y function can be inverted.

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Fixture Library SC 4.31

Manufacturer	Fixture Name	No. of Channels	
OPEN	No Scan		No Scan connected
ABSTRACT	Futurescan	4	
ADB (BBA)	Ingenio BBA LR	6	Color changer
AMPTOWN	ACC Posi Spot	4	
	Contr.PML MK2	12	
	Contr.WL HX	7	
	Contr.WL HP	10	
B+K	Varytec	5	
CAMELEON	Telescan MARK I	8	
	Telescan MARK IV	19	
CLAY PAKY	Miniscan 300	4	Brightness Master optional fading or switching Gobo
	Miniscan HPE	7	
	Goldenscan2	6	Brightness Master optional on Iris or Shutter
	Goldenscan3	6	
	Goldenscan3	8	
	Goldenscan HPE	12	
	Superscan	12	
	Superscan MRG	12	
	Superscan Zoom	12	
	Superscan Zoom	16	
	Stage Scan	17	
	Stage Light 300	10	
	Stage Color 300	10	
	Stage Color 575	14	
	Stage Color 1000	11	
	Stage Color 1200	14	
	Stage Color SV 1200	14	
	Golden Spot	13	
	Golden Color 1200	10	
	Stage Zoom	19	
	Stage Zoom SV 1200	20	
	Shadow	4	Followspot only
	Tigerscan	6	
	Pinscan	3	
	Bazuka	6	
	Polycolor	6	Color changer
	Tiger MRG	4	
	Tiger COLOUR Changer	3	
	Combicolor	4	Color changer
COEF	Performance 200	6	
	Performance1-3	6	
	Performance3	9	
	Performance4	10	
	Coef 1200 Disco	8	
	Color Show 200	5	Color changer
	MP 250 Optic HR+	9	
	MP 250 FRESNEL HR+	9	
COEMAR	Microscan 1/2 400/650	6	
	Microscan 3	8	
	Samurai	8	
	MINI ULTRA 200/250	6	
	MINI ULTRA 2	8	
	NAT MM 1200 DX	10	
	NAT MM 1200 PR	13	
	NAT MM 1200 ZOOM	20	
	MM 2500 Zoom	20	
	Nat TM 1200 DX	12	
	Nat TM 1200 DXP	14	
	Nat TM 1200/4000	20	
	Nat TM 2500	21	
	CF 1200 Hard Edge	20	
	CF 1200 Spot	13	
	PC 1000 CC	8	
	Duetto	6	
	Pchmi	9	
	CF7 Zoom Wash	13	
	CF7 Hard Edge	20	
DAH	Digital Beamlight	10	

Manufacturer	Fixture Name	No. of Channels	
EASYLIGHT	Twist HTI 300 DMX	4	
	Easylight Scan 3	6	
	Easylight Scan 3D2	7	
	Easylight Rainbow	2	
	Easylight Colore LC	2	
	Easylight Colore 2	4	
FAL	FAL 2000	7	
	FAL 2500 XL/XLD	11	
	FAL 2500 XLDX	14	
	Roulette 575/1200	8	
	Proscan II HR	14	
	Proscan X HR	13	
	Promo 2/3	6	
	Three-Sixty	8	
	Three-Sixty2	10	
FLY	FOS 3 / 4	12	
	Palette	5	Followspot
FUTURE-LIGHT	Miracle	4	
	CC-200	4	
	SC-330/370	4	
	Promotion Scan HR	11	
	Genesis	8	
	Voyager	8	
	Duke 1200	8	
	Advert Scan HR	11	
	SC-250	6	
	SC-530/570	10	
	SC-740	13	
	SC-780	16	
	SC-940/980	16	
	MH-640	16	
	MH 660 Spot	16	
	MH-840	16	
	MH 860 Spot	16	
GENIUS	Omega2	10	
GLP	Mini Star Tec	6	
	Mighty Scan	6	
	MAX	8	
	Startec 2000	7/9	
	Startec 1200	12	
	Joy 300	11	
	Patend 575 PAN_coars	13	
	Patend 575 PAN_FINE	13	
	Patend 1200	17	
GRIVEN	Cruise	11	
HIGH END	Trackspot	7	
	Technobeam HR	18	
	Technobeam Iris HR	18	
	Intellabeam	8	
	Intellabeam HR	13	
	Cyberlight CX Mode3	15	
	Cyberlight Mode2 20	20	
	Studiocolor	16	
	Studiocolor 250	15	
	Studio Spot 575	24	
	Studio Spot CMY	24	
	Studio Beam PC V1.0	16	
	Studio Spot 250	18	
	Technopro HR	12	(NO MOVEMENT)
	Trackspot mainlight	5	
	Technoray hR	14	
	Dataflash	3	
J.B.	Varyscan 1	4	
	Varyscan 3 SP+	6	
	Varyscan 3 SP+	8	
	Varyscan 3 700	13	
	Varyscan 4	8	
	Varyscan 4 EV	11	
	Varyscan 5 MV	22	
	Varyscan 6 spot	12	
	Varycolor 6 wash	12	
	Varycolor	6	

Manufacturer	Fixture Name	No. of Channels	
LAMPO	Sintesi+Super	6	
	Columbus 1200 AF	10	
LICHTTECHNIK	Motor Yoke 300,330	17	
LITEBEAM	Swing I	6	
	Swing II	12	
	Chandra I	7	
	Chandra II	12	
	Swing II HR	14	
	Chandra II HR	14	
LYTE QUEST	MotorHead	5	
MAD LIGHTING	Qscan	5	
	Scan611	6	
MARTIN	Roboscan 804/805	5	
	Roboscan 218	7	
	Roboscan 218 m3 HR	9	
	Roboscan 518	9	
	Roboscan 518 m3 HR	9	
	Roboscan 812	7	
	Robo 918 m4	16	
	Robo 1020	12	
	Robo 1220	16	
	Imagescan m2	9	
	Robo 1220 rpr m4	17	
	Pal FX 1200 m4	20	Mode 4 only, with 6 or 8 EXTRA channels
	Mac2000Profile	24	
	Mac 1200 m4	14	
	Mac 600 m4	14	
	Mac 600 NT m4	15	
	Mac 500 m4	16	
	Mac 300 m4	13	
	Mac 250 m4	13	
	MiniMac Pr m4	10	
	MiniMac WS m4	8	
	MX-1	6	
	Robocolor / MSD EX	5/6/7	Color changer, Optional 5 or 7 channel
	Robocolor pro4	5	
	Robozap	4	
	Robozap MSR	6	
	Centerpiece H3+4=GO	7	
MORPHEUS	PANa Beam	4	
	Coloure Fader Dimmer	4	
MOVITEC	SL-250	16	
	WL-250	16	
	SL-575	16	
	WL-575	16	
OBIES	Xescan	10	
OMICRON	Omicron Laser	16	
OPTIKINETICS	Solar System	7	
SAGITTER	Prince	6	PRINCE and SUPER PRINCE TEMPLATE
	Super Prince	10	
	Infinity HR	12	
	Infinity MSZ HR	14	
	Infinity Club	12	
	Infinity Live	20	
	Tracer	5	Followspot
	Mask Color Zoom	10	
	Moving Spot 250 / 575	16	
	Moving Wash 250 / 575	16	
S G M	Galileo 1	6	
	Galileo 2 HR	12	
	Galileo 3 HR	14	
	Galileo 4 HR	18	
	Giotto	13	
	Victory1	9	
	Victory2	12	
	Giotto Spot 250/400	22	
	Giotto Wash 1200	13	
	Giotto Spot 1200	18	
	Giotto 1200 Doors	18	

Manufacturer	Fixture Name	No. of Channels	
SHOWPRO	Cyberscan HR	10/13	
	Accubeam AB-400	4	
	Accucolor	2/3	Color changer
SLS	Panscan 3 Junior	5	
	Panscan4 HR	15	
SPACE CANNON	Target + Devil	8	
STARLITE	Starlite 2G HR	9	
	Starlite Mk5	19	
STRONG	Mini Scan Rotax	6	
	Big Scan 3	12	
STUDIO DUE	Varybeam	7	
	CityColor	7	
	Live Pro 1200 CMY	20	
	Live Pro 1200 PRISM	16	
	Live Pro 1200 FROST	16	
	Stratos HR	15	
	Stratos CMY R.Gobo	15	
	Stratos CMY Iris	15	
	Minibeam	6	
	Giant HR	9	
	Light Reflector	7	
	Predator	6	
	Carioca	5	
	Stratos HR Dim neg	14	
	Stratos LR Dim neg	12	
SUMMA USA	Summa hti	9	
TAS	Crono	9	
	CF6	12	
THEATRE PROJECTS	Sky Art	7	
	PAL (PPTTFC)	6	
VARI*LITE	VL1	6	
	Vlm m3	10	
	Vlm m4 Ex	13	
	Vl5/Vl5B m3	11	
	Vl5 m4 16B Ex	14	
	Vl5 Arc m3 v5.1	10	
	Vl5 Arc m4 16B Ex	13	
	Vl6 m3 16Bit	10	
	Vl6 m4 16B Ex	13	
	Vl6 m5 16B Ex	11	
	Vl6 m6 16B Ex	14	
	Vl6B m5 16Bit	14	
	Vl6B m6 16B Ex	17	
	Vl7 m7 16Bit	17	
	Vl7 m8 16Bit Ex	20	
	Vl7B m9 ADD6 Extra	17	
	Vl220X 16bit Std.	14	
	Vl220X 16bit Enhc	17	
	Vl2401 16bit Std.	12	
	Vl2401 16bit Enhc	15	
	Vl2402 16bit Std.	12	
	Vl2402 16bit Enhc	15	
	Vl2416 16bit Std.	12	
	Vl2416 16bit Enhc	15	
X & Y	Yoke XL	7	
	MN 400 Wash	12	
	MN 400 Spot	13	
	MN 600 Wash	14	
	MN 600 Spot	14	

Appendix 1:

List of manufacturers and scans, possible to control via the Scancommander (Version 4.31 from Nov. 2001):

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Manufacturer “OPEN”

Scan type: NO SCAN

Short name: ———

— no channels connected —

To be used to disconnect any lamp

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Manufacturer: ABSTRACT

Scan type: FUTURESCAN 2-CE

Short name: FUT 2

Movement:Head - no Brightness Master

DMX channel order

1: Pan	2: Tilt	3: Color 1
4: Gobo 1		

Presets available

———————————————————

Manufacturer: ADB (BBA)

Scan type: INGENIO BBA LR 6 CH.

Short name: INGENT

No Movement - Brightness Master on Dimmer

DMX channel order

1: Color 1	2: Color 2	3: Dimmer
4: Frost	5: Speed 1	6: Speed 2

Presets available

———————————————————

Manufacturer: AMPTOWN

Scan type: ACC_POSI_SPOT

Short name: ACC

Movement:Head - Brightness Master on Dimmer

DMX channel order

1: Pan	2: Tilt	3: Dimmer
4: Color 1		

Presets available

———————————————————

Scan type: PML MK-2

Short name: PML MK

Movement: Head - Brightness Master on Dimmer

DMX channel order

1: Dimmer	2: Iris	3: Shutter
4: Gobo 1	5: Color 1	6: Pan coarse
7: Pan fine	8: Tilt coarse	9: Tilt fine
10: Focus	11: Color 2	12: Rotatiion 1

Presets available

———————————————————

Scan type: WASHLIGHT HALOGEN

Short name: WLHALO

Movement: Head - Brightness Master on Dimmer

DMX channel order

1: Dimmer	2: Focus	3: Pan
4: Tilt	5: Yellow	6: Magenta
7: Cyan		

———————————————————

Scan type: WASHLIGHT HP

Short name: WL HP

Movement: Head - Brightness Master on Dimmer

DMX channel order

1: Dimmer	2: Shutter	3: Pan
4: Tilt	5: Yellow	6: Magenta
7: Cyan	8: Color1(Filter)	9: Focus
10: Special(lamp on/off)		

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Manufacturer B+K

Scan type: VARYTEC

Short name: VARYTE

Movement: Mirror - Brightness Master on Dimmer

DMX channel order

1: Color 1	2: Gobo 1	3: Pan
4: Tilt	5: Dimmer	

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Manufacturer CAMELEON

Scan type: TELESCAN MARK I

Short name: TELE S

Movement: Mirror - Brightness Master on Dimmer

DMX channel order

1: Pan	2: Tilt	3: Dimmer
4: Gobo 1	5: Cyan	6: Magenta
7: Yellow	8: Focus	

———————————————————

Scan type: TELESCAN MARK IV

Short name: TELE 4

Movement: Mirror - Brightness Master on Dimmer

DMX channel order

1: Pan coarse	2: Pan fine	3: Tilt coarse
4: Tilt fine	5: Ventil.=Speed 1	6: Dimmer
7: Iris coarse	8: Iris fine=Shutter	9: Cyan
10: Magenta	11: Yellow	12: Focus
13-14: Scroller coarse-fine=Gobo 1-2		15: Frost

16: Corrector=Color 1

17-18: Rotation coarse-fine=Rotation 1-2

19: Ignition=Special

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Scan type: TELESCAN MARK IV PART1

Short name: TELE 4

Movement: Mirror - Brightness Master on Dimmer

DMX channel order

1: Pan coarse	2: Pan fine	3: Tilt coarse
4: Tilt fine	5: Ventil.=Speed 1	6: Dimmer
7: Iris coarse	8: Iris fine=Shutter	9: Cyan
10: Yellow	11: Magenta	12: Focus

———————————————————

Scan type: TELESCAN MARK IV Part2

Short name: TELE 4

Movement: Mirror - Brightness Master on Dimmer

DMX channel order

1-2: Scroller coarse-fine=Pan coarse-fine

3: Frost

4: Corrector=Color 1

5-6: Scoller Pos.coarse-fine=Tilt coarse-fine

7: Ignition=Special

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Manufacturer CLAY PAKY

Scan type: MINISCAN TRIG GOBO

Short name: MINI T

Movement: Mirror - Brightness below 50% will close Gobo

DMX channel order

1: Color 1	2: Gobo 1	3: Pan
4: Tilt		

Presets available

Scan type: MINISCAN FADE GOBO

Short name: MINI F

Movement: Mirror - Brightness Master linear on Gobo

DMX channel order

1: Color 1	2: Gobo 1	3: Pan
4: Tilt		

Presets available

Scan type: MINISCAN HPE

Short name: MINI H

Movement: Mirror - Brightness Maste on Shutter

DMX channel order

1: Color 1	2: Rotation 1	3: Gobo 1
4: Shutter	5: Pan	6: Tilt
7: Prisma		

Presets available

Scan type: GOLDENSCAN 2 IRIS

Short name: GOLD 2

Movement: Mirror - Brightness Master on Iris

DMX channel order

1: Iris	2: Color 1	3: Gobo 1
4: Shutter	5: Pan	6: Tilt

Presets available - Option switches 1 and 2 on

Scan type: GOLDENSCAN 2 SHUTTER

Short name: GOLD 2

Movement: Mirror - Brightness Master on Shutter

DMX channel order

1: Iris	2: Color 1	3: Gobo 1
4: Shutter	5: Pan	6: Tilt

Presets available- Option switches 1 and 2 on

Scan type: GOLDENSCAN 3 6 Channel

Short name: GOLD 3

Movement: Mirror - Brightness Master on SHUTTER (Dimmer)

DMX channel order

1: Iris	2: Color 1	3: Gobo 1
4: Shutter	5: Pan	6: Tilt

Presets available

Scan type: GOLDENSCAN 3 8 Ch.

Short name: GOLD 3

Movement: Mirror - Brightness Master on SHUTTER (Dimmer)

DMX channel order

1: Iris	2: Color 1	3: Prism
4: Shutter	5: Pan	6: Tilt
7: Gobo 1	8: Rotation 1	

Presets available

Scan type: GOLDENSCAN HPE

Short name: GOLD H

Movement: Mirror - Brightness Master on SHUTTER (Dimmer)

DMX channel order

1: Iris	2: Color 1	3: Color 2
4: Shutter	5: Pan	6: Tilt
7: Prism	8: Rotation 3	9: Focus
10: Gobo 1	11: Gobo 2	12: Rotation 1

Presets available

Scan type: SUPERSCAN

Short name: SUPER

Movement: Mirror - Brightness Master on Dimmer

DMX channel order

1: Iris	2: Color 1	3: Gobo 1
4: Shutter	5: Pan	6: Tilt
7: Dimmer	8: Prism	9: Focus
10: Cyan	11: Magenta	12: Yellow

Presets available

Scan type: SUPER MRG

Short name: S MRG

Movement: Mirror - Brightness Master on Dimmer

DMX channel order

1: Iris	2: Rotation 1	3: Gobo 1
4: Shutter	5: Pan	6: Tilt
7: Dimmer	8: Color	9: Focus
10: Cyan	11: Magenta	12: Yellow

Presets available

Scan type: SUPER ZOOM 12 Ch.

Short name: S ZOOM

Movement: Mirror - Brightness Master on Shutter (Dimmer)

DMX channel order

1: Iris	2: Color	3: Gobo
4: Shutter	5: Pan	6: Tilt
7: Prism	8: Zoom	9: Focus
10: Cyan	11: Magenta	12: Yellow

Presets available

Scan type: SUPER ZOOM 16Ch.

Short name: S ZOOM

Movement: Mirror - Brightness Master on Shutter (Dimmer)

DMX channel order

1: Iris	2: Color	3: Gobo 1
4: Shutter	5: Pan	6: Tilt
7: Frost	8: Zoom	9: Focus
10: Cyan	11: Magenta	12: Yellow
13: Gobo 2	14: Rotation 1	15: Prism
16: Prism Rotation		

Presets available

Scan type: STAGE SCAN 17Ch.

Short name: STAGE

Movement: Mirror - Brightness Master on Shutter (Dimmer)

DMX channel order

1: Iris	2: Color	3: Frost
4: Shutter	5: Pan	6: Tilt
7: Zoom	8: Focus	9: Prism
10: Prism-Rot.	11: Gobo 1	12: Gobo 2
13: Rotation 1	14: Cyan	15: Magenta
16: Yellow	17: Remote Lamp Switch = Special	

Scan type: STAGE LIGHT 300

Short name: SL 300

Movement: Head - Brightness Master on Shutter (Dimmer)

DMX channel order

1: Color 1	2: Rotation1(Gobo)	3: Gobo1
4: Shutter	5: Pan	6: Tilt
7: Frost	8: Focus	9: Pan fine
10: Tilt fine		

Scan type: STAGE COLOR 300

Short name: SC 300

Movement: Head - Brightness Master Dimmer

DMX channel order

1: Cyan	2: Magenta	3: Yellow
4: Shutter	5: Pan	6: Tilt
7: Dimmer	8: Frost	9: Pan fine
10: Tilt fine		

Scan type: STAGE COLOR 575

Short name: SC 575

Movement: Head - Brightness Master Dimmer

DMX channel order

1: Cyan	2: Magenta	3: Yellow
4: Shutter	5: Pan	6: Tilt
7: Color1	8: Prisma	9: Frost
10: Color2(filter)	11: Dimmer	12: Special
Control	13: Pan fine	14: Tilt fine

Scan type: STAGE COLOR 1000

Short name: SC1000

Movement: Head - Brightness Master on Dimmer

DMX channel order

1: Cyan	2: Magenta	3: Yellow
4: Shutter	5: Pan	6: Tilt
7: Color1	8: Frost	9: Dimmer
10: Pan fine	11: Tilt fine	

Scan type: STAGE COLOR 1200

Short name: SC1200

Movement: Head - Brightness Master on Dimmer

DMX channel order

1: Cyan	2: Magenta	3: Yellow
4: Shutter	5: Pan	6: Tilt
7: Color1	8: Frost	9: Frost
10: Color2(filter)	11: Dimmer	12:
Special(control)	13: Pan fine	14: Tilt fine

Scan type: STAGE COLOR SV 1200

Short name: SC12SV

Movement: Head - Brightness Master on Dimmer

DMX channel order

1: Cyan	2: Magenta	3: Yellow
4: Shutter	5: Pan	6: Tilt
7: Color1	8: Frost	9: Frost
10: Color2(filter)	11: Dimmer	12:
Special(control)	13: Pan fine	14: Tilt fine

Scan type: GOLDEN SPOT 13CH.

Short name: GO SPO

Movement: Head - Brightness Master on Shutter (Dimmer)

DMX channel order

1: Iris	2: Color 1	3: Color 2
4: Shutter	5: Pan	6: Tilt
7: Gobo 1	8: Rotation 1 (Gobo 1)	
9: Gobo 2	10: Focus	11: Pan fine
12: Tilt fine	13: Rotation 2 (Gobo 1 fine)	

Scan type: GOLDEN COLOR 1200

Short name: GO COL

Movement: Head - Brightness Master on Shutter (Dimmer)

DMX channel order

1: Cyan	2: Magenta	3: Yellow
4: Shutter	5: Pan	6: Tilt
7: Color 1=Warm Filter(amber)		8: Frost
9: Pan fine	10: Tilt fine	

Scan type: STAGE ZOOM

Short name: S ZOOM

Movement: Head - Brightness Master on Shutter (Dimmer)

DMX channel order

1: Iris	2: Color	3: Frost
4: Shutter	5: Pan	6: Tilt
7: Zoom	8: Focus	9: Prism
10: Prism-Rot.3	11: Gobo 2	12: Gobo 1
13: Gobo-Rot. 1	14: Cyan	15: Magenta
16: Yellow	17: Special(Lamp)	18: Pan fine
19: Tilt fine		

Scan type: STAGE ZOOM SV 1200

Short name: S ZOSV

Movement: Head - Brightness Master on Shutter (Dimmer)

DMX channel order

1: Iris	2: Color	3: Frost
4: Shutter	5: Pan	6: Tilt
7: Zoom	8: Focus	9: Prism
10: Prism-Rot.3	11: Gobo 2	12: Gobo 1
13: Gobo-Rot. 1	14: Cyan	15: Magenta
16: Yellow	17: Special (Lamp)	18: Pan fine
19: Tilt fine	20: Rotation 2 (Gobo 1 fine)	

Scan type: SHADOW Followspot

Short name: SHADOW

No Movement - Brightness Master on Dimmer

DMX channel order

1: Iris	2: Color	3: Dimmer
4: Color Temp.=Special		

Scan type: TIGERSCAN

Short name: TIGER

Movement: Mirror - Brightness Master on Shutter

DMX channel order

1: Color	2: Shutter	3: Gobo
4: Rotation	5: Pan	6: Tilt

Tigerscans updated to 4.5 or higher version can be initialized as GOLDEN Scan 2 (Shutter). Gobo Rotation is then controlled via the Iris Channel.

Scan type: PINSCAN

Short name: PIN

Movement: Head - Brightness Master on Dimmer

DMX channel order

1: Dimmer	2: Pan	3: Tilt

Scan type: BAZUKA

Short name: BAZUKA

Movement: Mirror - Brightness Master on Iris

DMX channel order

1: Color 1	2: Shutter	3: Pan
4: Tilt	5: Iris	6: Focus

Scan type: POLYCOLOR

Short name: POLY C

No movement - Brightness Master on Dimmer

DMX channel order

1: Dimmer	2: Focus	3: Shutter
4: Cyan	5: Magenta	6: Yellow

Scan type: TIGER M.R.G.

Short name: T MRG

No Movement: - Brightness Master on Shutter

DMX channel order

1: Color 1	2: Shutter	3: Gobo 1
4: Rotation 1		

Scan type: TIGER CC/COLOUR CHANGER

Short name: T CC

No movement: - Brightness Master on Shutter

DMX channel order

1: Color 1	2: Shutter	3: Focus

Scan type: Combi Color

Short name: COMBI

No movement - Brightness Master on Dimmer

DMX channel order

1: Color 1	2: Color 2	3: Gobo 1
4: Dimmer		

Manufacturer COEF

Scan type: PERFORMANCE 200

Short name: PER200

Movement: Mirror - Brightness Master on Shutter

DMX channel order

1: Prism	2: Color 1	3: Gobo 1
4: Shutter	5: Pan	6: Tilt

Presets available

!! Attention !! Performance 200 doesn't accept standard DMX 512 with more than 260 ch. as send by the Scancommander

———————————————————

Scan type: PERFORMANCE 1-3 6CH

Short name: PERF

Movement: Mirror - Brightness Master on Shutter

DMX channel order

1: Iris	2: Color 1	3: Gobo 1
4: Shutter	5: Pan	6: Tilt

Presets available

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Scan type: PERFORMANCE 3 9CH

Short name: PERF 3

Movement: Mirror - Brightness Master on Shutter

DMX channel order

1: Iris	2: Color 1	3: Gobo 1
4: Shutter	5: Pan	6: Tilt
7: Prism	8: Prism-Rot.	9: Frost

Presets available

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Scan type: PERFORMANCE 4 10CH

Short name: PERF 4

Movement: Mirror - Brightness Master on Shutter

DMX channel order

1: Iris	2: Color 1	3: Gobo 1
4: Shutter	5: Pan	6: Tilt
7: Prism	8: Dimmer	9: Frost
10: Rotation 1		

Presets available

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Scan type: 1200 DISCO 8 CH

Short name: 1200 D

Movement: Mirror - Brightness Master on Shutter

DMX channel order

1: Shutter	2: Color 1	3: Gobo 1
4: Rotation 1 (gobo)		
5: Prism	6: Rotation 3 (prism)	
7: Pan	8: Tilt	

Presets available

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Type: COLOR SHOW 200 (color changer)

Short name: COL200

No movement - Brightness Master on Shutter

DMX channel order

1: Shutter	2: Color 1	3: Gobo 1
4: Prism	5: Prism-Rot.	

Presets available

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Type: MP 250 OPTIC HR+

Short name: MP250O

Movement: Head - Brightness Master on Dimmer

DMX channel order

1: Shutter	2: Color 1	3: Color 2
4: Frost	5: Pan	6: Pan fine
7: Tilt	8: Tilt fine	9: Dimmer

Presets available

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Type: MP 250 FRESNEL HR+

Short name: MP250F

Movement: Head - Brightness Master on Dimmer

DMX channel order

1: Shutter	2: Color 1	3: Gobo 1
4: Rotation 1	5: Pan	6: Pan fine
7: Tilt	8: Tilt fine	9: Dimmer

Presets available

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Manufacturer COEMAR

Scan type: MICRO SCAN 400/650 AL/MSR

Short name: MICRO

Movement: Mirror - Brightness Master on Dimmer

DMX channel order

1: Pan	2: Tilt	3: Gobo 1
4: Color 1	5: Shutter	6: Dimmer

Presets available

!! Attention !! Micro Scans 1 doesn't accept standard DMX 512 as it is send by the Scancommander

———————————————————

Scan type: MICRO SCAN 3

Short name: MICRO3

Movement: Mirror - Brightness Master on Dimmer

DMX channel order

1: Pan	2: Tilt	3: Dimmer
4: Shutter	5: Gobo	6: Rotation
7: Color 1	8: Special	

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Scan type: SAMURAI / ULTRASCAN

Short name: SAMURA

Movement: Mirror - Brightness Master on Dimmer

DMX channel order

1: Pan	2: Tilt	3: Shutter
4: Color 1	5: Gobo 1	6: Iris
7: Dimmer	8: Reset =Special	

Presets available.

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Scan type: MINI ULTRA 200

Short name: M ULTR

Movement: Mirror - Brightness Master on Shutter

DMX channel order

1: Pan	2: Tilt	3: Gobo1
4: Color 1	5: Shutter	
6: Reset =Special		

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Scan type: MINI ULTRA 250

Short name: M ULTR

Movement: Mirror - Brightness Master on Dimmer

DMX channel order

1: Pan	2: Tilt	3: Gobo1
4: Color 1	5: Shutter	6: Dimmer

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Scan type: MINI ULTRA 2

Short name: M ULT2

Movement: Mirror - Brightness Master on Shutter

DMX channel order

1: Pan	2: Tilt	3: Fixed=0
4: Shutter	5: Gobo1	6: Rotation1
7: Color1	8: Special	

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Scan type: NAT MM 1200 DX 10 Channel

Short name: MM 12X

Movement: Mirror - Brightness Master on Dimmer

DMX channel order

1: Pan	2: Tilt	3: Dimmer
4: Shutter	5: Iris	6: Focus
7: Gobo 1	8: Rotation 1	9: Color1
10: Special		

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Scan type: NAT MM 1200 PRISM 13 Ch.

Short name: MM 12PR

Movement: Mirror - Brightness Trigger on Shutter

DMX channel order

1: Pan	2: Pan fine	3: Tilt
4: Tilt fine	5: Shutter	6: Iris
7: Focus	8: Gobo1	9: Rotation1
10: Prism	11: Rotation3(prism)	12: Color1
13: Special		

Scan type: NAT MM 1200 ZOOM 20 Ch.

Short name: MM 12ZO

Movement: Mirror - Brightness Master on Dimmer

DMX channel order

1: Pan	2: Pan fine	3: Tilt
4: Tilt fine	5: Dimmer	6: Shutter
7: Iris	8: Zoom	9: Focus
10: Gobo1	11: Rotation1(Gobo)	
12: Gobo2	13: Rotation2(Gobo)	
14: Prism	15: Rotation3(prism)	
16: Color1	17: Cyan	18: Magenta
19: Yellow	20: Special	

Scan type: NAT TM 1200 DX 12 Channel

Short name: TM 12X

Movement: Head - Brightness Trigger on Shutter

DMX channel order

1: Pan	2: Pan fine	3: Tilt
4: Tilt fine	5: Speed1=Mode	6: Shutter
7: Iris	8: Focus	9: Gobo1
10: Rotation1(gobo)	11: Color1	12: Special

Scan type: NAT TM 1200 DXP 14 Channel

Short name: TMDXPR

Movement: Head - Brightness Trigger on Shutter

DMX channel order

1: Pan	2: Pan Fine	3: Tilt
4: Tilt Fine	5: Speed 1=Mode	6: Shutter
7: Iris	8: Focus	
9: Gobo1	10: Rotation1(gobo)	
11: Prism	12: Rotation3(prism)	
13: Color1	14: Special	

Scan type: NAT TM 1200/4000 20Ch.

Short name: TM 12

Movement: Head - Brightness Master on Dimmer

DMX channel order

1: Pan	2: Pan fine	3: Tilt
4: Tilt fine	5: Speed1=Mode	6: Dimmer
7: Shutter	8: Iris	9: Focus
10: Gobo1	11: Rotation1(gobo)	
12: Gobo2	13: Rotation2(gobo)	
14: Prism	15: Rotation3(prism)	
16: Color1	17: Cyan	18: Magenta
19: Yellow	20: Special	

Scan type: NAT TM 2500 21 Ch.

Short name: TM 25

Movement: Head - Brightness Master on Dimmer

DMX channel order

1: Pan	2: Pan fine	3: Tilt
4: Tilt fine	5: Speed1=Mode	6: Dimmer
7: Shutter	8: Iris	9: Focus
10: Frost		
11: Gobo1	12: Rotation1(gobo)	
13: Gobo2	14: Rotation2(gobo)	
15: Prism	16: Rotation3(prism)	
17: Color1	18: Cyan	
19: Magenta	20: Yellow	21: Special

Scan type: CF 1200 HARD EDGE

Short name: CF12HE

Movement: Head - Brightness Master on Dimmer

DMX channel order

1: Pan	2: Pan fine	3: Tilt
4: Tilt fine	5: Dimmer	6: Shutter
7: Iris	8: Zoom	9: Focus
10: Gobo 1	11: Rotation 1(Gobo 1)	
12: Rotation 2 (Position Gobo 1)		
13: Gobo 2		
14: Prisma	15: Rotation 3 (Prisma)	
16: Color 1	17: Cyan	18: Magenta
19: Yellow	20: Special	

Scan type: CF 1200 SPOT

Short name: CF1200

Movement: Head - Brightness Master on Dimmer

DMX channel order

1: Pan	2: Pan fine	3: Tilt
4: Tilt fine	5: Dimmer	6: Shutter
7: Iris	8: Color 2 (filter)	9: Color1
10: Cyan	11: Magenta	12: Yellow
13: Special		

Scan type: PC 1000

Short name: PC1000

Movement: Mirror - Brightness Master on Dimmer

DMX channel order

1: Dimmer	2: Iris	3: Zoom
4: Focus	5: Frost	6: Cyan
7: Magenta	8: Yellow	

Scan type: DUETTO

Short name: DUETTO

Movement: 2 Mirror - Brightness Trigger on Shutter

DMX channel order

1: Pan=Mirror1	2: Tilt=Mirror2	3: Color1
4: Color2	5: Shutter	6: Special

Scan type: PCHMI

Short name: PCHMI

No Movement - Brightness Trigger on Dimmer

DMX channel order

1: Dimmer	2: Iris	3: Zoom
4: Focus	5: Frost	6: Cyan
7: Magenta	8: Yellow	9: Special

Scan type: CF 7 ZOOM WASH

Short name: CF7 ZW

Movement: Head - Brightness Master on Dimmer

DMX channel order

1: Pan	2: Tilt	3: Tilt fine
4: Pan fine	5: Dimmer	6: Shutter
7: Focus	8: Speed 1 (Correction1)	
9: Color 1	10: Cyan	11: Magenta
12: Yellow	13: Special	

Presets available

Scan type: CF 7 HARD EDGE

Short name: CF7 HE

Movement: Head - Brightness Master on Dimmer

DMX channel order

1: Pan	2: Tilt	3: Tilt fine
4: Pan fine	5: Dimmer	6: Shutter
7: Iris	8: Zoom	9: Focus
10: Gobo 1	11: Rotation 1	
12: Rotation 2 (Gobo 1 fine)		13: Gobo 2
14: Prisma	15: Pr.Rotation	16: Frost (Lens)
17: Cyan	18: Magenta	19: Yellow
20: Special		

Presets available

Manufacturer DHA

Scan type: DIGITAL BEAMLIGHT

Short name: DIBEAM

Movement: Head - Brightness Master on Dimmer

DMX channel order

1: Dimmer	2: Pan coarse	3: Pan fine
4: Tilt coarse	5: Tilt fine	6: Color
7: Scroller test indication=Speed 1		
8: Focus	9: Fans=Speed 2	10: Control=Special

Manufacturer EASYLIGHT

Scan type: TWIST HTI 300 DMX

Short name: TWIST

Movement: Mirror - Brightness Master on Gobo

DMX channel order

1: Pan	2: Tilt	3: Color
4: Gobo		

Scan type: EASYLIGHT SCAN 3

Short name: EASY 3

Movement: Mirror - Brightness Master on Shutter

DMX channel order

1: Tilt	2: Pan	3: Gobo 1
4: Iris	5: Shutter	6: Color 1

Scan type: EASYLIGHT SCAN 3D2

Short name: EASY32

Movement: Mirror - Brightness Master on Shutter

DMX channel order

1: Tilt	2: Pan	3: Gobo 1
4: Iris	5: Shutter	6: Color 1
7: Prisma		

Scan type: EASYLIGHT RAINBOW

Short name: EASYRB

No Movement - Brightness Master on Gobo

DMX channel order

1: Color 1	2: Gobo 1

Scan type: EASYLIGHT COLORE LC

Short name: EASYCL

No Movement - Brightness Master on Shutter

DMX channel order

1: Shutter	2: Color 1

Scan type: EASYLIGHT COLORE 2

Short name: EASYC2

No Movemen - Brightness Master on Shutter

DMX channel order

1: Shutter	2: Color 1	3: Prisma
4: Gobo 1		

Manufacturer FAL

Scan type: FAL 2000

Short name: F2000

Movement: Mirror - Brightness Master on Shutter

DMX channel order

1: Color 1	2: Gobo 1	3: Rotation 1
4: Shutter	5: Pan	6: Tilt
7: Prisma		

Scan type: FAL 2000 XL/XLD

Short name: F2000X

Movement: Mirror - Brightness Master on Shutter

DMX channel order

1: Iris	2: Color 1	3: Zoom
4: Shutter	5: Pan	6: Tilt
7: Focus	8: Gobo 1	9: Rotation 1
10: Prisma	11: Pr.-Rotation	

Scan type: FAL 2000 XLDX

Short name: F2000X

Movement: Mirror - Brightness Master on Shutter

DMX channel order

1: Iris	2: Color 1	3: Zoom
4: Shutter	5: Pan	6: Tilt
7: Focus	8: Gobo 1	9: Rotation 1
10: Prisma	11: Pr.-Rotation	12: Cyan
13: Magenta	14: Yellow	

Scan type: ROULETTE 575/1200

Short name: ROULET

Movement: Mirror - Brightness Master on Shutter

DMX channel order

1: Color 1	2: Gobo 1	3: Rotation 1
4: Shutter	5: Pan	6: Tilt
7: Prisma	8: Color 2	

Scan type: PROSCAN II HR

Short name: PROSC2

Movement: Mirror - Brightness Master on Shutter

DMX channel order

1: Iris	2: Color 1	3: Gobo 1
4: Shutter	5: Pan	6: Tilt
7: Focus	8: Gobo 2	9: Rotation 2
10: Prisma	11: Pr.-Rotation	12: Frost
13: Pan fine	14: Tilt fine	

Presets available

Scan type: PROSCAN X HR

Short name: PROSCX

Movement: Mirror - Brightness Master on Shutter

DMX channel order

1: Iris	2: Color 1	3: Gobo 1
4: Shutter	5: Pan	6: Tilt
7: Focus	8: Gobo 2	9: Rotation 2
10: Prisma	11: Pr.-Rotation	12: Pan fine
13: Tilt fine		

Presets available

Scan type: PROMO 2/3 HR

Short name: PROMO2

Movement: Mirror - Brightness Master on Shutter

DMX channel order

1: Focus	2: Rotation 2	3: Rotation 1
4: Shutter	5: Pan	6: Tilt

Scan type: THREE SIXTY

Short name: 360

Movement: Mirror - Brightness Master on Shutter

DMX channel order

1: Color 1	2: Gobo 1	3: Color 2
4: Shutter	5: Pan	6: Tilt
7: Pan fine	8: Tilt fine	

Scan type: THREE SIXTY 2

Short name: 360 2

Movement: Mirror - Brightness Master on Shutter

DMX channel order

1: Color 1	2: Gobo 1	3: Rotation 1
4: Shutter	5: Pan	6: Tilt
7: Prisma	8: Gobo 2	9: Pan fine
10: Tilt fine		

Manufacturer FLY

Scan type: FOS 3

Short name: FOS 3

Movement: Mirror - Brightness Master on Dimmer

DMX channel order

1: Zoom	2: Focus	3: Gobo 1
4: Shutter	5: Pan	6: Tilt
7: Dimmer	8: Prisma	9: AUX=Special
10: Cyan	11: Magenta	12: Yellow

Presets available

Scan type: FOS 4

Short name: FOS 4

Movement: Mirror - Brightness Master on Dimmer

DMX channel order

1: Iris	2: Rotation 1	3: Gobo 1
4: Shutter	5: Pan	6: Tilt
7: Dimmer	8: Prisma	9: AUX=Special
10: Cyan	11: Magenta	12: Yellow

Presets available

Scan type: PALETTE

Short name: PALETT

No movement - Brightness Master on Dimmer

DMX channel order

1: Dimmer	2: Focus	3: Cyan
4: Magenta	5: Yellow	

Manufacturer FUTURELIGHT

Scan type: MIRACLE

Short name: MIRACL

No movement - No Brightness Master

DMX channel order

1: Color 1	2: Rotation 1	3: Gobo 1
4: Gobo 2		

Scan type: CC-200

Short name: CC-200

No movement - Brightness Master on Dimmer

DMX channel order

1: Color 1	2: Color 2	3: Special
4: Dimmer		

Scan type: SC-330/370/ H-250

Short name: SC-H

Movement: Mirror - Brightness Master on Dimmer

DMX channel order

1: Pan	2: Tilt	3: Color 1
4: Gobo 1		

Scan type: PROMOTIOM SCAN

Short name: PROMOT

Movement: Mirror - Brightness Master on Shutter

DMX channel order

1: Pan	2: Tilt	3: Color 1
4: Gobo 1	5: Rotation 1	6: Shutter
7: Focus	8: Zoom	9: Speed 1
10: Pan fine	11: Tilt fine	

Presets available.

Scan type: GENESIS

Short name: GENES

Movement: Mirror - Brightness Master on Shutter

DMX channel order

1: Pan	2: Tilt	3: Color 1
4: Gobo1	5: Gobo 2	6: Iris
7: Shutter	8: Prisma	

Scan type: VOYAGER

Short name: VOYAG

Movement: Mirror - Brightness Master on Shutter

DMX channel order

1: Pan	2: Tilt	3: Color 1
4: Gobo 1	5: Rotation 1	6: Iris
7: Shutter	8: Prisma	

Presets available

Scan type: DUKE 1200

Short name: DUKE 12

Movement: Mirror - Brightness Master on Shutter

DMX channel order

1: Pan	2: Tilt	3: Color 1
4: Gobo1	5: Rotation 1	6: Iris
7: Shutter	8: Prisma	

Presets available

Scan type: ADVERT SCAN HR

Short name: ADVERT

Movement: Mirror - No Brightness Master

DMX channel order

1: Pan	2: Tilt	3: (not used)
4: Gobo 1	5: Rotation 1	6: Special
7: Focus	8: (not used)	9: Speed 1
10: Pan fine	11: Tilt fine	

Scan type: SC-250

Short name: SC-250

Movement: Mirror - Brightness Master on Shutter

DMX channel order

1: Pan	2: Tilt	3: Color 1
4: Gobo 1	5: Rotation 1	6: Shutter

Scan type: SC-530/570 HR

Short name: SC-530

Movement: Mirror - Brightness Master on Dimmer

DMX channel order

1: Pan	2: Tilt	3: Pan fine
4: Tilt fine	5: Spped 1	6: Special
7: Color 1	8: Gobo 1	9: Dimmer
10: Pr.-Rotation		

Scan type: SC-740 HR

Short name: SC-740

Movement: Mirror - Brightness Master on Dimmer

DMX channel order

1: Pan	2: Tilt	3: Pan fine
4: Tilt fine	5: Spped 1	6: Special
7: Color 1	8: Gobo 2	9: Dimmer
10: (no used)	11: Gobo 1	12: Rotation 1
13: Iris		

Scan type: SC-780 HR

Short name: SC-780

Movement: Mirror - Brightness Master on Dimmer

DMX channel order

1: Pan	2: Tilt	3: Pan fine
4: Tilt fine	5: Spped 1	6: Special
7: Color 1	8: Gobo 2	9: Prisma
10: Pr.-Rotation	11: Gobo 1	12: Rotation 1
13: Iris	14: Focus	15: Shutter
16: Dimmer		

Scan type: SC-940/980 HR

Short name: SC-940

Movement: Mirror - Brightness Master on Dimmer

DMX channel order

1: Pan	2: Tilt	3: Pan fine
4: Tilt fine	5: Spped 1	6: Special
7: Color 1	8: Color 2	9: Prisma
10: Gobo 2	11: Gobo 1	12: Rotation 1
13: Iris	14: Focus	15: Shutter
16: Dimmer		

Scan type: MH 640 WASHLIGHT

Short name: MH 640

Movement: Head - Brightness Master on Dimmer

DMX channel order

1: Pan	2: Tilt	3: Pan fine
4: Tilt fine	5: Speed 1	6: Special
7: Color 1	8: Cyan	9: Magenta
10: Yellow	11: Speed 2	12: Color 2
13: Prisma	14: (no used)	15: Shutter
16: Dimmer		

Scan type: MH 660 SPOT HR

Short name: MH 660

Movement: Head - Brightness Master on Dimmer

DMX channel order

1: Pan	2: Tilt	3: Pan fine
4: Tilt fine	5: Speed 1	6: Special
7: Color 1	8: (no used)	9: Prisma
10: Pr.-Rotation	11: Gobo 1	12: Rotation 1
13: (no used)	14: Focus	15: Shutter
16: Dimmer		

Scan type: MH 840 WASHLIGHT

Short name: MH 840

Movement: Head - Brightness Master on Dimmer

DMX channel order

1: Pan	2: Tilt	3: Pan fine
4: Tilt fine	5: Speed 1	6: Special
7: Color 1	8: Cyan	9: Magenta
10: Yellow	11: Speed 2	12: Color 2
13: Prisma	14: Zoom	15: Shutter
16: Dimmer		

Scan type: MH 860 SPOT

Short name: MH 860

Movement: Head - Brightness Master on Dimmer

DMX channel order

1: Pan	2: Tilt	3: Pan fine
4: Tilt fine	5: Speed 1	6: Special
7: Color 1	8: Color 2	9: Prisma
10: Gobo 1	11: Gobo 2	12: Rotation 1
13: Iris	14: Zoom	15: Shutter
16: Dimmer		

Manufacturer GENIUS

Scan type: OMEGA 2

Short name: OMEGA2

Movement: Head - Brightness Master on Dimmer

DMX channel order

1: Special	2: Color 1	3: Gobo 1
4: Shutter	5: Pan	6: Tilt
7: Dimmer	8: Prisma	9: Gobo 2
10: Rotation 2		

Manufacturer GLP

Scan type: MINI STAR TEC

Short name: M STAR

Movement: Mirror - Brightness Master on Shutter

DMX channel order

1: Pan	2: Tilt	3: Speed 1
4: Gobo 1	5: Rotation 1	6: Shutter

Scan type: MIGHTY SCAN

Short name: MIGHTY

Movement: Mirror - Brightness Master on Shutter

DMX channel order

1: Pan	2: Tilt	3: Speed 1
4: Color 1	5: Gobo 1	6: Shutter

Scan type: MAX

Short name: MAX

Movement: Head - Brightness Trigger on Shutter

DMX channel order

1: Pan	2: Tilt	3: Speed1=Pan
4: Speed2=Tilt	5: Rotation1	6: Color1
7: Gobo1	8: Shutter	

Scan type: STARTEC 2000 EXT9

Short name: STAR X

Movement: Mirror - Brightness Master on Shutter (Dimmer)

DMX channel order

1: Pan	2: Tilt	3: Color
4: Gobo 1	5: Shutter	6: Special
7: Speed	8: Rotation 1	9: Iris

Presets available

Scan type: STAR TEC 1200 12CH.

Short name: STAR12

Movement: Mirror - Brightness Master on Shutter

DMX channel order

1: Pan	2: Tilt	3: Pan fine
4: Tilt fine	5: Color 1	6: Gobo 1
7: Rotation 1	8: Iris	9: Prisma
10: Shutter	11: Focus	12: Special

Scan type: JOY 300

Short name: JOY

Movement: Mirror - Brightness Master on Dimmer

DMX channel order

1: Pan	2: Pan fine	3: Tilt
4: Tilt fine	5: Color 1	6: Gobo 1
7: Shutter	8: Dimmer	9: Rotation 1
10: Prisma	11: Special	

Scan type:PATENT 575 1=FINE

Short name: PATENT

Movement: Head - Brightness Master on Shutter

DMX channel order

1: Pan fine	2: Pan	3: Tilt fine
4: Tilt	5: Speed 1	6: Speed 2
7: Special	8: Color 1	9: Gobo 1
10: Shutter	11: Rotation 1	12: Iris
13: Focus		

Presets available

Scan type:PATENT 575 1=COARSE

Short name: PATENT

Movement: Head - Brightness Master on Shutter

DMX channel order

1: Pan	2: Pan fine	3: Tilt
4: Tilt fine	5: Speed 1	6: Speed 2
7: Special	8: Color 1	9: Gobo 1
10: Shutter	11: Rotation 1	12: Iris
13: Focus		

Presets available

Scan type:PATENT 1200 17CH.

Short name: PATE12

Movement: Head - Brightness Master on Dimmer

DMX channel order

1: Pan	2: Pan fine	3: Tilt
4: Tilt fine	5: Speed 1	6: Speed 2
7: Special	8: Color 1	9: Gobo 1
10: Shutter	11: Rotation 1	12: Iris
13: Focus	14: Gobo 2	15: Rotation 2
16: Prisma	17: Dimmer	

Presets available

Manufacturer GRIVEN

Scan type: CRUISER

Short name: CRUISE

Movement: Mirror -Brightness Master on Focus

DMX channel order

1: Cyan	2: Magentat	3: Yellow
4: Prism	5: Color 1	6: Color 2
7: Pan	8: Tilt	9: Gobo 1
10: Focus	11: Zoom	

Manufacturer HIGH END

Scan type: TRACKSPOT

Short name: TRACK

Movement: Mirror - Brightness Master on Dimmer

DMX channel order

1: Pan	2: Tilt	3: Color 1
4: Gobo 1	5: Shutter	6: Dimmer
7: Speed1		

Presets available.

Scan type: TECHNOBEAM

Short name: Techno

Movement: Mirror - Brightness Master on Dimmer

DMX channel order

1: Pan	2: Pan fine
3: Tilt	4: Tilt fine
5: Color 2 (Color Function 1)	6: Color 1
7: Gobo 2 (LithoFunction)	8: Gobo 1
9: Rot. 1 (gobo coarse)	10: Rot. 2(gobo fine)
11: Prism	12: Effect Ro t(Rot-prism)
13: Focus	14: Shutter
15: Dimmer	16: Speed 1 (Mspeed)
17: Speed 2 (laser)	18: Special (control)

Presets available.

Scan type: TECHNOBEAM IRIS

Short name: TEC IR

Movement: Mirror - Brightness Master on Dimmer

DMX channel order

1: Pan	2: Pan fine
3: Tilt	4: Tilt fine
5: Color 2 (Color Function 1)	6: Color 1
7: Gobo 2 (LithoFunction)	8: Gobo 1
9: Rot. 1 (gobo coarse)	10: Iris
11: Prism	12: Effect Rot (Rot-prism)
13: Focus	14: Shutter
15: Dimmer	16: Speed 1 (Mspeed)
17: Speed 2 (laser)	18: Special (control)

Presets available.

Scan type: INTELLABEAM 8 CH

Short name: I BEAM

Movement: Mirror - Brightness Master on Dimmer

DMX channel order

1: Pan	2: Tilt	3: Color 1
4: Gobo 1	5: Shutter	6: Dimmer
7: Iris	8: Speed	

Presets available.

Scan type: INTELLABEAM 13 CH

Short name: I BEAM

Movement: Mirror - Brightness Master on Dimmer

DMX channel order

1: Pan	2: Pan fine	3: Tilt
4: Tilt fine	5: Color 1	6: Color 2
7: Gobo 1	8: Gobo 2	9: Shutter
10: Dimmer	11: Iris	12: Speed
13: Home=Special		

Presets available.

Scan type: CYBERLIGHT CX MODE3

Short name: CYBERX

Movement: Mirror - Brightness Master on Dimmer

DMX channel order

1: Pan	2: Pan fine	3: Tilt
4: Tilt fine	5: Color 1	6: Gobo 1
7: Gobo 2	8: Rotation 1	9: Focus
10: Iris	11: Prism	12: Shutter
13: Dimmer	14: Speed	15: Control=Special

Presets available. Set Cyberlight to Mode 3.

Scan type: CYBERLIGHT MODE2 20

Short name: CYBER

Movement: Mirror - Brightness Master on Dimmer

DMX channel order

1: Pan	2: Pan fine	3: Tilt
4: Tilt fine	5: Color 1	6: Cyan
7: Magenta	8: Yellow	9: Gobo 1
10: Gobo 2	11: Rotation 1	12: Zoom
13: Focus	14: Iris	15: Prism
16: Frost	17: Shutter	18: Dimmer
19: Speed 1	20: Contol=Special	

Presets available. Set Cyberlight to Mode 2.

See special issue at the end of the manual.

Scan type: STUDIO COLOR

Short name: ST COL

Movement: Head - Brightness Master on Dimmer

DMX channel order

1: Pan	2: Pan fine	3: Tilt
4: Tilt fine	5: Color-function=Color 2	
6: Color 1	7: Cyan	8: Magenta
9: Yellow	10: Zoom	11: Frost
12: Shutter	13: Dimmer	14: Speed
15: Control=Special	16: Checksum=0 (fix)	

Presets available.

Scan type: STUDIO COLOR 250

Short name: ST CO2

Movement: Head - Brightness Master on Dimmer

DMX channel order

1: Pan	2: Pan fine	3: Tilt
4: Tilt fine	5: Color-function=Color 2	
6: Cyan	7: Magenta	8: Yellow
9: Zoom	10: Focus	11: Shutter
12: Dimmer	13: Speed 1	14: Speed 2
15: Control=Special		

Presets available.

Scan type: STUDIO SPOT 5A

Short name: ST SPO

Movement: Head - Brightness Master on Dimmer

DMX channel order

1: Pan	2: Pan fine	3: Tilt
4: Tilt fine1	5: Cyan	6: Color1
7: Magenta	8: Color 2	9: Yellow
10: Gobo1	11: Rotation Gob 1	12: Zoom
13: Prism	14: Gobo 2	15: Rotation Gob 2
16: Rotation Prism	17: Frost	18: Focus
19: Iris	20:Shutter	21: Dimmer
22: Speed 1	23: Speed 2	24: Special

Presets available.

Scan type: STUDIO SPOT CMY

Short name: ST CMY

Movement: Head - Brightness Master on Dimmer

DMX channel order

1: Pan	2: Pan fine	3: Tilt
4: Tilt fine1	5: Color 1	6: Cyan
7: Magenta	8: Yellow	9: Color 2
10: Gobo1	11: Rotation Gob 1	12: Zoom
13: Prism	14: Gobo 2	15: Rotation Gob 2
16: Ro.Prism = Gobo 2 fine		17: Frost
18: Focus	19: Iris	20:Shutter
21: Dimmer	22: Speed 1	23: Speed 2
24: Special		

Presets available.

Scan type: STUDIO BEAM PC V1.0

Short name: ST BEA

Movement: Head - Brightness Master on Dimmer

DMX channel order

1: Pan	2: Pan fine	3: Tilt
4: Tilt fine1	5: Color 1	6: Cyan
7: Magenta	8: Yellow	9: Rotation 1
10: Zoom	11: Frost	12: Shutter
13: Dimmer	14: Speed 1	15: Speed 2
16: Special		

Presets available.

Scan type: STUDIO SPOT 250

Short name: ST SP2

Movement: Head - Brightness Master on Dimmer

DMX channel order

1: Pan	2: Pan fine	3: Tilt
4: Tilt fine1	5: Color 2	6: Color 1
7: Gobo 2	8: Gobo 1	9: Rotation 1
10: Prisma	11: Pr.-Rotation	12: Focus
13: Iris	14: Shutter	15: Dimmer
16: Speed 1	17: Speed 2	18: Special

Presets available.

Scan type: TECHNOPRO 12CH.

Short name: TECHPR

No Movement - Brightness Master on Dimmer

DMX channel order

1: Rotation1(color1)		2:Color1
3: Rotation2(color2)		4: Color2
5: Prism	6: Rotation3(prism)	
7: Focus	8: Shutter	9: Dimmer
10: Speed1(motor)	11: Speed2(laser)	12: Special

Scan type: TRACKSPOT MAINLIGHT

Short name: TRAC M

No Movement - Brightness Master on Dimmer

DMX channel order

1: Color 1	2: Gobo 1	3: Shutter
4: Dimmer	5: Speed 1	

Scan type: TECHNORAY HR 14 CH.

Short name: TECHRA

No Movement - Brightness Master on Dimmer

DMX channel order

1: Color 2	2: Color 1	3: Gobo 2
4: Gobo 1	5: Rotation 1	6: Rotation 2
7: Prisma	8: Pr.-Rotation	9: Focus
10: Shutter	11: Dimmer	12: Speed 1
13: Speed 2	14: Special	

Scan type: DATAFLASH

Short name: DATAFL

No Movement - Brightness Master on Dimmer

DMX channel order

1: Dimmer	2: Prisma	3: Shutter

Manufacturer JB

Scan type: VARYSCAN SYSTEM 1 Protocol: Analogue

Short name: VS 1

Movement: Mirror - No Brightness Master

DMX channel order

1: Pan	2: Tilt	3: Gobo 1
4: Color 1		

Scan type: VARYSCAN 3 SPEC+ 6C

Short name: VS3SP6

Movement: Mirror - Brightness Master on Dimmer

DMX channel order

1: Pan	2: Tilt	3: Gobo 1
4: Color 1	5: Dimmer	6: Rotation 1

Scan type: VARYSCAN 3 SPECIALP

Short name: VS3SP8

Movement: Mirror - Brightness Master on Dimmer

DMX channel order

1: Pan	2: Tilt	3: Gobo 1
4: Color 1	5: Dimmer	6: Speed1
7: Rotation 1	8: Prism	

Scan type: VARYSCAN III 700

Short name: VS3700

Movement: Mirror - Brightness Master on Dimmer /Shutter

DMX channel order

1: Pan	2: Tilt	3: Gobo 1
4: Color 1	5: Shutter	6: Iris
7: Dimmer	8: Focus	9: Rotation 1
10: Prism	11: Magenta	12: Yellow
13: Cyan		

Presets available

Scan type: VARYSCAN IV 1200

Short name: VS 4

Movement: Mirror - Brightness Master on Shutter

DMX channel order

1: Pan	2: Tilt	3: Gobo 1
4: Color 1	5: Shutter	6: Iris
7: Rotation 1	8: Prisma	

Presets available

Scan type: VARYSCAN IV 1200 EV

Short name: VS 4EV

Movement: Mirror - Brightness Master on Shutter

DMX channel order

1: Pan	2: Tilt	3: Gobo 1
4: Color 1	5: Shutter	6: Iris
7: Rotation 1	8: Prisma	9: Gobo 2
10: Pan fine	11: Tilt fine	

Presets available

Scan type: VARYSCAN 5 MV

Short name: VS5 MV

Movement: Mirror - Brightness Master on Shutter

DMX channel order

1: Pan	2: Pan fine	3: Tilt
4: Tilt fine	5: Color 2	6: Color 1
7: Shutter	8: Focus	9: Iris
10: Zoom	11: Speed 1	12: Gobo 1
13: Rotation 2	14: Gobo 2	15: Gobo 2
16: Rotation 1	17: Prism	18: Rotation3(prism)
19: Frost	20: Cyan	21: Yellow
22: Magenta		

Scan type: VARYSCAN 6 SPOT

Short name: VS6 SP

Movement: Head - Brightness Master on Dimmer

DMX channel order

1: Pan	2: Tilt	3: Gobo 1
4: Color 1	5: Dimmer	6: Iris
7: Rotation 1	8: Prisma	9: Focus
10: Shutter	11: Pan fine	12: Tilt fine

Scan type: VARYSCAN 6 WASH

Short name: VS6 WA

Movement: Head - Brightness Master on Dimmer

DMX channel order

1: Pan	2: Tilt	3: Cyan
4: Magenta	5: Yellow	6: Iris
7: Dimmer	8: Shutter	9: Special
10: (no used)	11: Pan fine	12: Tilt fine

Scan type: VARYCOLOR 2000

Short name: VCOLOR

Movement: Mirror - Brightness Master on Shutter

DMX channel order

1: Special	2: Fixed=0	3: Gobo 1
4: Color 1	5: Shutter	6: Prism

Manufacturer LAMPO

Scan type: SINTESI+SUPER

Short name: SINTES

Movement: Mirror - Brightness Master on Iris

DMX channel order

1: Iris	2: Pan	3: Tilt
4: Color 1	5: Gobo 1	6: Shutter

Presets available

Scan type: COLUMBUS

Short name: COLUMB

Movement: Mirror - Brightness Master on Iris

DMX channel order

1: Iris	2: Pan	3: Tilt
4: Color 1	5: Gobo 2	6: Shutter
7: Rotation 1	8: Focus	9: Gobo 1
10: Prism		

Manufacturer LICHT TECHNIK

Scan type: MOTOR YOKE 330,300

Short name: M YOKE

Movement: Head - Brightness Master on Dimmer

DMX channel order

1: Pan	2: Pan fine	3: Tilt
4: Tilt fine	5: Speed 1(Pan)	6: Speed 2(Tilt)
7: Focus	8: Color 1	9: Color2=Speed
10: Prism(Ventilator)		11: Dimmer
12: Shutter(Speed)	13: Cyan=Flap Rot.	14: Magenta=Flap1
15: Yellow=Flap2	16: Gobo 1=Flap3	17: Gobo 2=Flap4

Manufacturer LITEBEAM

Scan type: SWING

Short name: SWING1

Movement: Mirror - Brightness Master on Dimmer

DMX channel order

1: Dimmer	2: Color 1	3: Gobo 1
4: Shutter	5: Pan	6: Tilt

Scan type: SWING II

Short name: SWING2

Movement: Mirror - Brightness Master on Dimmer

DMX channel order

1: Iris	2: Color 1	3: Gobo 1
4: Shutter	5: Pan	6: Tilt
7: Dimmer	8: Rotation 1	9: Focus
10: Color 2	11: Gobo 2	12: Rotation 2

Presets available.

Scan type: CHANDRA I

Short name: CHAN 1

Movement: Head - Brightness Master on Dimmer

DMX channel order

1: Dimmer	2: Color 1	3: Gobo 1
4: Shutter	5: Pan	6: Tilt
7: Rotation		

Scan type: CHANDRA II

Short name: CHAN 2

Movement: Head - Brightness Master on Dimmer

DMX channel order

1: Iris	2: Color 1	3: Gobo 1
4: Shutter	5: Pan	6: Tilt
7: Dimmer	8: G.Swing=Rot. 1	9: Focus
10: Rotation 3	11: Gobo 2	12: G.Rot=Rotation 2

Scan type: SWING II 16 BITS

Short name: SWING2

Movement: Mirror - Brightness Master on Dimmer

DMX channel order

1: Iris	2: Color 1	3: Gobo 1
4: Shutter	5: Pan coarse	6: Pan fine
7: Tilt coarse	8: Tilt fine	9: Dimmer
10: G.Swing=Rot. 1	11: Focus	12: Color 2
13: Gobo 2	14: G.Rot.=Rotation 2	

Presets available.

Scan type: CHANDRA II 16 BITS

Short name: CHAN 2

Movement: Mirror - Brightness Master on Dimmer

DMX channel order

1: Iris	2: Color 1	3: Gobo 1
4: Shutter	5: Pan coarse	6: Pan fine
7: Tilt coarse	8: Tilt fine	9: Dimmer
10: G.Swing=Rot. 1	11: Focus	12: Rotation 3
13: Gobo 2	14: Rotation 2	

Manufacturer LYTE QUEST

Scan type: MOTORHEAD

Short name: MOTORH

Movement: Mirror - Brightness Master on Dimmer

DMX channel order

1: Pan	2: Tilt	3: Color 1
4: Gobo 1	5: Dimmer	

Manufacturer MAD LIGHTING

Scan type: QSCAN

Short name: CSCAN

Movement: Mirror - Brightness Master on Dimmer

DMX channel order

1: Pan	2: Tilt	3: Gobo 1
4: Color 1	5: Dimmer	

Scan type: SCAN 611

Short name: SCAN61

Movement: Mirror - Brightness Master on Dimmer

DMX channel order

1: Pan	2: Tilt	3: Gobo 1
4: Color 1	5: Dimmer	6: Rotation

Manufacturer MARTIN

Scan type: ROBOSCAN 804/805/1004/16

Short name: R 805

Movement: Mirror - No Brightness Master

DMX channel order

1: Shutter	2: Color	3: Gobo 1
4: Pan	5: Tilt	

Presets available.

Scan type: PRO 218 M2

Short name: PRO218

Movement: Mirror - Brightness Master on Dimmer

DMX channel order

1: Shutter	2: Dimmer	3: Color 1
4: Gobo 1	5: Pan	6: Tilt
7: Speed		

Presets available

Scan type: PRO 218 Mode3 High Res.

Short name: PRO218

Movement: Mirror - Brightness Master on Dimmer

DMX channel order

1: Shutter	2: Dimmer	3: Color 1
4: Gobo 1	5: Pan coarse	6: Pan fine
7: Tilt coarse	8: Tilt fine	

Presets available

Scan type: PRO 518

Short name: PRO518

Movement: Mirror - Brightness Master on Dimmer

DMX channel order

1: Shutter	2: Dimmer	3: Color 1
4: Gobo 1	5: Prism	6: Pan
7: Tilt	8: Speed 1	9: Speed 2

Presets available.

Scan type: PRO 518 H.Res Mode 3

Short name: PRO518

Movement: Mirror - Brightness Master on Dimmer

DMX channel order

1: Shutter	2: Dimmer	3: Color 1
4: Gobo 1	5: Prism	6: Pan
7: Pan fine	8: Tilt	9: Tilt fine

Presets available.

Scan type: PRO 812

Short name: PRO812

Movement: Mirror - Brightness Master on Shutter

DMX channel order

1: Shutter	2: Color 1	3: Gobo 1
4: Pan	5: Tilt	6: Speed 1
7: Speed 2		

Presets available.

Scan type: PRO 918 MODE 4

Short name: PRO918

Movement: Mirror - Brightness Master on Dimmer

DMX channel order

1: Shutter	2: Dimmer	3: Color 1
4: Color 2	5: Gobo 1	6: Rotation 1
7: Gobo 2	8: Focus	9: Iris
10: Prisma	11: Pan	12: Pan fine
13: Tilt	14: Tilt fine	15: Speed 1
16: Speed 2		

Scan type: R 1020

Short name: R 1020

Movement: Mirror - Brightness Master on Dimmer

DMX channel order

1: Shutter	2: Dimmer	3: Color 1
4: Color 2	5: Gobo 1	6: Gobo 2
7: Focus	8: Iris	9: Prism
10: Pan	11: Tilt	12: Speed 1

Presets available.

Scan type: R 1220

Short name: R 1220

Movement: Mirror - Brightness Master on Dimmer

DMX channel order

1: Shutter	2: Dimmer	3: Color 1
4: Color 2	5: Gobo 1	6: Gobo 2
7: Focus	8: Iris	9: Prism
10: Pan	11: Tilt	12: (M-)Speed 1
13: (C-)Speed 2	14: G-Speed=Special	
15: Rotation 3	16: Gobo Index + Rotation=Rotation 1	

Presets available.

Scan type: IMAGE SCAN MODE 2

Short name: IMAGE

Movement: Mirror - Brightness Master on Dimmer

DMX channel order

1: Shutter	2: Focus	3: Rotation 1
4: Rotation 2	5: Pan	6: Pan fine
7: Tilt	8: Tilt fine	9: Speed 1

Scan type: R 1220 BETA

Short name: R 1220

Movement: Mirror - Brightness Master on Dimmer

DMX channel order

1: Shutter	2: Dimmer	3: Color 1
4: Color 2	5: Gobo 1	6: Gobo 2
7: Focus	8: Iris	9: Prism
10: Pan coarse	11: Pan fine	12: Tilt coarse
13: Tilt fine		

Presets available.

Scan type: R 1220 XR Mode 3

Short name: 1220XR

Movement: Mirror - Brightness Master on Dimmer

DMX channel order

1: Shutter	2: Dimmer	3: Color 1
4: Gobo 1	5: Gobo 2	6: Rotation 1
7: Focus	8: Iris	9: Prism
10: Pan	11: Tilt	12: Speed 1
13: Speed 2		

Presets available.

Scan type: R 1220 CMY M1

Short name: 1220 C

Movement: Mirror - Brightness Master on Dimmer

DMX channel order

1: Shutter	2: Dimmer	3: Color 1
4: Color 2	5: Cyan	6: Magenta
7: Yellow	8: Gobo 1	9: Gobo 2
10: Rotation 1	11: Focus	12: Iris
13: Prisma	14: Pan	15: Tilt

Presets available.

Scan type: R 1220 CMY M2

Short name: 1220 C

Movement: Mirror - Brightness Master on Dimmer

DMX channel order

1: Shutter	2: Dimmer	3: Color 1
4: Color 2	5: Cyan	6: Magenta
7: Yellow	8: Gobo 1	9: Gobo 2
10: Rotation 1	11: Focus	12: Iris
13: Prism	14: Pan coarse	15: Pan fine
16: Tilt coarse	17: Tilt fine	

Presets available.

Scan type: R 1220 CMY M3

Short name: 1220 C

Movement: Mirror - Brightness Master on Dimmer

DMX channel order

1: Shutter	2: Dimmer	3: Color 1
4: Color 2	5: Cyan	6: Magenta
7: Yellow	8: Gobo 1	9: Gobo 2
10: Rotation 1	11: Focus	12: Iris
13: Prisma	14: Pan	15: Tilt
16: Speed 1	17: Speed 2	

Presets available.

Scan type: R 1220 RPR M4

Short name: 1220 RP

Movement: Mirror - Brightness Master on Dimmer

DMX channel order

1: Shutter	2: Dimmer	3: Color 1
4: Color 2	5: Gobo 1	6: Gobo 2
7: Rotation 1	8: Focus	9: Iris
10: Prism	11: Prism Rotation	12: Pan coarse
13: Pan fine	14: Tilt coarse	15: Tilt fine
16: (M-)Speed 1	17: (D+C) Speed 2	

Scan type: PAL 1200 DMX+8 Mode 4

Short name: PAL

Movement: Mirror - Brightness Master on Dimmer

DMX channel order

1-8: Patch Beam Sharper 1a-4b as EXTRA channels

9: Rotation3(B.S)	10: Shutter	11: Dimmer
12: Cyan	13: Magenta	14: Yellow
15: Color 1	16: Gobo 1	17: Rotation
1(gobo)	18: Focus	19: Zoom 20:
Frost		
21: Pan coarse	22: Pan fine	23: Tilt coarse
24: Tilt fine	25: Speed 1	26: Speed 2

Presets available. Patch first 8 channels as EXTRA and set DMX address at Scancommander to lamp address +8. Mode 4 with SPEC ->dPr2 set to ON.

Scan type: PAL 1200 DMX+6 Mode 4 Protocol: DMX 512

Short name: PAL

Movement: Mirror - Brightness Master on Dimmer

DMX channel order

1-6: Patch Beam Sharper 1a-3b as EXTRA channels

7: Rot.2=B.S. 4a	8: Rot.3=B.S.4b	9:
Special=B.S.Rot.		
10: Shutter	11: Dimmer	12: Cyan
13: Magenta	14: Yellow	15: Color 1
16: Gobo 1	17: Rotation 1	18: Focus
19: Zoom	20: Frost	21: Pan coarse
22: Pan fine	23: Tilt coarse	24: Tilt fine
25: Speed 1	26: Speed 2	

Presets available. Patch first 6 channels as EXTRA and set DMX address at Scancommander to lamp address +6. Mode 4 with SPEC ->dPr2 set to ON.

Scan type: PAL 1200 DISCO Mode 4

Short name: PAL DI

Movement: Mirror - Brightness Master on Dimmer

DMX channel order

1: Shutter	2: Dimmer	3: Cyan
4: Magenta	5: Yellow	6: Color 1
7: Gobo 1	8: Rotation 1	9: Prism
10: Prism-Rot.	11: Focus	12: Zoom
13: Iris	14: Frost	15 Pan coarse
16: Pan fine	17: Tilt coarse	18: Tilt fine
19: Speed 1	20: Speed 2	

Presets available.

Scan type: MAC 2000 PROFILE

Short name: MA2000

Movement: Head - Brightness Master on Dimmer

DMX channel order

1: Shutter	2: Dimmer	3: Cyan
4: Magenta	5: Yellow	6: Color 2
7: Color 1	8: Gobo 1	9: Rotation 1
10: Special = **Gobo 1 Rotation fine**		11:Gobo 2
12: Rotation 2	13: Frost = **Gobo 2 Rotation fine**	
14: Prisma	15 Pr.-Rotation	16: Iris
17: Focus	18: Zoom	19: Pan
20: Pan fine	21: Tilt	22: Tilt fine
23: Speed 1	24: Speed 2	

Presets available.

Scan type: MAC 1200 Mode 4

Short name: MAC 12

Movement Head - Brightness Master on Dimmer

DMX channel order

1: Shutter	2: Dimmer	3: Cyan
4: Magenta	5: Yellow	6: Color 1
7: Gobo 1	8: Frost	9: Pan coarse
10: Pan fine	11: Tilt coarse	12: Tilt fine
13: Speed 1	14: Speed 2	

Presets available

Scan type: MAC 600 Mode 4

Short name: MAC600

Movement Head - Brightness Master on Dimmer

DMX channel order

1: Shutter	2: Dimmer	3: Cyan
4: Magenta	5: Yellow	6: Color 1
7: Beam sharper 1 = Gobo 1		
8: Beam sharper 2 = Gobo 2		9: Pan coarse
10: Pan fine	11: Tilt coarse	12: Tilt fine
13: Speed 1	14: Speed 2	

Presets available

Scan type: MAC 600 NT Mode 4

Short name: M600NT

Movement Head - Brightness Master on Dimmer

DMX channel order

1: Shutter	2: Dimmer	3: Cyan
4: Magenta	5: Yellow	6: Color 2
7: Color 1	8: Special	9: Frost
10: Pan	11: Pan fine	12: Tilt
13: Tilt fine	14: Speed 1	15: Speed 2

Presets available

Scan type: MAC 500 Mode 4

Short name: MAC500

Movement Head - Brightness Master on Dimmer

DMX channel order

1: Shutter	2: Dimmer	3: Color1
4: Color2	5: Gobo1	6: Rotation1(gobo)
7: Gobo2	8: Focus	9: Iris
10: Prism	11: Pan	12: Pan fine
13: Tilt	14: Tilt fine	15: Speed 1
14: Speed 2		

Presets available

Scan type: MAC 300 Mode 4

Short name: MAC300

Movement Head - Brightness Master on Dimmer

DMX channel order

1: Shutter	2: Dimmer	3: Cyan
4: Magenta	5: Yellow	6: Color 1
7: Frost	8: Pan	9: Pan fine
10: Tilt	11: Tilt fine	12: Speed 1
13: Speed 2		

Presets available

Scan type: MAC 250 Mode 4

Short name: MAC250

Movement Head - Brightness Master on Dimmer

DMX channel order

1: Shutter	2: Dimmer	3: Color1
4: Gobo1	5: Rotation1(gobo)	6: Focus
7: Prism	8: Pan	9: Pan fine
10: Tilt	11: Tilt fine	12: Speed 1
13: Speed 2		

Presets available

Scan type: MINI MAC PR M4

Short name: MIMACP

Movement Head - Brightness Master on Shutter

DMX channel order

1: Shutter	2: Color 1	3: Gobo 1
4: Rotation 1	5: Pan	6: Pan fine
7: Tilt	8: Tilt fine	9: Speed 1
10: Speed 2		

Presets available

Scan type: MINI MAC WASH M4

Short name: MIMACP

Movement Head - Brightness Master on Shutter

DMX channel order

1: Shutter	2: Color 1	3: Pan
4: Pan fine	5: Tilt	6: Tilt fine
7: Speed 1	8: Speed 2	

Presets available

Scan type: MX-1

Short name: MX-1

Movement Head - Brightness Master on Dimmer

DMX channel order

1: Dimmer	2: (no used)	3: Color 1
4: Pan	5: Tilt	6: Speed 1

Scan type: ROBOCOLOR MSD

Short name: MSD

No Movement: - Brightness Master on Dimmer

DMX channel order

1: Shutter	2: Dimmer	3: Color 1
4: Color 2		

Presets available

Scan type: ROBOCOLOR PRO 400 5

Short name: ROBCOP

No Movement: - Brightness Master on Dimmer

DMX channel order

1: Shutter	2: Dimmer	3: Color 1
4: Color 2	5: Gobo 1	

Scan type: ROBOCOLOR PRO 400 7

Short name: ROBCOP

No Movement: - Brightness Master on Dimmer

DMX channel order

1: Shutter	2: Dimmer	3: Color 1
4: Color 2	5: Gobo 1	6: (C-)Speed 1
7: (D-)Speed 2		

Scan type: ROBOCOLOR

No Movement: - No Brightness Master

DMX channel order

1: Shutter	2: C. H1=Color 1	3: C. H2=Color 2
4: C.H3=Gobo 1	5: C.H4=Gobo 22	6: Speed

Scan type: ROBOZAP

Short name: ZAP

No Movement: - No Brightness Master

DMX channel order

1: Shutter	2: Color 1	3: Color 2
4: Rotation		

Scan type: ROBOZAPMSR

Short name: ZAPMSR

No Movement: - No Brightness Master

DMX channel order

1: Shutter	2: Color 1	3: Color 2
4: Gobo 1	5: Gobo 2	6: Rotation 1

Scan type: CENTREPIECE H3+4=GO

Short name: CENTRE

No Movement: - No Brightness Master

DMX channel order

1: Shutter	2: Tilt 1=Pan	3: Tilt 2=Tilt
4: Tilt 3=Gobo 1	5: Tilt 4=Gobo 2	6: Color 1
7: Rotation 1		

Manufacturer MORPHEUS

Scan type: PANA BEAM

Short name: PANA

Movement: Mirror - Brightness Master on Dimmer

DMX channel order

1: Pan	2: Tilt	3: Color 1
4: Dimmer		

Scan type: COLOUR FADER+DIMMER

Short name: CFADE+

No Movement - Brightness Master on Dimmer

DMX channel order

1: Yellow	2: Magenta	3: Cyan
4: Dimmer		

Manufacturer MOVITEC

Scan type: WL-250 WASHLIGHT

Short name: WL250

Movement: Head - Brightness Master on Dimmer

DMX channel order

1: Pan	2: Pan fine	3: Tilt
4: Tilt fine	5: Speed 1	6: Special
7: Color 1	8: Cyan	9: Magenta
10: Yellow	11: Speed 2	12: Color 2
13: Prisma	14: (no used)	15: Shutter
16: Dimmer		

Scan type: SL-250 SPOTLIGHT

Short name: SL-250

Movement: Head - Brightness Master on Dimmer

DMX channel order

1: Pan	2: Pan fine	3: Tilt
4: Tilt fine	5: Speed 1	6: Special
7: Color 1	8: (no used)	9: Prisma
10: Pr.-Rotation	11: Gobo 1	12: Rotation 1
13: (no used)	14: Focus	15: Shutter
16: Dimmer		

Scan type: WL-575 WASHLIGHT

Short name: WL-575

Movement: Head - Brightness Master on Dimmer

DMX channel order

1: Pan	2: Pan fine	3: Tilt
4: Tilt fine	5: Speed 1	6: Special
7: Color 1	8: Cyan	9: Magenta
10: Yellow	11: Speed 2	12: Color 2
13: Prisma	14: (no used)	15: Shutter
16: Dimmer		

Scan type: SL-575 SPOTLIGHT

Short name: SL-575

Movement: Head - Brightness Master on Dimmer

DMX channel order

1: Pan	2: Pan fine	3: Tilt
4: Tilt fine	5: Speed 1	6: Special
7: Color 1	8: (no used)	9: Prisma
10: Rotation 3	11: Gobo 1	12: Rotation 1
13: (no used)	14: Focus	15: Shutter
16: Dimmer		

Manufacturer OBIES

Scan type: XESCAN

Short name: SESCAN

Movement: Mirror - Brightness Master on Dimmer

DMX channel order

1: Speed 1	2: Pan	3: Pan fine
4: Tilt	5: Tilt fine	6: Dimmer
7: Shutter	8: Zoom	9: Color 1
10: Special		

Manufacturer OMICRON

Scan type: LASERAGE BASIC

Short name: LASERA

Movement: Mirror - No Brightness Master

DMX channel order

1: Function=Gobo 1	2: Graphic=Gobo2
3: Scanspeed=Shutter	4: Clipping=Iris
5: Magenta	6: Yellow
7: Cyan	8: Colormode=Color 1
9: Pan	10: Tilt
11: Clones=Prism	12: Size=Zoom
13: Z-Position=Focus	14: X-Rot.=Speed 1
15: Y-Rot.=Speed 2	16: Z- Rot.=Special

Manufacturer OPTIKNET

Scan type: SOLAR SYSTEM

Short name: SOLAR

No Movement - Brightness Master on Dimmer

DMX channel order

1: Gobo 1	2: Prisma	3: Rotation 1
4: Gobo 2	5: Speed 1	6: Rotation 2
7: Dimmer		

Manufacturer SAGITTER

Scan type: PRINCE

Short name: PRINCE

Movement: Mirror - Brightness Master on Shutter

DMX channel order

1: Pan	2: Tilt	3: Color 1
4: Gobo 1	5: Shutter	6: Special

Presets available

Scan type:SUPER PRINCE TEMPLATE

Short name: PRINCT

Movement: Mirror - Brightness Master on Dimmer

DMX channel order

1: Color 1	2: Gobo 1	3: Rotation 1
4: Prisma	5: Iris	6: Dimmer
7: Shutter	8: Special	9: Pan
10: Tilt		

Presets available

Scan type: INFINITY 12 CH.

Short name: INFINI

Movement: Mirror - Brightness Master on Dimmer

DMX channel order

1: Color 1	2: Gobo 1	3: Gobo 2
4: Rotation 1	5: Iris	6: Focus
7: Shutter	8: Control=Special	9: Pan coarse
10: Tilt coarse	11: Pan fine	12: Tilt fine

Presets available

Scan type: INFINITY ZOOM 14 CH.

Short name: INFINI

Movement: Mirror - Brightness Master on Dimmer

DMX channel order

1: Color 1	2: Gobo 1	3: Gobo 2
4: Rotation 1	5: Frost	6: Iris
7: Zoom	8: Dimmerl	9: Shutter
10: Special	11: Pan coarse	12: Tilt coarse
13: Pan fine	14:Tilt fine	

Presets available

Scan type: INFINITY CLUB 1200

Short name: INFI C

Movement: Mirror - Brightness Master on Dimmer

DMX channel order

1: Color1	2: Gobo1	3: Rotation1(gobo)
4: Prism	5: Rotation3(prism)	6: Dimmer
7: Shutter	8: Special	9: Pan
10: Tilt	11: Pan fine	12: Tilt fine

Scan type: INFINITY LIVE 20 CH.

Short name: INFINI

Movement: Mirror - Brightness Master on Dimmer

DMX channel order

1: Dimmer	2: Shutter	3: Iris
4: Zoom	5: Focus	6: Gobo 2
7: Gobo 1	8: Rotation 1	9: Prism
10: Prism Rot.l	11: Frost	12: Color 1
13: Cyan	14: Yellow	15: Magenta
16: Special	17: Pan coarse	18: Tilt coarse
19: Pan fine	20: Tilt fine	

Presets available

Scan type: TRACER

Short name: TRACER

No movement - Brightness Master on Shutter (Dimmer)

DMX channel order

1: Color 1	2: Color 2	3: Iris
4: Shutter/Dimmer	5: Focus	

Presets available

Scan type: MASK COLOR ZOOM

Short name: MASK C

No Movement - Brightness Master on Dimmer

DMX channel order

1: Cyan	2: Yellow	3: Magenta
4: Frost	5: Iris	6: Zoom
7: Focus	8: Special	9: Shutter
10: Dimmer		

Scan type: PRINCE Dimmer Invers

Short name: PRINCE

Movement: Mirror - Brightness Master on Dimmer

DMX channel order

1: Pan	2: Tilt	3: Color 1
4: Gobo 1	5: Shutter	6: Dimmer

For PRINCE SCAN LIGHT set Dimmer 0

Scan type: PRINCE Dimmer v1

Short name: PRINCE1

Movement: Mirror - Brightness Master on Dimmer

DMX channel order

1: Pan	2: Tilt	3: Color 1
4: Gobo 1	5: Shutter	6: Dimmer

Presets available

Scan type: MOVING SPOT 250

Short name: MS-250

Movement: Head - Brightness Master on Dimmer

DMX channel order

1: Pan	2: Tilt	3: Pan fine
4: Tilt fine	5: Speed 1	6: Special
7: Color 1	8: (no used)	9: Prisma
10: Pr.-Rotation	11: Gobo 1	12: Rotation 1
13: (no used)	14: Focus	15: Shutter
16: Dimmer		

Scan type: MOVING WASH 250

Short name: MH 640

Movement: Head - Brightness Master on Dimmer

DMX channel order

1: Pan	2: Tilt	3: Pan fine
4: Tilt fine	5: Speed 1	6: Special
7: Color 1	8: Cyan	9: Magenta
10: Yellow	11: Speed 2	12: Color 2
13: Prisma	14: (no used)	15: Shutter
16: Dimmer		

Scan type: MOVING SPOT 575

Short name: MS-575

Movement: Head - Brightness Master on Dimmer

DMX channel order

1: Pan	2: Tilt	3: Pan fine
4: Tilt fine	5: Speed 1	6: Special
7: Color 1	8: Color 2	9: Prisma
10: Gobo 1	11: Rotation 1	12: Rotation 2
13: Iris	14: Focus	15: Shutter
16: Dimmer		

Scan type: MOVING WASH 575

Short name: MW-575

Movement: Head - Brightness Master on Dimmer

DMX channel order

1: Pan	2: Tilt	3: Pan fine
4: Tilt fine	5: Speed 1	6: Special
7: Color 1	8: Cyan	9: Magenta
10: Yellow	11: Speed 2	12: Color 2
13: Prisma	14: Focus	15: Shutter
16: Dimmer		

Manufacturer SGM

Scan type: GALILEO 1

Short name: GALILE

Movement: Mirror - Brightness Master on Iris

DMX channel order

1: Iris	2: Color 1	3: Gobo 1
4: Shutter	5: Pan	6: Tilt

Presets available

Scan type: GALILEO II H.R.

Short name: GAL 2H

Movement: Mirror - Brightness Master on Dimmer

DMX channel order

1: Iris	2: Color 1	3: Gobo 1
4: Shutter	5: Pan coarse	6: Tilt coarse
7: Rotation 1	8: Dimmer	9: Prism
10: Special	11: Pan fine	12: Tilt fine

Presets available

Scan type: GALILEO III High Res.

Short name: GAL 3

Movement: Mirror - Brightness Master on Dimmer

DMX channel order

1: Iris	2: Color 1	3: Gobo 1
4: Shutter	5: Pan coarse	6: Tilt coarse
7: Rotation 1	8: Dimmer	9: Prism
10: Speed 1	11: Pr.-Rotation	12: Reset=Special
13: Pan fine	14: Tilt fine	

Presets available

Scan type: GALILEO IV

Short name: GAL 4

Movement: Mirror - Brightness Master on Dimmer

DMX channel order

1: Iris	2: Color 1	3: Gobo 1
4: Shutter	5: Pan coarse	6: Tilt coarse
7: Rotation 1	8: Dimmer	9: Prism
10: Speed 1	11: Pr.-Rotation	12: Rotation 2
13: Rot. Pr2=Speed 2		14: Color 2
15: Focus	16: Reset=Special	17: Pan fine
18: Tilt fine		

Presets available

Scan type: GIOTTO

Short name: GIOTTO

Movement: Head - Brightness Master on Dimmer

DMX channel order

1: Pan	2: Pan fine	3: Tilt
4: Tilt fine	5: Color 1	6: Cyan
7: Magenta	8: Yellow	9: Dimmer
10: Shutter	11: Zoom	12: Speed 1
13: Special		

Scan type: VICTORY 1

Short name: VIC 1

Movement: Mirror - Brightness Master on Dimmer

DMX channel order

1: Dimmer	2: Color 1	3: Gobo 1
4: Shutter	5: Pan coarse	6: Tilt coarse
7: Special	8: Pan fine	9: Tilt fine

Presets available

Scan type: VICTORY 2

Short name: VIC 2

Movement: Mirror - Brightness Master on Dimmer

DMX channel order

1: Dimmer	2: Color 1	3: Gobo 1
4: Shutter	5: Pan coarse	6: Tilt coarse
7: Rotation 1	8: Color 2	9: Prism
10: Special	11: Pan fine	12: Tilt fine

Presets available

Scan type: GITOTTO SPOT 250/400

Short name: GI SP1

Movement: Head - Brightness Master on Dimmer

DMX channel order

1: Pan	2: Pan fine	3: Tilt
4: Tilt fine	5: Iris	6: Color 1
7: Gobo 1	8: Shutter	9: Dimmer
10: Rotation 1	11: Prisma	12: Pr.-Rotation
13: Focus	14: Zoom	15: Gobo 2
16: Frost	17: Speed 1	18: Special
19: Cyan = Goboshake		20: Color 2
21: Rotation 2 = Gobo Mode <> Macro		22: Speed 2 =

Presets available

Scan type: GITOTTO WASH 1200

Short name: GI WAS

Movement: Head - Brightness Master on Dimmer

DMX channel order

1: Pan	2: Pan fine	3: Tilt
4: Tilt fine	5: Color 1	6: Cyan
7: Magenta	8: Yellow	9: Dimmer
10: Shutter	11: Zoom	12: Speed 1
13: Special		

Presets available

Scan type: GITOTTO SPOT 1200

Short name: GI SPO

Movement: Head - Brightness Master on Dimmer

DMX channel order

1: Pan	2: Pan fine	3: Tilt
4: Tilt fine	5: Iris	6: Color 1
7: Gobo 1	8: Shutter	9: Dimmer
10: Rotation 1	11: Prisma	12: Pr.-Rotation
13: Focus	14: Zoom	15: Color 2
16: Frost	17: Speed 1	18: Special

Presets available

Scan type: GITOTTO 1200 DORS

Short name: GI DOR

Movement: Head - Brightness Master on Dimmer

DMX channel order

1: Pan	2: Pan fine	3: Tilt
4: Tilt fine	5: Color 1	6: Cyan
7: Magenta	8: Yellow	9: Dimmer
10: Shutter	11: Zoom	12: Speed 1
13: Special		
14: Gobo 1 = Blade1A	15: Gobo 2 = Blade2A	
16:Rotation 1 = Blade3A	17: Rotation 2 = Blade4A	
18:Ro.-Prisma = Blades<>		

Presets available

Manufacturer SHOWPRO

Scan type: CYBERSCAN 13 Ch.

Short name: CYBERS

Movement: Mirror - Brightness Master on Dimmer

DMX channel order

1: Dimmer	2: Shutter	3: Color 1
4: Gobo 1	5: Rotation 1	6: Iris
7: Reset=Special	8: Focus	9: Pan coarse
10: Pan fine	11: Tilt coarse	12: Tilt fine
13: Speed 1		

Presets available

Scan type: CYBERSCAN 10 Ch.

Short name: CYBERS

Movement: Mirror - Brightness Master on Dimmer

DMX channel order

1: Dimmer	2: Shutter	3: Color 1
4: Gobo 1	5: Rotation 1	6: Iris
7: Focus	8: Pan	9: Tilt
10: Speed 1		

Presets available

Scan type: ACCUBEAM AB-400

Short name: AB-400

Movement: Mirror - no Brightness Master

DMX channel order

1: Pan	2: Tilt	3: Gobo 1
4: Color 1		

Presets available

Scan type: ACCUCOLOR AB-60

Short name: AB-60

Movement: No movement - no Brightness Master

DMX channel order

1: Gobo 1	2: Color 1

Presets available

Scan type: ACCUCOLOR AB-20

Short name: AB-20

Movement: Mirror - no Brightness Master

DMX channel order

1: Speed 1	2: Gobo 1	3: Color 1

Presets available

Manufacturer SLS

Scan type: PANSCAN 3 JUNIOR

Short name: PAN 3J

Movement: Mirror - Brightness Master on Shutter

DMX channel order

1: Pan	2: Tilt	3: Color
4: Gobo	5: Shutter	

Scan type: PANSCAN 4

Short name: PANSC4

Movement: Mirror - Brightness Master on Dimmer

DMX channel order

1: Pan coarse	2: Pan fine	3: Tilt coarse
4: Tilt fine	5: Color 1	6: Color 2
7: Gobo 1	8: Gobo 2	9: Rotation 1
10: Prism	11: Pr.-Rotation	12: Iris
13: Focus	14: Shutter	15: Dimmer

Manufacturer SPACE CANNON

Scan type: BLACK DEVIL 6/1996

Short name: DEVIL

Movement: Head - No Brightness Master

DMX channel order

1: Pan	2: Tilt	3: Color
4: Zoom	5: Lamp on=Speed 2	
6: L.off=Special	7: Shutter=not used	8: Prism=not used

For SPACE CANNON "TARGET" load "BLACK DEVIL"
Tilt = Rot. Speed

Manufacturer STARLITE

Scan type: STARLITE MK2G H.Res

Short name: MK2G

Movement: Head - Brightness Master on Shutter

DMX channel order

1: Iris	2: Color	3: Gobo
4: Shutter	5: Pan coarse	6: Pan fine
7: Tilt coarse	8: Tilt fine	9: Focus

Presets available

Scan type: STARLITE MK5 H.RES

Short name: MK5

Movement: Head - Brightness Master on Dimmer

DMX channel order

1: Pan	2: Pan fine	3: Tilt
4: Tilt fine	5: Color 1	6: Cyan
7: Magenta	8: Yellow	9: Rotation 1
10: Gobo 1	11: Rotation 2	12: Gobo 2
13: Focus	14: Iris	15: Prisma
16: Frost	17: Shutter	18: Dimmer
19: Speed 1		

Manufacturer STRONG

Scan type: MINSCAN ROTAX

Short name: ROTAX

Movement: Mirror - Brightness Master on Shutter

DMX channel order

1: Color 1	2: Gobo 1	3: Rotation 1
4: Shutter	5: Pan	6: Tilt

Scan type: BIG SCAN

Short name: BIG 3

Movement: Mirror - Brightness Master on Dimmer

DMX channel order

1: Iris	2: Colour 1	3: Color 2
4: Shutter	5: Pan	6: Tilt
7: Special	8: Prisma	9: Focus
10: Gobo 2	11: Gobo 1	12: Rotation 1

Manufacturer STUDIO DUE

Scan type: VARYBEAM

Short name: VARY B

Movement: Head - Brightness Master on Shutter

DMX channel order

1: Pan	2: Tilt	3: Color 1
4: Gobo 1	5: Shutter	6: Speed 1
7: Gobo 2		

Scan type: CITYCOLOR

Short name: CITY

No Movement - Brightness Master on Dimmer

DMX channel order

1: Speed 1	2: Cyan	3: Yellow
4: Magenta	5: Dimmer	6: Color 1
7: Special		

Scan type: LIVE PRO 1200 CMY

Short name: LIVE C

Movement: Head - Brightness Master on Dimmer

DMX channel order

1: Iris	2: Colour 1	3: Gobo 1
4: Shutter	5: Pan	6: Pan fine
7: Tilt	8: Tilt fine	9: Dimmer
10: Speed 1	11: Focus	12: Colour 2
13: Gobo 2	14: Rotation 2	15: Magenta
16: Cyan	17: Yellow	18: Frost
19: Prisma	20: Special	

Scan type: LIVE PRO 1200 PRIM

Short name: LIVE P

Movement: Head - Brightness Master on Dimmer

DMX channel order

1: Iris	2: Colour 1	3: Gobo 1
4: Shutter	5: Pan	6: Pan fine
7: Tilt	8: Tilt fine	9: Dimmer
10: Speed 1	11: Focus	12: Colour 2
13: Gobo 2	14: Rotation 2	15: Prisma
16: Special		

Scan type: LIVE PRO 1200 FROST

Short name: LIVE F

Movement: Head - Brightness Master on Dimmer

DMX channel order

1: Iris	2: Colour 1	3: Gobo 1
4: Shutter	5: Pan	6: Pan fine
7: Tilt	8: Tilt fine	9: Dimmer
10: Speed 1	11: Focus	12: Colour 2
13: Gobo 2	14: Rotation 2	15: Focus
16: Special		

Scan type: STRATOS HR RESET

Short name: STRA H

Movement: Head - Brightness Master on Dimmer

DMX channel order

1: Iris	2: Colour 1	3: Gobo 1
4: Shutter	5: Pan	6: Pan fine
7: Tilt	8: Tilt fine	9: Dimmer
10: Speed 1	11: Focus	12: Colour 2
13: Gobo 2	14: Rotation 1	15: Special = Reset

Presets available

Scan type: STRATOS CMY HR ROGO

Short name: STRA R

Movement: Head - Brightness Master on Dimmer

DMX channel order

1: Frost	2: Colour 1	3: Gobo 1
4: Shutter	5: Pan	6: Pan fine
7: Tilt	8: Tilt fine	9: Dimmer
10: (M-)Speed 1	11: Magenta	12: Cyan
13: Yellow	14: (D-)Speed 2	15: Reset=ISpecial

Scan type: STRATOS RGB HR IRIS

Short name: STRA I

Movement: Head - Brightness Master on Dimmer

DMX channel order

1: Frost	2: Colour 1	3: Iris
4: Shutter	5: Pan	6: Pan fine
7: Tilt	8: Tilt fine	9: Dimmer
10: (M-)Speed 1	11: Magenta	12: Cyan
13: Yellow	14: (D-)Speed 2	15: Reset=Special

Scan type: MINIBEAM

Short name: MINI B

Movement: Head - Brightness Master on Shutter

DMX channel order

1: Speed 1	2: Colour 1	3: Gobo 1
4: Shutter	5: Pan	6: Tilt

Presets available

Scan type: GIANT HR

Short name: GIANT

Movement: Head - Brightness Master on Shutter

DMX channel order

1: Speed1	2: Colour 1	3: Gobo 1
4: Shutter	5: Pan	6: Pan fine
7: Tilt	8: Tilt fine	9: Special

Presets available

Scan type: LIGHT DEFLECTOR HR

Short name: L-REFL

Movement: Head - No Brightness Master

DMX channel order

1: Pan	2: Pan fine	3: Tilt
4: Tilt fine	5: Rotation	6: Speed 1
7: Special		

Scan type: PREDATOR

Short name: PREDAT

Movement: Head - No Brightness Master

DMX channel order

1: Speed 1	2: Color 1	3: Gobo 1
4: Shutter	5: Pan	6: Tilt

Scan type: CARIOCA

Short name: CARIOC

Movement: Mirror 1 way only - Brightness Master on Shutter

DMX channel order

1: Iris	2: Pan	3: Shutter
4: Color 1	5: Tilt=not used	

Presets available

Scan type: STRATOS HR Dim neg.

Short name: STRA H

Movement: Head - Brightness Master on Dimmer **invers**

DMX channel order

1: Iris	2: Colour 1	3: Gobo 1
4: Shutter	5: Pan coarse	6: Pan fine
7: Tilt coarse	8: Tilt fine	9: Dimmer
10: Speed 1	11: Focus	12: Colour 2
13: Gobo 2	14: Rotation 1	

Presets available

Scan type: STRATOS LR Dim neg.

Short name: STRA L

Movement: Head - Brightness Master on Dimmer **invers**

DMX channel order

1: Iris	2: Colour 1	3: Gobo 1
4: Shutter	5: Pan	6: Tilt
7: Dimmer	8: Speed 1	9: Focus
10: Colour 2	11: Gobo 2	12: Rotation 1

Test: 1/94, Presets available

Manufacturer SUMMA

Scan type: SUMMA HTI

Short name: SUMMA

Movement: Head - Brightness Master on Dimmer

DMX channel order

1: Color 1	2: Color 2	3: Pan
4: Tilt	5: Speed 1	6: Gobo 1
7: Zoom	8: Focus	9: Dimmer

Manufacturer TAS

Scan type: CRONO

Short name: CRONO

Movement: Mirror - Brightness Master on Dimmer

DMX channel order

1: Pan	2: Tilt	3: Dimmer
4: Shutter	5: Iris	6: Gobo1
7: Rotation1	8: Color1	9: Special

Scan type: CF6

Short name: CF6

Movement: Head - Brightness Master on Dimmer

DMX channel order

1: Pan	2: Pan fine	3: Tilt
4: Tilt fine	5: Dimmer	6: Shutter
7: Focus	8: Iris	9: Cyan
10: Magenta	11: Yellow	12: Special

Manufacturer THEATRE PROJECTS

Scan type: SKYART DMX

Short name: SKYART

Movement: Head - Brightness Master on Dimmer

DMX channel order

1: Pan coarse	2: Pan fine	3: Tilt coarse
4: Tilt fine	5: Dimmer	6: Focus
7: Colour		

Scan type: PAL (PPTTFC) Protocol: DMX 512

Short name: TP.PAL

Movement: Head - No Brightness Master

DMX channel order

1: Pan coarse	2: Pan fine	3: Tilt coarse
4: Tilt fine	5: Focus	6: Colour

Manufacturer VARI*LITE

Scan type: VL1

Short name: VL1

Movement: Head - Brightness Master on Dimmer

DMX channel order

1: Dimmer	2: Pan	3: Tilt
4: Color 1	5: Color 2	6: Iris

Scan type: VLM MIRROR MODE 3

Short name: VLM M3

Movement: Head - No Brightness Master

DMX channel order

1: Pan	2: Pan fine	3: Tilt
4: Tilt fine	5: Speed 1	6: Speed 2
7: (no used)	8: (no used)	9: (no used)
10: Rotation 2		

Scan type: VLM MIRROR MODE 4 EX

Short name: VLM M4

Movement: Head - No Brightness Master

DMX channel order

1: Pan	2: Pan fine	3: Tilt
4: Tilt fine	5: Speed 1	6: Speed 2
7: (no used)	8: (no used)	9: (no used)
10: Rotation 1	11: (no used)	12: (no used)
13: Rotation 2		

Scan type: VL5 Mode 3 16bit

Short name: VL5 M3

Movement: Head - Brightness Master on Dimmer

DMX channel order

1: Fixed=0	2: Pan coarse	3: Pan fine
4: Tilt coarse	5: Tilt fine	6: Cyan
7: Yellow	8: Magenta	9: Frost
10: Rot.2=Reset	xx: Dimmer	

Presets available. Free patch for Dimmer

Scan type: VL5 Mode 4 16bit Ext.

Short name: VL5 M4

Movement: Head - Brightness Master on Dimmer

DMX channel order

1: Fixed=0	2: Pan coarse	3: Pan fine
4: Tilt coarse	5: Tilt fine	6: Cyan
7: Yellow	8: Magenta	9: Frost
10: Speed1(Focus)	11: Speed2(Color)	12: Speed3(beam)
13: Rot.2=Reset	xx: Dimmer	

Presets available. Free patch for Dimmer

Scan type: VL5 ARC Mode 3 16BIT

Short name: VL5A 3

Movement: Head - Brightness Master on Dimmer

DMX channel order

1: Dimmer	2: Pan coarse	3: Pan fine
4: Tilt coarse	5: Tilt fine	6: Cyan
7: Yellow	8: Magenta	9: Frost
10: Rot.2=Reset		

Presets available.

Scan type: VL5 ARC Mode 4 16BIT Ext

Short name: VL5 A 4

Movement: Head - Brightness Master on Dimmer

DMX channel order

1: Dimmer	2: Pan coarse	3: Pan fine
4: Tilt coarse	5: Tilt fine	6: Cyan
7: Yellow	8: Magenta	9: Frost
10: Speed1(Focus)	11: Speed2(Color)	12: Speed3(beam)
13: Rot.2=Reset		

Presets available.

Scan type: VL6 Mode 3 16BIT

Short name: VL6 M3

Movement: Head - Brightness Master on Dimmer

DMX channel order

1: Dimmer	2: Pan coarse	3: Pan fine
4: Tilt coarse	5: Tilt fine	6: Gobo
7: Color	8: Iris	9. Focus
10: Rot.2=Reset		

Presets available

Scan type: VL6 Mode 4 16BIT Ext.

Short name: VL6 M4

Movement: Head - Brightness Master on Dimmer

DMX channel order

1: Dimmer	2: Pan coarse	3: Pan fine
4: Tilt coarse	5: Tilt fine	6: Gobo
7: Color	8: Iris	9. Focus
10: Speed1(Focus)	11: Speed2(Color)	12: Speed3(beam)
13: Rot.2=Reset		

Presets available

Scan type: VL6 Mode 5 16BIT

Short name: VL6 M5

Movement: Head - Brightness Master on Dimmer

DMX channel order

1: Dimmer	2: Pan coarse	3: Pan fine
4: Tilt coarse	5: Tilt fine	6: Gobo 1
7: Color 1	8: Iris	9. Focus
10: Shutter	11: Rotation 2	

Presets available

Scan type: VL6 Mode 6 16Bit Ext.

Short name: VL6 M6

Movement: Head - Brightness Master on Dimmer

DMX channel order

1: Dimmer	2: Pan coarse	3: Pan fine
4: Tilt coarse	5: Tilt fine	6: Gobo 1
7: Color 1	8: Iris	9. Focus
10: Shutter	11: Speed1(Focus)	12: Speed2(Color)
13: Speed3(beam)	14: Rotation 2 = Reset	

Presets available

Scan type: VL6B Mode 5 16BIT

Short name: VL6BM5

Movement: Head - Brightness Master on Dimmer

DMX channel order

1: Dimmer	2: Pan coarse	3: Pan fine
4: Tilt coarse	5: Tilt fine	6: Gobo 2
7: Color 1	8: Iris	9. Focus
10: Shutter	11: Zoom	12: Gobo 1
13: Rotaton 1	14: Rotation 2	

Presets available

Scan type: VL6B Mode 6 16Bit Ext.

Short name: VL6BM6

Movement: Head - Brightness Master on Dimmer

DMX channel order

1: Dimmer	2: Pan coarse	3: Pan fine
4: Tilt coarse	5: Tilt fine	6: Gobo 2
7: Color 1	8: Iris	9. Focus
10: Shutter	11: Zoom	12: Gobo 1
13: Rotaton 1	14: Speed 1(Focus)	15: Speed 2(Color)
16: Speed 3 (beam)	17: Rotation 2 = Reset	

Presets available

Scan type: VL7 Mode 7 16BIT

Short name: VL7 M7

Movement: Head - Brightness Master on Dimmer

DMX channel order

1: Dimmer	2: Pan coarse	3: Pan fine
4: Tilt coarse	5: Tilt fine	6: Cyan
7: Magenta	8: Yellow	9. Color 1
10: Iris	11: Focus (Lens)	12: Zoom
13: Shutter	14:Gobo 2	15: Gobo 1
16: Go Rot 1	17: Go Rot 2	

Scan type: VL7 Mode 8 16BIT Ext.

Short name: VL7 M8

Movement: Head - Brightness Master on Dimmer

DMX channel order

1: Dimmer	2: Pan coarse	3: Pan fine
4: Tilt coarse	5: Tilt fine	6: Cyan
7: Magenta	8: Yellow	9. Color 1
10: Iris	11: Focus (Lens)	12: Zoom
13: Shutter	14:Gobo 2	15: Gobo 1
16: Go Rot 1	17: Speed 1	18: Speed 2
19: Special	20: Go Rot 2	

Scan type: VL7B M9-ADD EXTRAT

Short name: VL7BM9

Movement: Head - Brightness Master on Dimmer

DMX channel order

1: Dimmer	2: Pan coarse	3: Pan fine
4: Tilt coarse	5: Tilt fine	6: Cyan
7: Magenta	8: Yellow	9. Color 1
10: Focus	11: Zoom	12: Shutter
13: Gobo 1	14: Rotation 1	15: Speed 1
16: Speed 2	17: Special	

Scan type: VL220X 16BIT STD.

Short name: VL220X

Movement: Head - Brightness Master on Dimmer

DMX channel order

1: Dimmer	2: Pan	3: Pan fine
4: Tilt	5: Tilt fine	6: Gobo 2
7: Color 1	8: Iris	9. Focus
10: Shutter	11: Zoom	12: Rotation 1
13: Gobo 1	14:Special = Control	

Scan type: VL220X 16BIT ENHC

Short name: VL220E

Movement: Head - Brightness Master on Dimmer

DMX channel order

1: Dimmer	2: Pan	3: Pan fine
4: Tilt	5: Tilt fine	6: Gobo 2
7: Color 1	8: Iris	9. Focus
10: Shutter	11: Zoom	12: Rotation 1
13: Gobo 1		
14: Speed 1 = Movement Timing		
15: Color 2 = Color Timing		
16: Speed 2 = Beam Timing		
17: Special = Control		

Scan type: VL2401 16BIT STD.

Short name: VL2401

Movement: Head - Brightness Master on Dimmer

DMX channel order

1: Dimmer	2: Pan	3: Pan fine
4: Tilt	5: Tilt fine	6: Cyan
7: Yellow	8: Magenta	9. Frost
10: Shutter	11: Zoom	12: Special = Control

Scan type: VL2402 16BIT STD.

Short name: VL2402

Movement: Head - Brightness Master on Dimmer

DMX channel order

1: Dimmer	2: Pan	3: Pan fine
4: Tilt	5: Tilt fine	6: Cyan
7: Yellow	8: Magenta	9. Color 1
10: Frost	11: Shutter	12: Special = Control

Scan type: VL2401 16BIT ENHC

Short name: V2401E

Movement: Head - Brightness Master on Dimmer

DMX channel order

1: Dimmer	2: Pan	3: Pan fine
4: Tilt	5: Tilt fine	6: Cyan
7: Yellow	8: Magenta	9. Frost
10: Shutter	11: Zoom	
12: Speed 1 = Movement Timing		
13: Color 2 = Color Timing		
14: Speed 2 = Beam Timing		
15: Special = Control		

Scan type: VL2402 16BIT ENHC

Short name: V2402E

Movement: Head - Brightness Master on Dimmer

DMX channel order

1: Dimmer	2: Pan	3: Pan fine
4: Tilt	5: Tilt fine	6: Cyan
7: Yellow	8: Magenta	9. Color 1
10: Frost	11: Shutter	
12: Speed 1 = Movement Timing		
13: Color 2 = Color Timing		
14: Speed 2 = Beam Timing		
15: Special = Control		

Scan type: VL2416 16BIT STD.

Short name: VL2416

Movement: Head - Brightness Master on Dimmer

DMX channel order

1: Dimmer	2: Pan	3: Pan fine
4: Tilt	5: Tilt fine	6: Cyan
7: Yellow	8: Magenta	9: Focus = Beam
10: Shutter	11: Rotation 1(Lens)	
12: Special = Control		

Scan type: VL2416 16BIT ENHC

Short name: V2416E

Movement: Head - Brightness Master on Dimmer

DMX channel order

1: Dimmer	2: Pan	3: Pan fine
4: Tilt	5: Tilt fine	6: Cyan
7: Yellow	8: Magenta	9: Focus = Beam
10: Shutter	11: Rotation 1(Lens)	
12: Speed 1 = Movement Timing		
13: Color 1 = Color Timing		
14: Speed 2 = Beam Timing		
15: Special = Control		

Manufacturer X & Y

Scan type: YOKY XL

Short name: YOKEXL

Movement: Head - Brightness Master on Dimmer

DMX channel order

1: Pan	2: Pan fine	3: Tilt
4: Tilt fine	5: Dimmer	6: Focus
7: Color 1		

Scan type: MN 400 WASH

Short name: MN400W

Movement: Head - Brightness Master on Dimmer

DMX channel order

1: Pan	2: Pan fine	3: Tilt
4: Tilt fine	5: Dimmer	6: Focus
7: Cyan	8: Magenta	9: Yellow
10: Frost	11: Speed 2	12: Special

Scan type: MN 400 SPOT

Short name: MN400S

Movement: Head - Brightness Master on Dimmer

DMX channel order

1: Pan	2: Pan fine	3: Tilt
4: Tilt fine	5: Dimmer	6: Iris
7: Cyan	8: Magenta	9: Yellow
10: Gobo 1	11: Focus	12: Speed 2
13: Special		

Scan type: MN 600 WASH

Short name: MN600WS

Movement: Head - Brightness Master on Dimmer

DMX channel order

1: Pan	2: Pan fine	3: Tilt
4: Tilt fine	5: Dimmer	6: Iris
7: Cyan	8: Magenta	9: Yellow
10: Gobo 1	11: Focus	12:Shutter
13: Speed 2	14: Special	

Scan type: MN 600 SPOT

Short name: MN600S

Movement: Head - Brightness Master on Dimmer

DMX channel order

1: Pan	2: Pan fine	3: Tilt
4: Tilt fine	5: Dimmer	6: Iris
7: Cyan	8: Magenta	9: Yellow
10: Gobo 1	11: Focus	12: Shutter
13: Speed 2	14: Special	

Scan type: BIM 1200

Short name: BIM120

Movement: Head - Brightness Master on Dimmer

DMX channel order

1: Pan	2: Pan fine	3: Tilt
4: Tilt fine	5: Dimmer	6: Focus
7: Color 1	8: (no used)	9: (no used)
10: (no used)	11: (no used)	12: (no used)
13: (no used)	14: Special	

Standard COLOR CHANGER

Scan type: COL + EXTRA DIMMER Short name: COL+ D

No Movement: - Brightness Master on Dimmer

1: Color 1 EXTRA = Dimmer

Scan type: RGB + EXTRA DIMMER Short name: RGB + D

No Movement: - Brightness Master on Dimmer

1: Cyan 2: Magenta 3: Yellow
EXTRA = Dimmer

Scan type: RAINBOW+EXT.DIMMER Short name: CSFX + D

No Movement: - Brightness Master on Dimmer

1: Color 1 2: Speed 1 3: Speed 2
4: Speciale EXTRA = Dimmer

Scan type: C1/C2/D/G Short name: STA C1

No Movement: - Brightness Master on Dimmer

1: Color 1 2: Color 2 3: Dimmer
4: Gobo 1

Scan type: C1/D/G Short name: STA C2

No Movement: - Brightness Master on Dimmer

1: Color 1 2: Dimmer 3: Gobo 1

Scan type: R/G/B/D Short name: STA C3

No Movement: - Brightness Master on Dimmer

1: Cyan 2: Magenta 3: Yellow
4: Dimmer

Scan type: Single Colour Short name: Colour

No Movement: - No Brightness Master

1: Colour 1

DIMMER

Scan type: SINGLE DIMMER

Short name: DIMMER

No Movement - Brightness Master on Dimmer

DMX channel order
1: Dimmer

MA TEST

Scan type: TEST 1 24 Channels

Short name: TEST 1

Movement: Mirror - Brightness Master on Dimmer

DMX channel order

1: Gobo 1	2: Gobo 2	3: Color 1
4: Color 2	5: Dimmer	6: Red
7: Green	8: Blue	9: Prisma
10: Iris	11: Focus	12: Frost
13: Zoom	14: Shutter	15: Speed 1
16: Speed 2	17: Special	18: Rotation 1
19: Rotation 2	20: Pr.-Rotation	21: Pan coarse
22: Pan fine	23: Tilt coarse	24: Tilt fine

Controlling TRACKSPOT via the MA-Scancommander (Vers.4.xx)

1. Changing from Light Wave Research protocol to DMX 512

DMX input to all the lamps is via a 3pin XLR connector, where pin 1 to 3 correspond to pin 1 to 3 of the 5 pin XLR connector of standard DMX 512. Pin 4 and 5 of the DMX connector are not used.
Attention: the pin order at the 3 pin connector is 1-3-2, whereas the 5 pin connector shows 1-2-3-4-5.

2. Personality setting for high resolution DMX

As the Scancommander enables you to set very exact DMX values, it is recommended to set the Trackspot to High Resolution mode.

	Personality Switch Setting								Scancommander
	1	2	3	4	5	6	7	8	Lamptype
Trackspot (DMX 1-256)	-	-	ON	OFF	ON	-	-	-	TRACKSPOT
Trackspot (DMX 257-512)	-	-	ON	ON	OFF	-	-	-	"

3. DMX address

The DMX address of each scan has to be set
- via the address switches at the backpanel of the lamp and
- at the Scancommanders DMX patch menu.

Unlike setting the address for the Lightwave Research Controller, the address at the lamp has to be decoded binary.
That means, switch number 1 has the value 1
switch number 2 has the value 2
switch number 3 has the value 4
switch number 4 has the value 8
switch number 5 has the value 16
switch number 6 has the value 32
switch number 7 has the value 64
switch number 8 has the value 128

Choose any DMX number and patch the scan to this address at the Scancommanders DMX patch menu.
Substract 1 from this number and set to "ON" as many switches as necessary to get this number as the total of the values.
I.E.: Scan patched to DMX channel 75 in the Scancommander patch menu.
Substract 1 = 74
Switch 7 ON = 64
Switch 4 ON = 8
Switch 2 ON = 2 , all other address switches OFF
To address channels 257 to 512 set personality switch 4=on,5=off, substract 256 and go on like above.

4.Preset values for colors, gobos and shutter

Initializing the Trackspot in the Scancommanders Setup menu by "INIT:SCANS+NAMES+VALUES" will load the names and values of all colors and gobos.
The motor speed, channel 7 of the Trackspot DMX protocol, is controlled via the SPEED button at the Scancommander. Using the Scancommander it is recommended to keep this value at "00", as fades can be controlled via the Scancommanders fade features.

Controlling INTELLABEAM via the MA-Scancommander (Vers. 4.xx)

1. Changing from Light Wave Research protocol to DMX 512

DMX input to all the lamps is via a 3pin XLR connector, where pin 1 to 3 correspond to pin 1 to 3 of the 5 pin XLR connector of standard DMX 512. Pin 4 and 5 of the DMX connector are not used.
Attention: the pin order at the 3 pin connector is 1-3-2, whereas the 5 pin connector shows 1-2-3-4-5.
(Some of the older Intellabeam 400 don´t accept DMX 512, even when it is printed on the backpanel. For this lamps please ask for a lamp update eprom at your High End dealer.)

2. Personality setting for high resolution or extended DMX

As the Scancommander enables you to set very exact DMX values, it is recommended to set Intellabeams to High Resolution on the 7 channel mode, or you may use the 13 channel mode of "Extended DMX".
This gives you:
- better resolution on Pan / Tilt
- direct access to the Gobo and Color spin functions
- access to the homing (via SPECIAL in the SPEED menu) and speed function (via SPEED 1).

To run the Intellabeam 700 in the 13 channel mode, this lamps need to have the actual software version ML25F Ver.3.04 (already installed in most Intellabeams 700 delivered since beginning 93).

	Personality Switch Setting								Scancommander
	1	2	3	4	5	6	7	8	Lamptype
Intellabeam(DMX 1-256)	-	-	ON	OFF	ON	OFF	-	OFF	INTELLABEAM 7 CHAN
Intellabeam(DMX 257-512)	-	-	OFF	ON	ON	OFF	-	OFF	"
Intellabeam(DMX 1-256)	-	-	ON	OFF	OFF	ON	-	ON	INTELLABEAM 13 CHAN
Intellabeam(DMX 257-512)	-	-	OFF	ON	OFF	ON	-	ON	"

3. DMX address

The DMX address of each scan has to be set
- via the address switches at the backpanel of the lamp and
- at the Scancommanders DMX patch menu.

Unlike setting the address for the Lightwave Research Controller, the address at the lamp has to be decoded binary.
That means,
switch number 1 has the value 1
switch number 2 has the value 2
switch number 3 has the value 4
switch number 4 has the value 8
switch number 5 has the value 16
switch number 6 has the value 32
switch number 7 has the value 64
switch number 8 has the value 128

Choose any DMX number and patch the scan to this address at the Scancommanders DMX patch menu.
Substract 1 from this number and set to "ON" as many switches as necessary to get this number as the total of the values.
I.E.: Scan patched to DMX channel 75 in the Scancommander patch menu.
Substract 1 = 74
Switch 7 ON = 64
Switch 4 ON = 8
Switch 2 ON = 2 , all other address switches OFF
To address channels 257 to 512 set personality switch 3=off,4=on, substract 256 and go on like above.

4.Preset values for colors, gobos and shutter

Initializing the Intellabeam in the Scancommanders Setup menu by "INIT:SCANS+NAMES+VALUES" will load the names and values of all colors, gobos and some dimmer and shutter settings.
Using the Extended DMX mode, the motor speed, channel 12 of the Intellabeam DMX protocol, is controlled via the FOCUS-ZOOM button at the Scancommander. Using the Scancommander it is recommended to keep this value at "00", as fades can be controlled via the Scancommanders fade features.

5. Slow color or gobo changes on the 13 channel mode

To get slow changes of colors or gobos
- set WHEEL 2 of color or gobo to a value about 20 (little before the gobo or color scan function starts)
- set the speed via SPEED 1 to any value above "10"
- recall colors or gobos at the Scancommander without fade, rsp. store the memory with color and gobo set to "TRIG" instead of "FADE" (=remove ramp on the store matrix)

This procedure will give the slow changes on color or gobo, but will also influence the movement speed.

6. Homing function

When using the Extended DMX mode, the homing function can be addressed via the SPECIAL function in the SPEED menu of the Scancommander.
Homing the lamp is done by setting the SPECIAL channel to 50% for at least 3 seconds.

- Press SPECIAL at the feature selection area.
- Select one or more scans via the SCAN SELECTION buttons
- Set the values to "00" via the Encoder wheel
- Set the values to "50" via the Encoder wheel.

  (If the display is set to hexadecimal showing...,09,0A,0B..,the 50% value corresponds to 7F)
  After 3 seconds the scans should start their homing procedure.

Controlling CYBERLIGHT via the MA-Scancommander (Vers. 4.xx)

1. Changing from Light Wave Research protocol to DMX 512

DMX input is via a 3pin XLR connector, where pin 1 to 3 correspond to pin 1 to 3 of the 5 pin XLR connector of standard DMX 512. Pin 4 and 5 of the DMX connector are not used.
Attention: the pin order at the 3 pin connector is 1-3-2, whereas the 5 pin connector shows 1-2-3-4-5.

All personality switches stay 0, just setting address switch 8 to on will change to DMX.

2. DMX address

Unlike Trackspot or Intellabeam, the Cyberlight DMX address is set like on Lightwave Research protocol, switch 8 always has to be on for DMX 512.

Switch 1 to 8 =	0	0	0	0	0	0	0	1	=lamp 1	DMX adress 1
	1	0	0	0	0	0	0	1	=lamp 2	DMX adress 21
	0	1	0	0	0	0	0	1	=lamp 3	DMX adress 41
	1	1	0	0	0	0	0	1	=lamp 4	DMX adress 61
	0	0	1	0	0	0	0	1	=lamp 5	DMX adress 81 ....

3. Accessing the Control Channel

The Control function can be addressed via the SPECIAL function in the SPEED menu of the Scancommander.
- Select one or more scans via the SCAN SELECTION buttons

Controlling the lamp is done in three steps:

-Step 1: Dimmer channel at full (FF)
Special channel at full (FF)

-Step 2: Dimmer channel at Zero (00)
Special channel at full (FF)

-Step 3: (must occur within 3 seconds)
Dimmer channel at Zero (00)
Special channel at 25% (3F) for "Home"
or Special channel at 50% (7F) for "Shutdown"

As this three steps have to be done within 3 seconds, please store this settings as presets (see cap 3.2.2 of the Scancommander manual). The brightness Master of this scans have to be up during this steps.

After further 3 seconds the scans should start the selected function.

Safety Instructions:

1. Read all the instructions in the user´s manual.
2. Keep the user`s manual for later use.
3. Follow all the instructions on the unit.
4. Pull the plug before cleaning the unit; don't use any liquid or spray cleaner. Clean with a damp cloth.
5. Don´t use the unit near water.
6. Don't put the unit on unstable tables etc.. It might fall down and get damaged.
7. There are slots in the case for aeration; don´t cover these slots up because they guarantee the reliable use of the unit and protect it against overheating. Don´t install the unit into a frame unless sufficient aeration is guaranteed.
8. The unit is provided with a safety plug. This plug can only be used with safety sockets. These safety measures should by all means be followed. In case the plug doesn't fit into the socket (e.g. with old sockets), the socket should be replaced by an electrician.
9. Don´t put any objects on the wire and make sure nobody steps on it.
10. In case you use an extension wire make sure the sum of the power consumption of the connected units does not exceed the maximum power of the wire. The sum of the units plugged in the socket should not exceed 10 Ampere.
11. Don´t spill any liquid over the unit. Don´t put any objects through the slots of the unit, as these might get in contact with parts that are live or might cause short circuits. This may cause fires and shocks.
12. Don´t service the unit yourself as parts that are live might be exposed when you open the case; you run the risk of getting shocked. All services should only be carried out by a specialist.
13. If one of the following conditions occurs, please pull the plug out and call the service:
    A. Wire or plug is damaged or worn.
    B. Liquid got into the unit.
    C. The unit was exposed to rain or got damp.
    D. The unit doesn´t work properly even if you follow the instructions of the user´s manual.
    E. The unit fell down and the case was damaged.
14. Only use wires which are marked safety proof.
15. Don´t use any high-power walkie-talkies near the unit.

DECLARATION OF CONFORMITY

according to guide lines 89/336 EWG and 92/31 EWG:

Name of producer: MA Lighting Technology GmbH
Address of producer: Dachdeckerstr. 16 D-97297 Waldbüttelbrunn

declares that the product

Name of product: MA Scancommander & MA Scancommander Extension
Type: MA SC1 & MA SCX I

answers the following product specifications:

Safety: EN60065, EN60950
EMV (EMC): prEN55103-1 (E1), EN50081-1
prEN55103-2 (E2), EN50082-1

Additional informations: All DMX512 and analogue inputs and outputs must be shielded and the shielding must be connected to the ground resp. to the case of the corresponding plug.

Waldbüttelbrunn, 07.11.1995

Dipl. Ing. Michael Adenau