VIKING²

USER MANUAL

Software Version 243N
and later

AVAB

280-074

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CONTENTS

What is VIKING

The VIKING concept have been developed for more than eight years – eight years of improvements, end-user respons and new features. The VIKING have become known as state-of-the-art technology through its superb mechanical layout and sophisticated operational program.

The next step – VIKING^2

VIKING^2 is based on the famous AVAB VIKING lightboard.

The VIKING^2 includes a new concept in lighting - **screen editing**. This basic philosophy, however new to lighting, has been well proven and well accepted by computer users during the last years.

Just move the cursor to the item you want to change and enter a new value, or a new text, or change the value relative, or... You don't have to remember which key to use, what command to enter - if you can see it on the screen, you can change it!

This new philosophy has carefully been introduced into the whole VIKING^2 system to make all the sophisticated features available to all users without the need for complicated commands or long training. Therefore the VIKING^2, though state of the art in advanced technology, is easy to learn and use.

We at AVAB are proud to deliver this lightboard, in which we have put so much of our experience and knowledge, for use by you as a professional lighting tool.

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This manual is the complete VIKING manual. It will tell you about all features of the VIKING lightboard and will also give you a brief overview around the VIKING hardware.

If you need more technical material you should read the VIKING technical documentation that is supplied with the lightboard.

The VIKING manual is divided in four parts:

VIKING hardware

Here you find a brief view over the VIKING system and its peripherals. You also find a close look at the different modules in the system. All keys on the Modules are explained.

VIKING tutorial – how to get started

This is a short school to teach you the VIKING basics and lead you towards a total understanding of the fantastic world of VIKING.

VIKING functions manual

You can find all features of VIKING here. The different functions are placed in alphabetical order.

Appendix

Here you find texts about peripherals (like Printer), a sample of all Monitor pages, something about the AVAB philosophy, a glossary and some technical notes.

Symbols used in the manual

Throughout this manual the following symbols are used to describe the different functions:

Function key

Numerical key

Voice of Viking OR beep signal

Thumb wheels

A miniature module like this....

is shown to indicate on which module the key for a described function is.
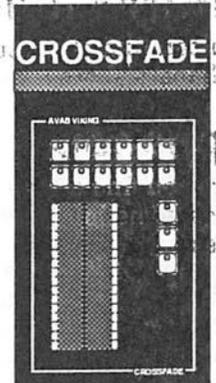
VIKING HARDWARE

The Viking desk
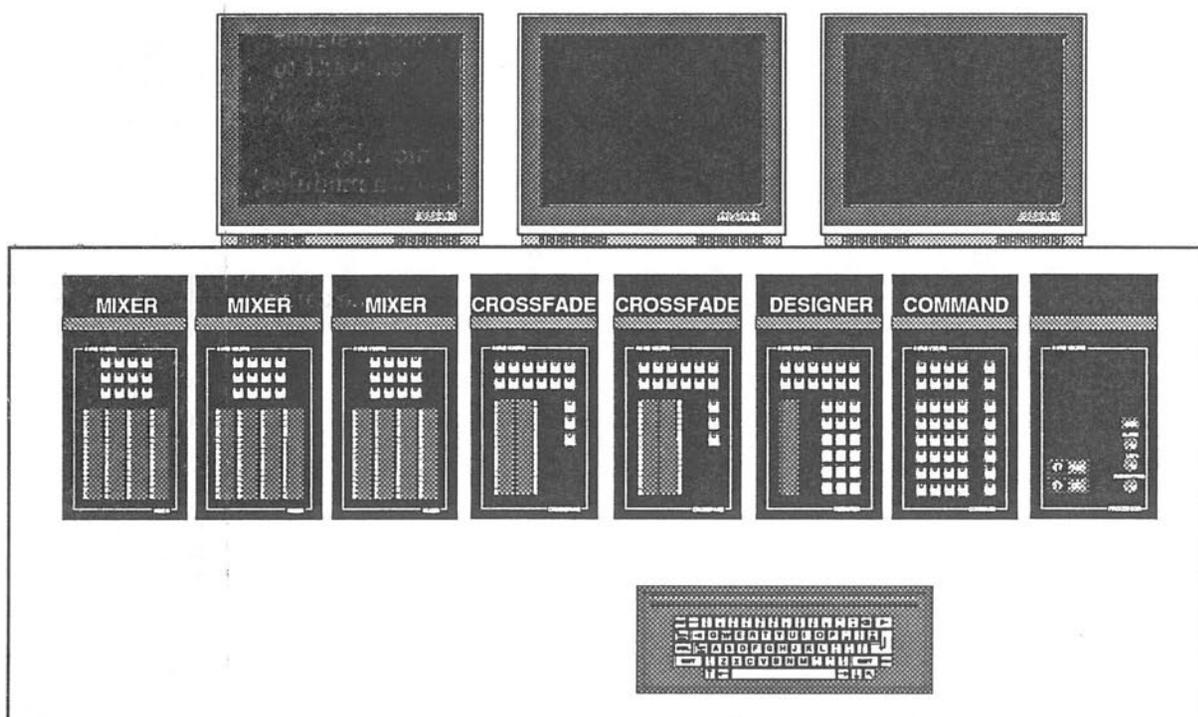
This picture shows a VIKING board with a number of modules. Not shown are the optional modules for Remote Controlled Instruments and Houselight.

A VIKING board always have one processor module which controls the communication with the main computer. A normal VIKING system is also eqipped with one designer module, one command module and one playback module (playback X).
It can then be expanded with an extra playback module (playback Y) and up to three mixer modules.
Each mixer module contains 4 mixer fields so you can have a maximum of 12 mixer fields.

All functions of the modules can also be controlled by the alphanumerical keyboard (option).
This means that the keyboard can be used as a backup for the modules OR for controlling the VIKING from a different position.

A normal VIKING system is equipped with two monitors (color or black & white), one system monitor and one channel monitor.
The system can be expanded with an extra channel monitor.

All modules (except the Processor module) can be placed freely in the console without the needs for tools.

The Designer Desk

The VIKING system can be equipped with an optional extra control desk - the Designer desk. This desk can be used for rehearsals, sitting in the audience or when you want to control the VIKING from two different places.

The Designer desk normally consists of a processor module, a command module, a desginer module and a playback module. The Designer desk can have its own modules, but you can also borrow the modules from the main system - they are completely equivalent.

You can also work with both the main desk and the designer desk connected at the same time. A special command will switch between the two systems.

The Computer Rack

The Computer Rack consists of the main computer together with a number of secondary computer cards depending on the number of channels in the system.
In the Xomputer Rack there are also video cards for up to three monitors.

Peripherals

The VIKING system can be expanded in several different ways.
You can add an alphanumerical keyboard to enter text information.
You can add a printer to make printouts of all the lighting information.
You can add an IR system for remote, wireless control.
You can add extra memory cards for expanding the memory.
You can connect Color Changer, Remote Controlled instruments and Hoists
for precise control. All changes can be recorded in the sequence.
You can connect a modem to be able to connect your VIKING system to the AVAB
computer for leaving messages or communicating with other theaters.
The VIKING can also be remote controlled from the test computer in Sweden.

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The processor module

This module contains the computer which controls the different modules of the VIKING desk and the communication with the main computer.

It also have controls for adjusting the level of the acoustic beep, the intensity of the LED bars and the intensity of the illuminated keys.

AVAB VIKING

ALARM
RELEASE

ALARM

LED's

CONTROL
DESK

PUSHBUTTONS

SAFTY
LATCH

PROCESSOR
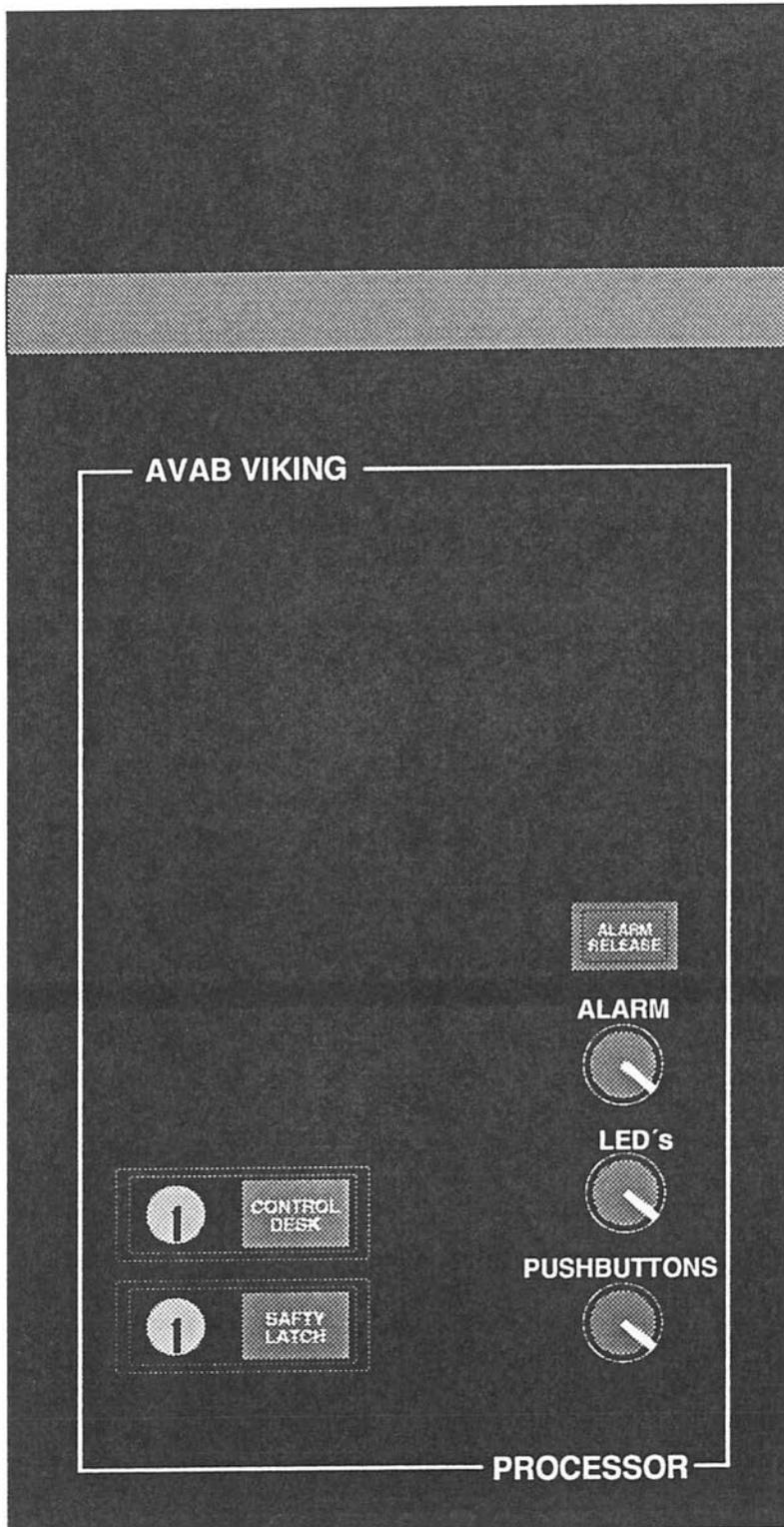
The designer module

This module primarily contains functions for building (or modification) of
light groups or presets. You find different ways to set levels to single channels
or groups of active channels. On this module you will also find the numerical
keypad which is used by most functions in the VIKING system.

The module display window

On the DESIGNER MODULE as on all other modules except for the
PROCESSOR MODULE, you find a display window. Here you find
information about active channels, channel levels and other numerical
entances. All information is doubled. Everything you can find on the module
displays you can also find on the monitors. You choose to find the information
you want where it is most convinent for you.
If the text 'Desk Idle' is shown on this display this means that you have entered
a function (for example the Play List page) that temporarily stops the desk.
Input is only taken from the keyboard and not from the desk. The text will
disappear when the desk accepts data again.

LAST ENTRANCE	WORKING FIELD	CHANNEL NUMBER	LEVEL
12	X-1	C	14 - 45
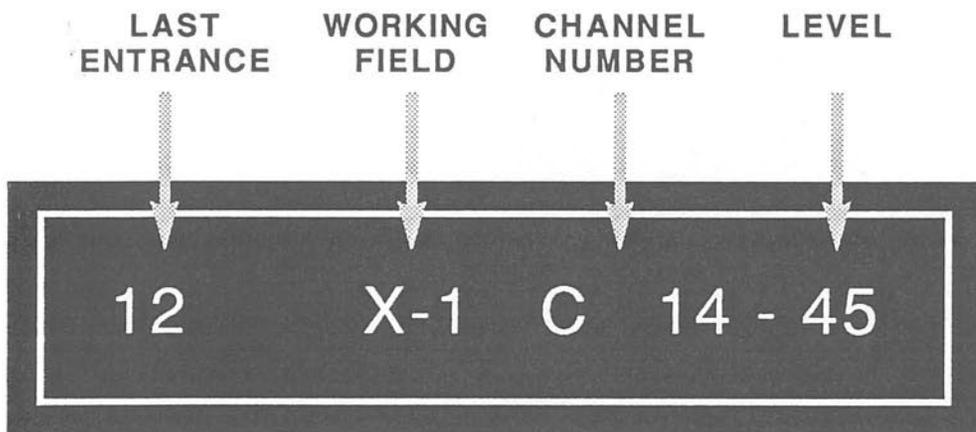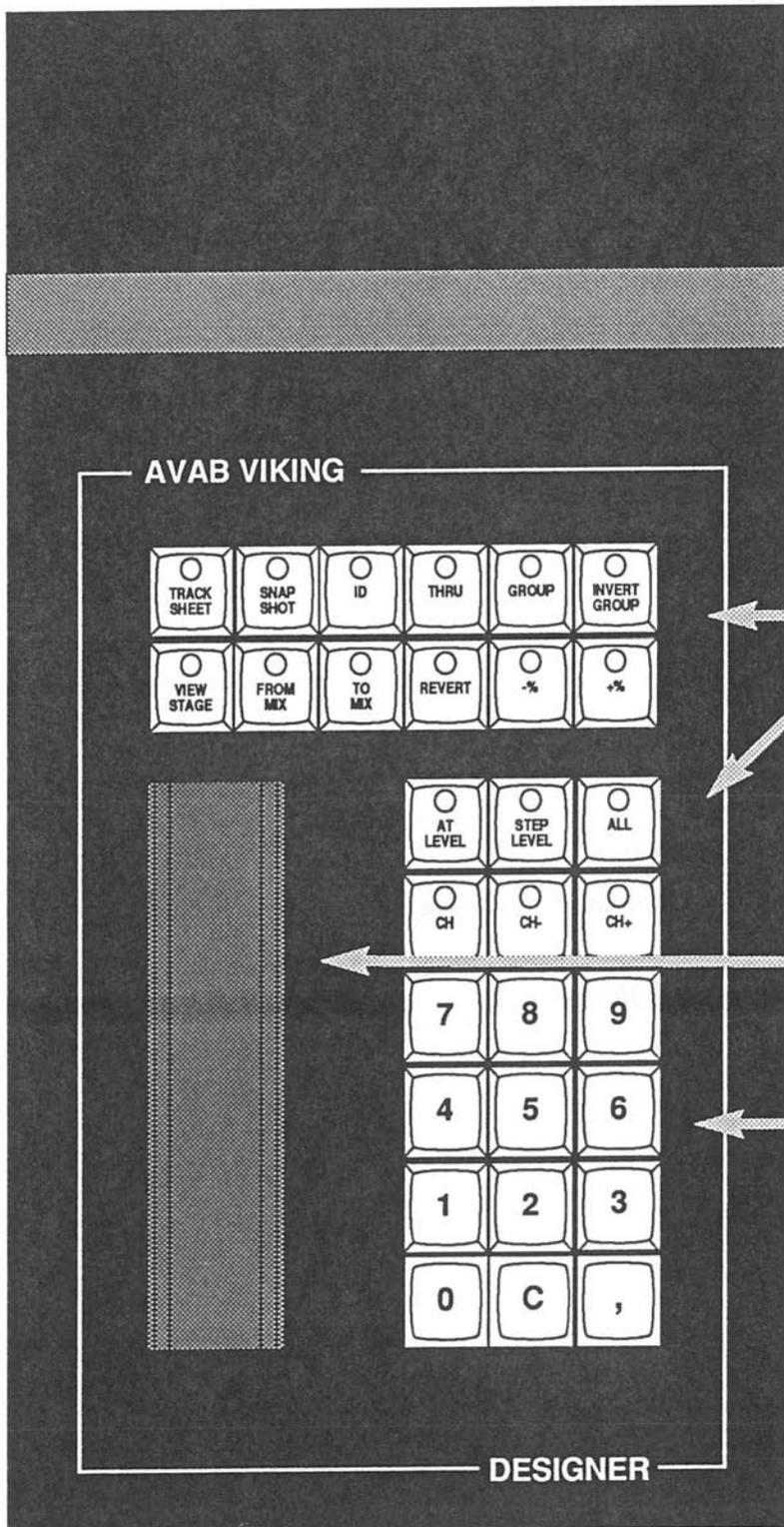
DESIGNER DISPLAY WINDOW

AVAB VIKING

TRACK SHEET	SNAP SHOT	ID	THRU	GROUP	INVERT GROUP
VIEW STAGE	FROM MIX	TO MIX	REVERT	-%	+%

FUNCTION KEYS

AT LEVEL	STEP LEVEL	ALL
CH	CH-	CH+

DESIGNER WHEEL

7	8	9
4	5	6
1	2	3
0	C	,

NUMERICAL KEYS

DESIGNER

CH

Selects a channel for control by the Channel wheel or the level functions on the Designer module.

Enter the number of the channel you want to control and press CH. If the channel exists with the given number, it will be selected for the channel group and the previously selected group will be destroyed. If the given channel doesn't exist, the VIKING will give you a warning signal.

The channel group is indicated on the channel monitor with green squares under the channel numbers. If a channel group existed before you pressed CH, that channel group will be cleared. Of course, the levels of the channels in that group are not cleared, just the channel group status.

CH+

Adds a channel to an existing channel group.

Enter the number of the channel that you want to add and press CH+.

CH+ without a number before will select the next channel above the one already selected and destroy the previously selected group.

CH-

Removes a channel from an existing channel group.

Enter the number of the channel that you want to remove and press CH-.

CH- without a number before will select the channel before the one already selected and destroy the previously selected group.

THRU

Selects a range of channels for the channel group.

Example:

Select channels 5 to 9 as a channel group:

Add channels 1 to 4 to an existing channel group:
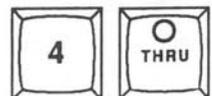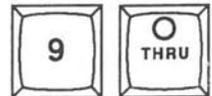
Subtract channels 6 to 9 from the channel group:

ALL

Selects all channels with a level greater than zero in the working field for the channel group.

AT LEVEL

Sets a level to the channels in the selected channel group.

Enter the level you want to set (0-100%) and press AT LEVEL.

If you press AT LEVEL without a number before, then it will give you the last used levels for the channels in the group. In this way you can easily copy channels levels between presets.

If you press AT LEVEL twice it will set the level 100% for the channel group.

STEP LEVEL

This keys gives you direct access to 2 user definable channel levels.

The first time you press STEP LEVEL it will set the level for the channel group to 50% (default). If you press STEP LEVEL a second time it will give you the level 70% (default) for the channel group.

If you enter a number before STEP LEVEL then it will select that channel first and then perform the usual STEP LEVEL action.

+%/-%

Increments/decrements the levels of the channels in the channel group by a specified number of percent (default = 5%).

If you enter a number before +% or -%, it will select that channel AND perform the usual +%/-% action on that channel.
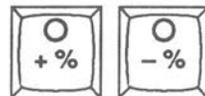
INVERT GROUP

Selects a new channel group consisting of the active channels which are NOT selected in the current channel group.

An active channel is a channel with a level greater than zero. Pressing the INVERT GROUP key again takes you back to the previous channel group.

REVERT

Returns the level of the channel group to the levels the channels had when they were selected for the group.
Press REVERT to take back the previous level for the channel group.

ID

The ID key will flash the channels in the channel group between 0% and 100%.

This can be used for identification of where a channel, or channel group, is located. When you release the ID key the flashing will stop and the channels will return to their original levels.

VIEW STAGE

When this function is activated the channel monitor will change to show you the light actually active on stage, no matter which field it comes from.

If you press VIEW STAGE again then the channel monitor will return to show you the contents of the working field. The VIEW STAGE will lit to indicate activation.

KEYS ON THE DESIGNER MODULE

SNAPSHOT

This function copies the stage output to the working field and records it into the first empty preset in the 900-series.

FROM MIX

This function copies the stage output coming from the mixer fields into the working field. It also sets all mixer field faders to zero. This is because otherwise the light will exist both on the mixer and in the working field.

TO MIX

This function assigns the selected channel group to a specific mixer field. Enter the number of the desired mixer field (1-12) and press TO MIX.

TRACK SHEET

Selects the Track sheet page. In the Track Sheet you can edit your presets like in a spreadsheet. See special chapter about Track Sheet.

To use the Designer wheel

When you enter a channel number and move the DESIGNER WHEEL up you activate the selected channel. Moving the wheel up also gives the selected channel a level.

Note: If you move the wheel very slow then the channel is not selected. This is to prevent you from accidentally entering a channel just by touching the board.

The Viking DESIGNER WHEEL works proportionally.

This means that if you have a group of channels with different levels active they will reach a zero level or a 100% level at the same time, when you move the wheel up or down respectively.

The Designer wheel also has an overflow/underflow function. If you have faded out to a zero level (or up to a 100% level) and fade the light back again, Viking will remember the balanced levels.

If, for example, you have a group of channel 1, 2 and 3.
Channel 1 is set to 40%, channel 2 to 60% and channel 3 to 80%.

If the group is active you can change the levels of the group up and down with the DESIGNER WHEEL.

Moving the wheel down will bring all channels to zero at the same time.

When you move the wheel up again VIKING remembers their former levels.
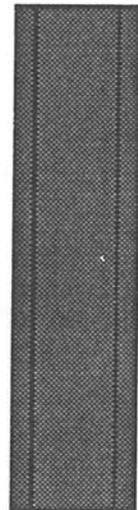
If you keep on moving the wheel up the channels will reach 100% at the same time.

The Command Module

This module contains functions concerning the whole system. Here you can find keys for working with sequence, presets, times, monitor screen and other peripheral equipment such as printer and floppy disk.

Preset
With the preset keys you can record, name and delete presets from the system.

Sequence
You have functions for building the sequence, making changes to the sequence and deleting sequence steps. You also find functions for adding extra features to the sequence, such as times, jumps, time groups etc.

Times
You have 6 time keys which will enter the different types of times into the system: In, Out, Delay, Wait and Alert times. Some of them work on both sequence and preset times. You can also define time groups where up to 32 different groups of channels can have their own fade and delay times.

Peripherals
In this group you will find keys working with peripheral units: Printer, Floppy Disk.

Screen Editor
You have 4 arrow keys which, together with the ENTER and SELECT keys, lets you move around the screen and change all kinds of data directly on the screen.

Clock
With the clock keys you can control the internal chronograph which includes a lap time function.

The command module display

This display shows the current time. If the timer is activated then the display will show you the timer time.

TIME   12: 24´ 30

THE COMMAND MODULE

SEQUENCE KEYS

TIME KEYS

SCREEN EDITOR KEYS

AVAB VIKING

EDIT SEQ	INSERT SEQ	ADD SEQ	DELETE SEQ
SELECT GROUP	REC GROUP	PART FADE	MASTER LINK
REC PRESET	NEXT PRESET	DELETE PRESET	REC TIME
GO MIX	DIMMER CURVE	CONST FIELD	SWAP
SETUP	DISK	PRINT	Y SEQ
PAGE	EFFECT	EXIT	TIMER
ENTER/ SELECT	↑	INSERT	RESET
←	↓	→	START

▲ ▼

ALERT
WAIT
DELAY
OUT
TIME
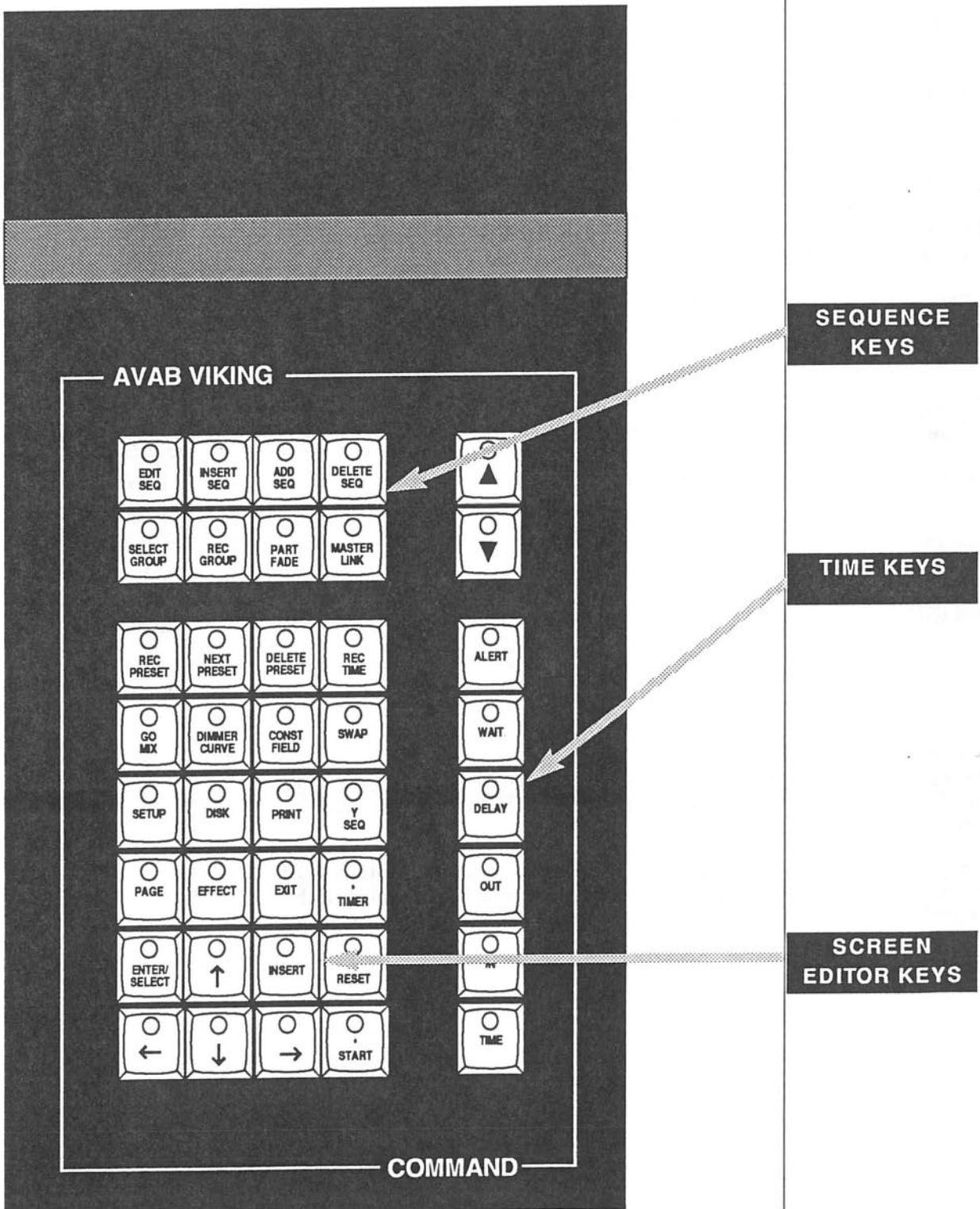
COMMAND

Command Module

TIME

If you are working in any of the crossfade fields (X1, X2, Y1 or Y2):
This key will assign a common in and out time for a crossfade.

Enter the time you want and press TIME. If you are working in X1 (or Y1) then the time will be assigned to the crossfade just completed. If you are working in X2 (or Y2) then the time will be assigned to the next crossfade. This will be the fade time of the next crossfade. In this way you can decide whether to put a time on the next or last crossfade.

To make the assignment permanent you must press the REC TIME key to record the time in the sequence.

Example:
Set time 3 seconds for the next crossfade:

ALTER X2 (if you are not already there)

Enter 3 TIME

Press RECORD TIME

If you are working in any of the mixer fields:
This key will assign a time to the active field. You enter the time you want and press TIME. To use this time you can use the GO MIX function described below.

If you press REC TIME then you will record the time into the preset assigned to the working field. When you load that preset again to a mixer field then the time will be loaded as well.
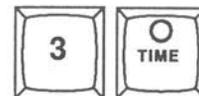
IN

If you are working in any of the crossfade fields (X1, X2, Y1 or Y2):
This key will assign an in time for a crossfade.

You enter the time you want and press IN. If you are working in X1 (or Y1) then the in time will be assigned to the crossfade just completed. If you are working in X2 (or Y2) then the in time will be assigned to the next crossfade. This will be the fade in time of the next crossfade. In this way you can decide whether to put an in time on the next or last crossfade. To make the assignment permanent you must press the REC TIME key to record the in time in the sequence.

If you are working in any of the mixer fields: Nothing will happen.

OUT

If you are working in any of the crossfade fields (X1, X2, Y1 or Y2):
This key will assign an out time for a crossfade.

You enter the time you want and press OUT. If you are working in X1 (or Y1) then the out time will be assigned to the crossfade just completed. If you are working in X2 (or Y2) then the out time will be assigned to the next crossfade. This will be the fade out time of the next crossfade. In this way you can decide whether to put an out time on the next or last crossfade. To make the assignment permanent you must press the REC TIME key to record the out time in the sequence.

If you are working in any of the mixer fields: Nothing will happen.

DELAY

If you are working in any of the crossfade fields (X1, X2, Y1 or Y2):
This key will assign an delay time for a crossfade.

You enter the time you want and press DELAY. Then you have to decide if it should be a delay on the incoming or outgoing channels. Press IN for incoming and OUT for outgoing channels. If you are working in X1 (or Y1) then the delay time will be assigned to the crossfade just completed. If you are working in X2 (or Y2) then the delay time will be assigned to the next crossfade. This will be the delay time of the next crossfade. In this way you can decide whether to put a delay time on the next or last crossfade. To make the assignment permanent you must press the REC TIME key to record the delay time in the sequence.

Example:

Set delay time 5 seconds for the outgoing channels for the next crossfade:
ALTER X2 (if you are not already there)

If you are working in any of the mixer fields: Nothing will happen.

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KEYS ON THE COMMAND MODULE

WAIT

If you are working in any of the crossfade fields (X1, X2, Y1 or Y2):
This key will assign a wait time to the crossfade.

This is the time before the next crossfade is started automatically. Enter the desired time and press WAIT. If you are working in X1 (or Y1) then the wait time will be assigned to the crossfade just completed. If you are working in X2 (or Y2) then the wait time will be assigned to the next crossfade.

Set wait time 5 seconds for the next crossfade: ALTER X2 (if you are not already there), enter 5 and press WAIT.

If you are working in any of the mixer fields: Nothing will happen.

ALERT

If you are working in any of the crossfade fields (X1, X2, Y1 or Y2):
This key will assign an elapsed time to the crossfade.

This is the estimated time before the next crossfade. The VIKING will count down that time to 0, showing you how long time it should be until the next crossfade should be started, and give you a warning when the time is running out. Enter the desired time and press ALERT. If you are working in X1 (or Y1) then the alert time will be assigned to the crossfade just completed. If you are working in X2 (or Y2) then the alert time will be assigned to the next crossfade. You can see the Alert time counting down on the first line of the monitor.

If you are working in any of the mixer fields: Nothing will happen.

INSERT SEQ

This key will insert a preset into the sequence at the current position. The new preset will be inserted before the preset occupying the X2 field (Y2 if the Y-sequence is selected). Enter the number of the preset to insert and press INSERT SEQ.

ADD SEQ

This key will add a preset at the end of the sequence.

Enter the number of the preset to add and press ADD SEQ.

DELETE SEQ

This key will delete the sequence step currently occupying the X2 field (Y2 if the Y-sequence is selected).

Press DELETE SEQ twice (VIKING will ask you to confirm the operation). The sequence step with all its times, time groups, effect assignments etc. will be removed.

MASTER LINK

This key is a quick way of linking presets or effects to the sequence.

It records all current mixer assignments as links to the sequence. This means that when you reach the sequence step again, then the linked presets and/or effects will be automatically loaded. To record all mixer assignments to the current sequence step in X2 press the LINK SEQ key. VIKING will then ask you to confirm the operation by pressing LINK SEQ once again.

EDIT SEQ

When this function is activated then all automatic sequence action is disabled. It will disable Wait times, Jumps, the starting of linked presets or effects.

To activate the Edit function press EDIT SEQ. The key will light up to indicate Edit mode. If you press EDIT SEQ again then the Edit function is disabled.

SELECT GROUP
With this key you select a time group.

First time you press it, it will select the first unused time group. If you press it successively it will step through the recorded time groups. The channels for each group will be indicated on the channel monitor as a channel group.

When a time group is selected you can add/remove channels with the usual channel functions, CH, CH+, CH-, THRU etc. To select a time for the time group enter the time and press TIME. To select a delay time for the time group enter the delay time and press DELAY.

Example:
Record channel 1 and 3 as a time group to be run on 5 seconds with a delay of 3 seconds:

Note: As soon as you start to change a time group REC GROUP starts to blink to indicate that you have to record the changes.

Note: If you want you can directly change the level of the selected time group with the channel wheel or the level functions. If you make a change to the levels of the group then the REC PRESET starts to blink to indicate that you have to record the preset as well as the time group.

Note: If you are working in the X1 field then you will be working with the time groups recorded in the sequence step positioned in X1. If you are working in the X2 field then you will be working with the time groups in the sequence step positioned in X2.

REC GROUP

Record a time group as described above at SELECT GROUP. This key will start to blink when a time group is changed and has to be re-recorded.

REC PRESET

With this key you record presets into the memory of the VIKING.

If you enter a number before pressing REC PRESET the light will be recorded to that preset number.
If you just press REC PRESET the light in the working field will be re-recorded in the preset occupying that field.

Note: If you try to record light in a preset that already contains light, then VIKING will ask you to confirm. To confirm press REC PRESET again.

Note: As soon as you start to change the light with the channel wheel or the level keys the REC PRESET key starts to blink to indicate that you have to record the preset to keep the changes.

NEXT PRESET

This key will give you the next free preset number.

That will be the first unrecorded preset number.

Note: If you enter a number before you press NEXT PRESET then you will be given the next free preset number above that number.

KEYS ON THE COMMAND MODULE

DELETE PRESET
This key is used for deleting presets from the VIKING memory.

It will delete the preset occupying the working field. Press DELETE PRESET to make the deletion. VIKING asks you to confirm by pressing DELETE PRESET again.

GO MIX
With this key you can start a fade on any of the 12 mixer fields.

Enter the number of the mixer field (1-12) and press GO MIX. If the mixer wheel is down then the fade will go upwards, if the mixer wheel is up then the fade will go downwards.

SWAP
This key will change the level between 2 channels (swap) throughout the whole play.

The two channels levels will be exchanged.
Enter the first channel as a channel group. Enter the channel to swap with and press SWAP. VIKING will tell you have many swaps that were made.

Example:
Swap the levels of channel 3 and 6:
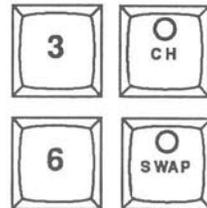
SETUP

With this key you select the special Setup screen which lets you change and set different system parameters such as dimmer curves, step level values etc.

PAGE

This key selects which monitor format that should be displayed on the system and channel monitors.

Enter the number of the desired format and press PAGE.

PRINT

This key starts a printout on the printer.

Select the desired format by entering the number of the format and press PRINT. The PRINT key will light up to indicate that the printer is active. To deactivate the printer press PRINT again.

EFFECT

This key gives you access to the effect generator page.

DISK

This key gives you access to the Disk Operation Page on the monitor.

On this page you find commands for accessing the floppy disk units.

EXIT

This key cancels all unfinished operations.
With this key you also answer NO when VIKING asks you to confirm a command.
It is also used for leaving the Screen Editor.

ARROW KEYS

With these keys you can position on the item on the screen that you want to change. See the chapter about the VIKING Screen Editor.

ENTER/SELECT

With this key you enter values or change parameters in the VIKING Screen Editor.

Position with the arrow keys to the field that you want to change. The channel wheel is now connected to the field you have chosen. You can enter a new value with the wheel or directly with the numerical keys on the Designer module. If the selected field is an on/off field, toggle it on or off by pressing ENTER/SELECT.

To record the new value press ENTER/SELECT. See the chapter about the VIKING Screen Editor.

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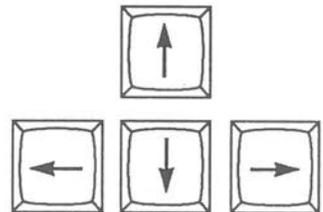
PART FADE
This function is currently not implemented.

TIMER
This key selects the timer for display on the Command module display.

The TIMER key will light up when in Timer display. Press TIMER again to get back to the Real Time Clock display.

START/STOP
With this key you start and stop the timer.

When the timer is running this key will be lit. Stop the timer by pressing START/STOP again.
Each time the timer is started it will automatically be reset to 0.

The Mixer Module

A VIKING system can have up to 3 Mixer Modules.

Each module has 4 mixer wheels. Each wheel controls one mixer field. On this module you have keys for loading presets to the different mixer fields, selecting working field and for selecting operation mode. Each mixer field can be set to operate in 3 different modes: Master Mode, Balance Mode or Inhibit Mode. The module also contains a flash key for each field.

Each wheel can work as a manual fader or as a speed controller.

The mixer modules are used
for running effects,
for building and mixing basic blocks of light,
to make runtime changes to the light output,
for add-on presets or specials.

THE MIXER MODULE DISPLAY

On the mixer module display you can see the contents of the different mixer fields, usually displayed as a preset number.

If you are in Mixer mode, and have a channel assigned to the field without having a preset number, then this channel is indicated with C and the number of the channel. If you have a group assigned to the mixer field it will be indicated with GRP.

If you are in Group mode or Master mode, and have a group assigned to the field without having a preset number, then this group is indicated with BAL and INH respectively.

```
100.1  INH    C 12    BAL
```

AVAB VIKING

◯ M1	◯ M2	◯ M3	◯ M4
◯ MODE M1	◯ MODE M2	◯ MODE M3	◯ MODE M4
◯ ALTER M1	◯ ALTER M2	◯ ALTER M3	◯ ALTER M4
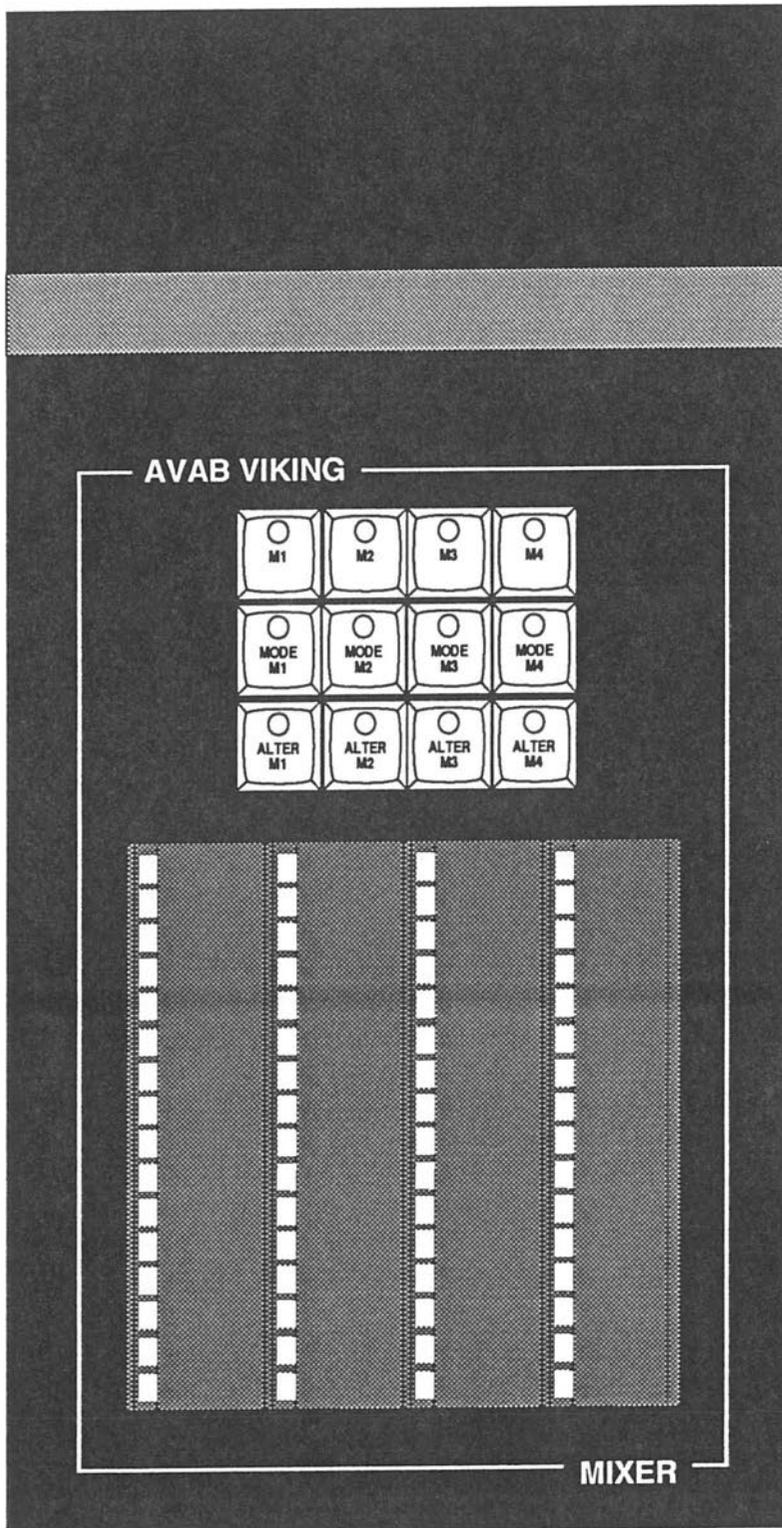
MIXER

KEYS ON THE MIXER MODULE

MIXER MODULE

Each vertical row of keys controls one of the 12 mixer fields M1-12. With these 3 keys you can load presets to the field, select operational mode and choose working field. One of them can also work as a flash key for the field.

M1-M12

These keys loads a preset to mixer field 1-12.

Enter the number of the preset that you want to load and press the corresponding 'M'-key. The loaded preset will be shown on the module display right above the mixer wheel.

MODE M1-M12

These keys selects the operational mode of the corresponding mixer field.

Each mixer field (and its corresponding wheel) can work in one out of three different modes: Master, Balance or Inhibit mode. The default mode is Master mode.

To select Balance mode

Press the MODE key once. The key will light up to indicate Balance mode. If you press once again you will go back to Master mode.

To select Inhibit mode

Press the MODE key and **at the same** time press the 'M'-key right above the MODE key. Both the 'M'-key and the MODE key will light up to indicate Inhibit mode.

To select Master mode

If you are in Balance or Inhibit mode just press the MODE key once and you will get back into Master mode.

ALTER M1-M12

If the mixer field is in Master or Inhibit mode:
These keys select a mixer field as the working field. The working field is the
field that is connected to the Designer module for channel control. To select a
mixer field as the working field just press the ALTER key for that field. The
key will light up to indicate that this is the working field. The channel monitor
will change to show the contents of this field.

If the VIEW STAGE function is on, it will be switched off when you press the
ALTER key.

If the mixer field is in Balance mode:
In Balance mode these keys works as an 'activate group' function. Normally
only channels active on stage, that are part of the group in the mixer field, will
be controlled by the wheel. If you want to control the whole group with the correct
balance between the channels, overriding the light on stage, just press the
ALTER key for the desired field.

How to select the ALTER keys as flash keys:
If you build a Quick Chase and enter a time of 0 for a step, then that step will be a
flash step. The ALTER key for the field of that step will be used as a Flash key
for the step.

THE CROSSFADE MODULE

This module gives you control over all playback functions for one of the 2 sequences (X and Y).

The crossfade module has functions for starting, pausing, inverting and jumping the sequence. With the wheels you can control the speed or intensity of any light change. The module has keys for loading presets to the crossfade fields and also for selecting working field. It gives you control over the Time Track and Time Curve functions.

With this module you can run your whole performance with perfect control. You can have 2 crossfade modules, one for each sequence (X and Y).

THE CROSSFADE MODULE DISPLAY WINDOW

The two possible crossfade modules (X and Y) behave exactly the same so everything that is mentioned below for the X crossfade module will also work the same way for the Y crossfade module.

The crossfade module display shows the presets in the X1 and X2 fields together with the sequence times for the current crossfade.

The time for the outgoing channels is indicated to the right of the X1 preset.

The time for the incoming channels is indicated to the right of the X2 preset.

An In or Out time is indicated with the letter T and the time.

A Delay time is indicated with the letter D and the delay time.

A Wait time is indicated with the letter W and the wait time.

All times count down when they are running.

```
97 /T3.7    101.1\D5.4
```

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AVAB VIKING

X1	SPLIT X	X2	SEQ X2	PRESET X2	SEQ X+
ALTER X2	UNLOCK X2	ALTER X2	TRACK X	CURVE X	SEQ X-

INVERT X

PAUSE X

GO X
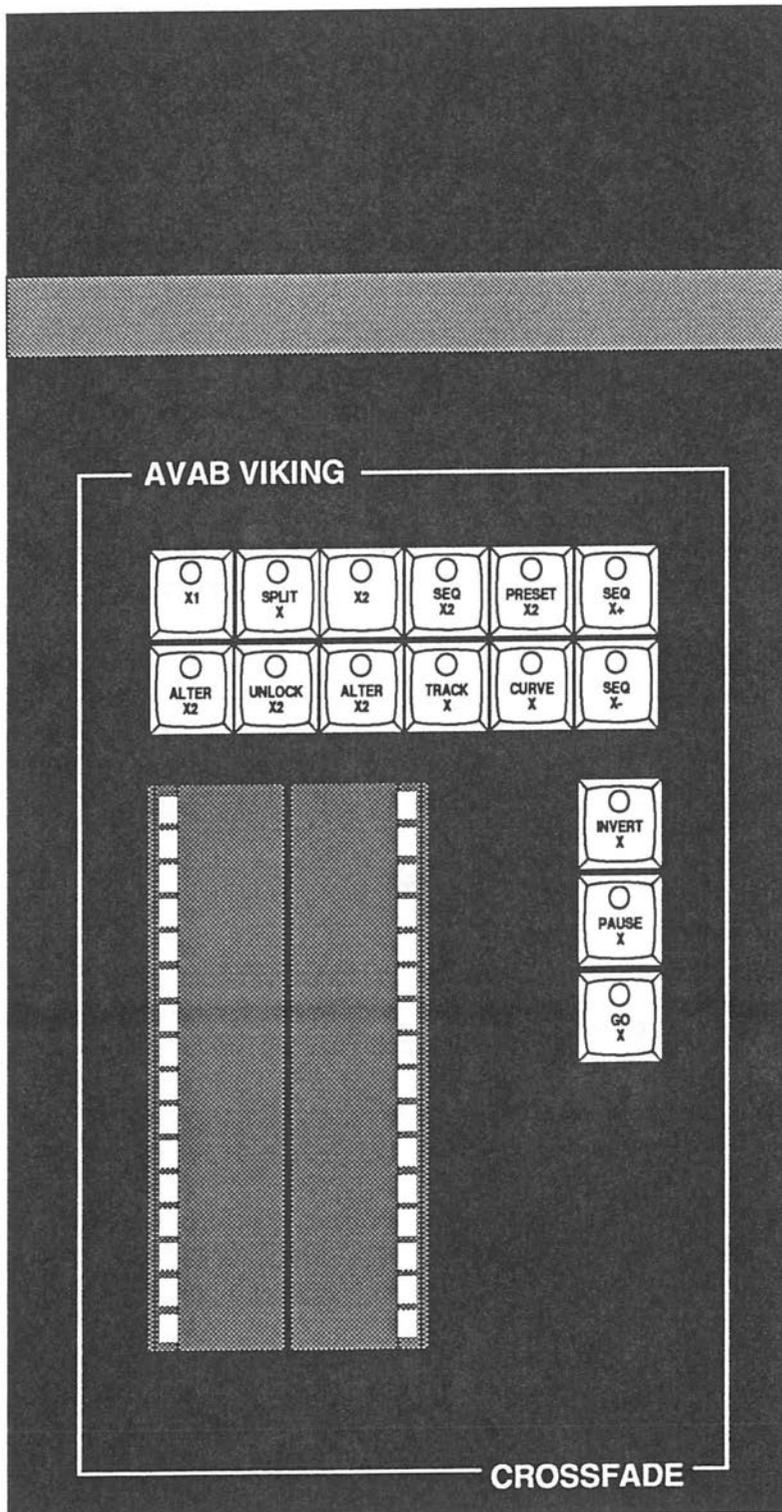
CROSSFADE

KEYS ON THE CROSSFADE MODULE

X1 and X2

These keys will load a preset to the X1 or X2 field respectively.

The preset for each field will be shown on the module display.

Example:

Load preset 6 to the X1 field:

Note: Because of the fact that X1 is the light visible on stage you have to confirm the loading operation by pressing the X1 key twice.

Example:

Load preset 4 to the X2 field:

ALTER X1 and ALTER X2

These two keys select the X1 or the X2 field as the working field.

The working field is the field that is connected to the Designer module for channel control.

To select the X1 field as the working field, press the ALTER X1 key. To select the X2 field as working field, press the ALTER X2 key.
The ALTER key will light up to indicate that this is the selected working field and the channel monitor will change to show the contents of the selected field.

If the VIEW STAGE function is on, it will be switched off as soon as you press any of the ALTER keys.
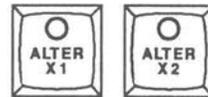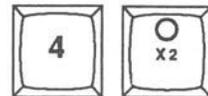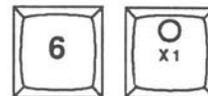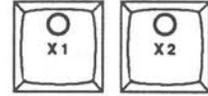
SEQ X2
This key is used for jumping in the sequence.

Enter the sequence number that you want to jump to and press the SEQ X2 key. If there is a sequence step with the desired number, that sequence step will be placed in the X2 field (without disturbing the light in the X1 field). The preset on that sequence step will be faded in at the next crossfade.

If you press SEQ X2 without a number before, VIKING will take you back to the beginning of the sequence.
If you press SEQ X2 a second time you will step forward one step in the sequence. The light in the X1 field is not affected.

Example:
Jump to sequence position 9 and put that step into the X2 field:

PRS X2
This key works in the same way as the SEQ X2 key, but instead of using sequence numbers it uses preset numbers. It will take you to a specified preset number and put the corresponding sequence step in the X2 field.

Note: If the preset number occurs several times in the sequence (if you are using free sequence) then PRS X2 will take you to the next occurance of the specified preset.

SEQ X+ and SEQ X–
These two keys will move the sequence 1 step forward or backward.

Because these functions change the output on stage, VIKING asks you to confirm the operation by pressing the key once more. This will only appear the first time you press SEQ X+ or SEQ X–. If you continue to press SEQ X+ or SEQ X– to make more steps, VIKING will not ask you to confirm these operations.

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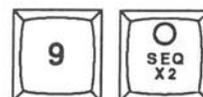
KEYS ON THE CROSSFADE MODULE

SPLIT X
This key will switch Split mode on or off for the next crossfade.

The Split mode is a special case of crossfade where you remove the dipless function.
To switch on Split mode, press the SPLIT X key once. The SPLIT X key will light up to indicate Split mode.

To switch off Split mode, press the SPLIT X key again.

The Split mode is automatically recorded into the sequence. It is indicated with the letter 'S' on the sequence monitor. Every time you come back to that sequence step again Split mode will be selected automatically.

TRACK X
When you make a crossfade, manual or automatic, the real time for the crossfade to be completed is always automatically measured.

You can, if you are satisfied with the fade, enter the measured time into the sequence by pressing TRACK X. The time, which can consist of different In and Out times and eventually a Delay, is then entered into the sequence step in the X1 field.

If you want to record the new times, press the REC TIME key on the command module.

Note: The REC TIME key starts to flash when you press the TRACK X key

CURVE X
This key will record the profile of the last made crossfade. Up to 9 different profiles can be recorded and assigned to any number of step in the sequence.

Example:
Make a manual fade.

Enter the number of the profile (1-9) and press CURVE X.

The profile will be recreated when you press GO for that sequence step.
The profile can be slowed down/speeded up using the wheels as usual and then re-recorded in the same way.

PREHEAT X
This key activates the preheat function for all channels in the play.
Enter the preheat level in percent and press PREHEAT X. All channels in the play will be given a minimum of that level on stage.
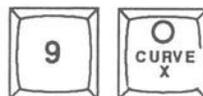
GO X

This key will start the next crossfade.

The GO X key will be lit to indicate a running crossfade. If a crossfade already is running and you press GO X again,it will start the next crossfade directly from the point where you pressed GO X the second time. This function is called Go Ahead and can be repeated an unlimited number of times.

When you press the GO X key, the crossfade wheel will automatically change to speed control mode.

PAUSE X

This key will temporarily stop a running crossfade, no matter if it is running forwards (activated by the GO X function) or backwards (activated by the INVERT X function).

The PAUSE X key will be lit to indicate a paused crossfade.

When the PAUSE X function is activated the crossfade wheels will automatically change to manual fade control. To start the crossfade in its previous direction, press PAUSE X again.

INVERT X

This key will change the direction of a crossfade.

If you want to 'undo' a started crossfade, press the INVERT X key and the fade will smoothly return to its starting condition. The INVERT X key light up to indicate that the fade is being run backwards.

The PAUSE X function can also be used together with the INVERT X function to pause an inverted crossfade.

VIKING TUTORIAL
CONTENTS

The VIKING tutorial is a school to teach you the VIKING basics.

Give the VIKING tutorial a few hours. You will get them back later.

You should carefully follow the examples given and perform them as told in the school. The school will slowly take you thru the basic features of Viking.

We are certain that you will be very content over what you experience.

We wish you good luck and good lighting!

WELCOME TO VIKING

PREPARE THE VIKING FOR A NEW PERFORMANCE

You are about to start the VIKING basic school. We will slowly take you through the features of VIKING. To do this in a simple way we are going to give you some examples to work with, and this requires a cleared VIKING. Otherwise you can easily get confused over features that you have not programmed.

If someone else is, or has been working with a light program on VIKING, please ask him to save his work. When you clear the memory of VIKING you will destroy everything programmed in the VIKING. After a session with VIKING you should always save your work to disk. You will soon learn how to do this.

CLEAR THE MEMORY

1. Activate the control desk with the key switch labeled "CONTROL DESK" on the VIKING processor module

"System ready"

2. Enter /DEAL on the keyboard and press RETURN.
The system will prompt: "Are you sure? (Enter AVAB) ".

3. Enter "AVAB" and press RETURN.
(As a safety measure you have to enter four letters instead of just replying "yes" or RETURN.)

VIKING
LIGHTS UP

SIGNAL OR
VOICE

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START MAKING YOUR LIGHTING PROGRAM
Set and record the first lighting scene

You are about to make the first preset for your lighting program.

Set channels 1, 2, 3 and 4 at the same level to build preset 1.

Make a group of channels 1, 2, 3 and 4.

Select channel 1
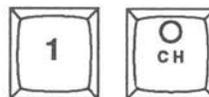
Add channel 2
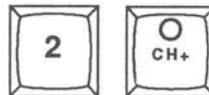
Add channel 3
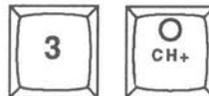
Add channel 4
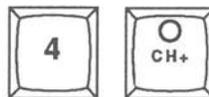
When you entered channel 1 a green cursor appeared on the channel monitor at channel number 1. This indicated that the channel was activated.
You should now have four such indications showing the group you have built.

Set level for the group
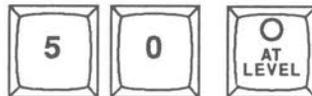
Set the level for the group to 50%

DESIGNER
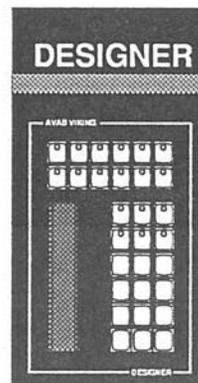
LIGHT ON STAGE

You now have light on stage. Congratulations! Channels 1, 2, 3 and 4 at 50%.

Record the first lighting scene

When you gave the channels a level the record button started to flash. This helps you remember to record the setting you have made.

Now give the preset a name.

Name preset and record

Select number 1 as the name

Record preset

COMMAND

SIGNAL
OR VOICE

Preset 1 is now recorded in the X1-field and automatically put in the playback sequence, as you are working in the X1 (stage) field.
When you recorded the preset you got either an audio signal or was told by the voice of Viking: "1 recorded".

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Record a crossfade time

Now give preset 1 a crossfade time. If you choose a time and press the time button Viking will give the same out and in time for the crossfade. In this case you do not have to bother about different in or out time as preset one is the first preset in the sequence and only needs an in time.

Select time

Select a crossfade time of 10 seconds

| 1 | 0 | ○ TIME |
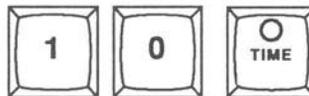
FLASH
ON REC TIME

Record the time

○ REC TIME

COMMAND

Preset 1 is recorded with a crossfade time of 10 seconds. The preset can be seen on stage.
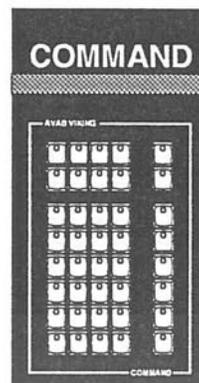
Preset 1 is in the X1 field. Let us go on and make some changes to preset 1 and name the new preset number 2. Your changes will be seen on stage as you make them.

Select a group of channels

Select channel 5
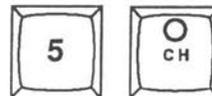
Add channel 8

Set level 75% for the group

Select a group of channels

Select channel 2
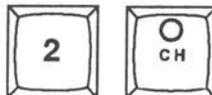
Add channel 3
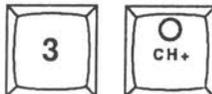
Set level 0% for the group
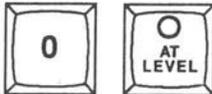
The changes you have made in preset 1 can now be seen on stage. The last two channels you selected are still marked with squares.
You are satisfied and it is time to record your second preset.

Record preset

Preset number 2

Record the preset

"2 recorded"

Preset two is now recorded and put into the sequence. Preset 2 is indicated on the system monitor and in the crossfade module display. Preset 1 can also be seen in the playback sequence on the system monitor.

DESIGNER

REC PRESET
FLASHING

COMMAND

SIGNAL
OR VOICE

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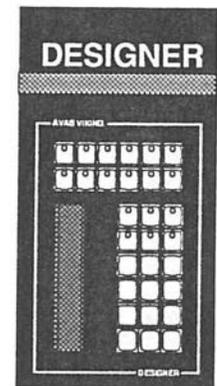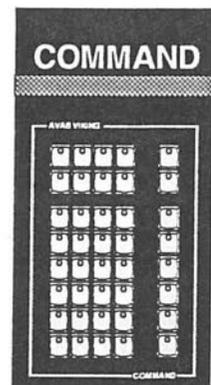
Now record a crossfade time for preset 2 with different in and out times.

Select crossfade Times

Select fade in time

| 1 | 2 | IN |

COMMAND

Select fade out time

| 6 | OUT |

Record time

| REC TIME |

REC TIME FLASHING
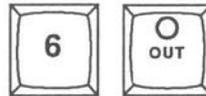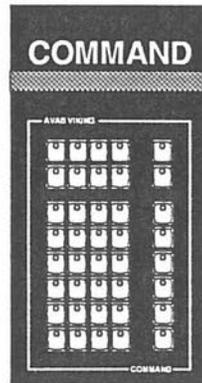
When you selected the in time the REC TIME key started to flash to remind you to record the time.

Preset 2 is now recorded. Between preset 1 and preset 2 there is a 12 second fade in time and a 6 second fade out time.

This means that incoming channels (channels going to a higher intensity) fade in in 12 seconds. Channels going to lower intensity will fade out in 6 seconds. Channels with the same intensity in X1 (stage) and X2 (preset) will not be changed.

Now you can go on to build preset 3. When you record times for preset 3 you will go a step further. You are going to give individual times for selected channels. This means that your crossfade will run at the time you select, but some channels will run with their own individual times.

Select a group

Select channel 9

| 9 | ○ CH |
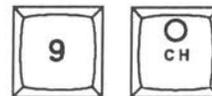
Add channels 10, 11 and 12

| 1 | 2 | ○ THRU |

DESIGNER

When you pressed the THRU key you get a cursor indication for all four presets.

Set level

Set the group to 100%

| 1 | 0 | 0 | ○ AT LEVEL |

REC PRESET FLASHING
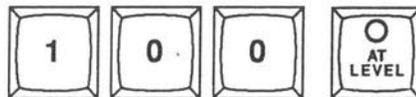
Record preset

Name...

and record preset 3

"3 recorded"

| 3 | ○ REC PRESET |

SIGNAL OR VOICE
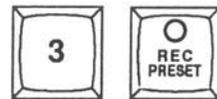
Set a crossfade time

Enter a time

| 5 | ○ TIME |

REC TIME FLASHING
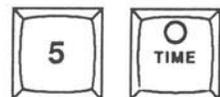
Record the time

| ○ REC TIME |

Preset 3 is now recorded and put into the playback sequence. The crossfade time is 5 seconds. Now you shall give some channels special fade times. This is what we call Time Groups.
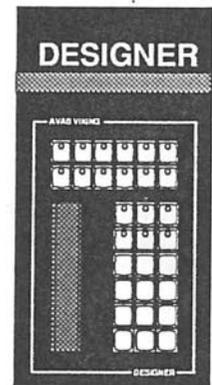
Give individual times to some channels in preset 3.

Select a time group

TIME GROUP LIT

COMMAND

When you pressed the time group key the system monitor changed. You now have four big squares with a cursor in the upper left corner of the left big square. (Please refer to the monitor section of this manual)
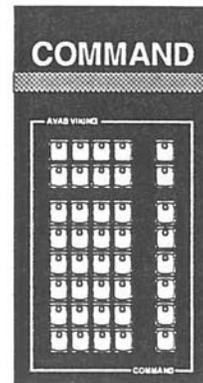
Select a channel for time group

Select channel 9
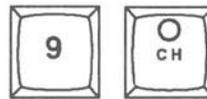
REC GROUP FLASHING

Select time for channel 9
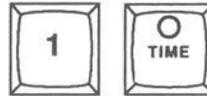
Record group

Channel 9 on the channel monitor is now marked as belonging to time group A.

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Let us make two more time groups in the same way.

Select group

Select a channel
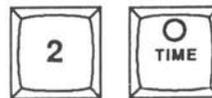
Select time

Record group

Now the last time group.
Select group

Select channels

Record time group

Select time

Record group

COMMAND

REC GROUP
FLASHING

REC GROUP
FLASHING

55
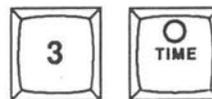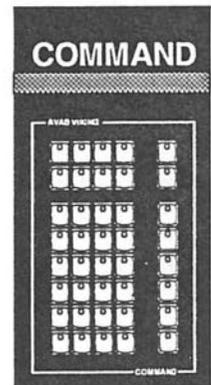
You have now built three presets which automatically have been put in playback sequence. You have an in time for preset 1, a crossfade time between preset 1 and 2 and a 5 seconds crossfade time between preset 2 and 3. Between preset 2 and 3 you also have individual fade times for some channels (Time Groups).

Preset 3 is in X1 and is active on stage.

Let us try to run the three presets now recorded.

Go back to start

Back in playback sequence

"Confirm"

Back up one step
Preset two on stage

Back up one step
Preset one on stage

Back up one step
Preset zero on stage
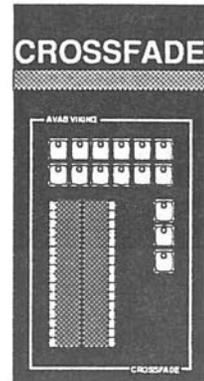
You have now stepped back in the playback sequence. Preset 1 is in X2 (preset) and the stage is dark. When you pressed the back key the first time you got a warning from VIKING. The warning tells you that this function will affect light on stage.

Let us run the performance.

Run performance

Start crossfade

GO X

GO LIT

SIGNAL OR VOICE

CROSSFADE

"Done"

When you pressed the GO X key you started a crossfade. Channel 1 to 4 faded in in 10 seconds.

You had several indications that a crossfade was executed. The light in the GO X key went on and the CROSSFADE wheel diodes moved.

Preset 1 is on stage and preset 2 ready in X2
Run next crossfade

Start crossfade

GO X

GO LIT

SIGNAL OR VOICE

"Done"

You now executed a crossfade between preset 1 and preset 2. Incoming channels faded in in 12 seconds. Outgoing channels faded out in 6 seconds.

Preset 2 is now in X1 (stage) and preset 3 is in X2 (preset). Four squares indicating timegroups are seen on the system monitor

Run next crossfade

Start crossfade

GO X

GO LIT

SIGNAL OR VOICE

You have executed a crossfade between preset 2 and preset 3. Channels 9 to 12 fade in with their 3 different times. No other channels move since they have common levels.

Viking has told you that the crossfade is ready.
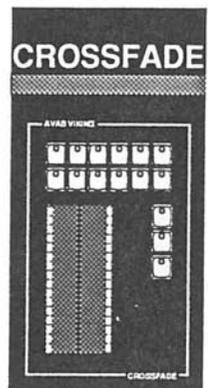
Run your performance one more time but affect the crossfade by using the invert and the stop keys.

Go to beginning

"Done"

You used a second way to go to the zero preset. As preset 3 is the last preset in the playback sequence a crossfade takes you back to preset zero. This preset is always first in the playback sequence and cannot be programmed.
Preset zero is in X1 and preset 1 in X2. The stage is dark.

Run the performance

Start crossfade

CROSSFADE

The light on the GO key went on and the wheel diods started to move.

When you see light on stage you realized that you started the crossfade too early. You have to go back to a dark stage.

Invert the crossfade

INVERT
LIT

When you press the INVERT key VIKING takes you back to the beginning of the crossfade smoothly. You can see the wheel diods move back.
When you are back to the former position the light on GO key and INVERT key disappears.

Now you can perform your crossfade.

Run performance

Start crossfade

"Done"

SIGNAL
OR VOICE

Your crossfade is executed. Preset 1 is in X1 (stage) and preset 2 is in X2 (preset)
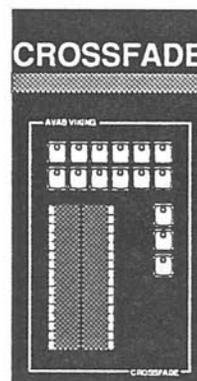
Now run the next crossfade. During this crossfade you press the PAUSE key. You have once again started the crossfade too early and want to stop its execution.

Preset 1 is on stage and preset 2 is in X2 (preset)

**Run the performance**

Start crossfade

```
 O
GO
 X
```

CROSSFADE

GO LIT

Stop crossfade

```
  O
PAUSE
  X
```

PAUSE LIT

You have stopped the crossfade. The wheels do not move. Light on GO key and STOP key.

You have several choices to go on from here, let us try them:

Run performance from stop point.

Go on with crossfade

```
  O
PAUSE
  X
```

The crossfade continues from the point were you stopped it when you press the Stop key again.

Preset 2 is on stage and preset 3 in X2 (preset). Go back one step in playback sequence

Back one step

"Confirm"

```
  O
 SEQ
 X-
```

SIGNAL OR VOICE

```
  O
 SEQ
 X-
```

Preset 1 is in X1 (stage) and preset 2 in X2 (preset)

Run the performance and stop the crossfade

INVERT FADE

Start crossfade

GO
LIT

Stop crossfade

PAUSE
LIT

Go back to the start of the crossfade

INVERT
LIT

You are back to the position with preset 1 on stage and preset 2 in X2.
After the stop, the invert key took you smoothly back to your starting position.

The third way to go on after using the stop key is to press the go key once more.
The go key now works as a go ahead key. This means that when you press the
key you start the next crossfade in the playback sequence. This function can
also be used when you execute a "normal" crossfade.
If you press the GO key twice you will jump to the next crossfade in playback
sequence.

Make a go ahead crossfade

Start the crossfade and wait 5 seconds and
press GO again

Go ahead

"Done"

SIGNAL OR
VOICE

When you pressed the GO key the first time you started a crossfade between
preset 1 and preset 2. The second time you pressed the GO key VIKING moved
you to the crossfade between preset 2 and preset 3.
VIKING calculates the best way to go from one given position to another, and
performs the position change very smooth.
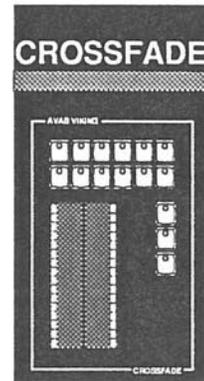
Now try the same thing after you have stopped a crossfade. Go forward in the playback sequence to the position where you have preset zero in X1 (stage). This makes the stage dark.

Go to preset zero

Press GO key

GO LIT

SIGNAL OR VOICE

"Done"

Preset zero is on the stage (stage dark) and preset 1 is in X2 (preset).

Start to fade in preset 1

Start crossfade

GO LIT

Stop the crossfade

PAUSE LIT

Go

GO LIT

SIGNAL OR VOICE

"Done"

When you pressed the Stop key you stopped the fade in of preset 1. Now you pressed the Go key once more and continued the crossfade

Press GO again.

Done

SIGNAL OR VOICE

Preset 2 is now on stage and preset 3 in X2 (preset)

The last way to go on from a stop position is to use the crossfade wheels.

We will discuss and try the crossfade wheels on following pages.
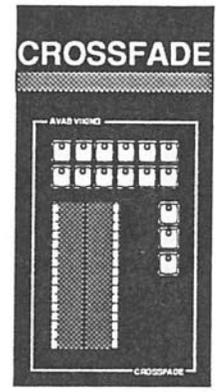
Working with the crossfade wheels

There are two ways to perform a crossfade on VIKING. Either you use the GO key or you use the crossfade wheels.

Let us make a crossfade with the Wheels

Go back in the playback sequence so you have preset 1 on stage

Back the playback sequence

"Confirm"

Make a crossfade with the wheels

Preset 1 is in X1 (stage) and preset 2 in X2 (preset). You have an out time for preset 1 of 6 seconds and an in time for preset 2 of 12 seconds.

Now, place your finger or your thumb (it is a matter of taste) at the very bottom of the wheels and move both wheels slowly upwards at the same time.

You move the wheels all the way up to the top. When the crossfade is completed you will have a feedback from the wheels. The wheels move back a few millimeters to show you that the crossfade is completed.

"Done"

When you use the crossfade wheels you overrun the recorded crossfade time.

You can make a manual crossfade at any time during your lighting program without the need of pressing any keys to switch between a manual and a timed crossfade.
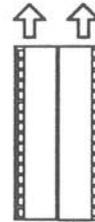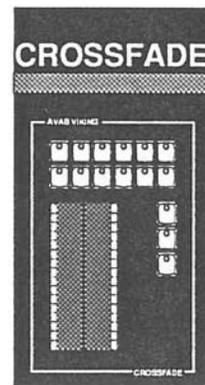
You can also use the wheels individually. The X1 wheel (left wheel) fades out the light in X1 (stage). The X2 wheel (right wheel) fades in the light in X2 (preset).

Back one step down in playback sequence

Back the playback sequence

"Confirm"
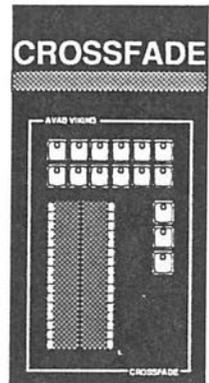
Preset 1 is in X1 (stage) and preset 2 in X2 (preset)

Move the left wheel up and channel 2 and channel 3 will fade out.

Move the right wheel up and channel 5 and channel 8 will fade in

"Done"
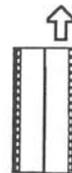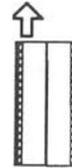
When you moved the left wheel you faded out preset one, the preset on stage. But the stage was not dark. You faded out channel 2 and 3 but still you have light on stage from channel 1 and channel 4.

Note: The default setting for crossfades in VIKING is a dipless crossfade. A dipless crossfade has a third field not seen by the user. This field makes common channels (channels with the same level in X1 and X2) stay during a crossfade. This prevents a dip in stage light during a crossfade. In your example channel 1 and channel 4 are common channels.

However, there are some situations when you want to totally fade out the light on stage without putting a blackout preset in the playback sequence.

VIKING has a simple solution to this - See next page.

Preset 1 is on stage and preset 2 in X2

Back the playback sequence 1 step

"Confirm"

SIGNAL
OR VOICE

CROSSFADE

Split X

Split X
Move the left wheel up

SPLIT X
LIT

Move the left wheel up

When you moved the X1 wheel up you faded out all channels in preset 1. The stage is dark.

Move the right wheel up

When you moved the X2 wheel up all channels in preset 2 went up on stage and the crossfade was executed.

"Done"

SIGNAL
OR VOICE

If you do not move one or both wheels to their end point the crossfade is not completed. VIKING will not give you a signal or the voice will not state "Done". Until the crossfade is completed you can always move the wheels back again and get your former light on stage.

VIKING will remember the split. Every time you get back to the place in the playback sequence where you executed the Split X the key will lighten up to show you that the next crossfade is split.
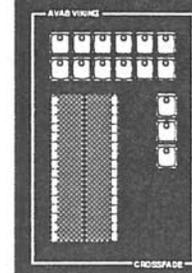
Preset 2 is in X1 and preset 3 in X2.

Go ahead to get preset 1 in X1 and preset 2 in X2

Make a go ahead crossfade

Start the crossfade

Go ahead

Go ahead

"Done"

SIGNAL OR VOICE

SPLIT LIT
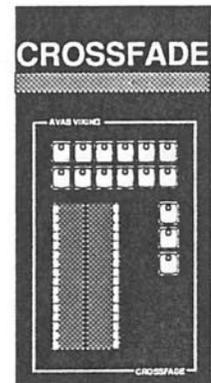
CROSSFADE

Preset 1 is in X1 (stage) and preset 2 is in X2 (preset). The split key is lit up to show that next crossfade is a split one.

Reset split X

SPLIT X

W e have seen that a manual crossfade overruns the recorded timed crossfade. If you do a manual crossfade and feel that this crossfade was timed as you wanted, you can track the time used to execute the crossfade.

Preset 1 is in X1 (stage) and preset 2 in X2 (preset). You have an in time of 12 seconds and an out time of 6 seconds.

Now you make a manual crossfade.

CROSSFADE

Make a manual crossfade

Both wheels up

**SIGNAL
OR VOICE**

"Done"

Track time

TRACK
X

**REC TIME
FLASHING**

You can now see the time you used to perform the crossfade on the system monitor. Note that this is an average time and do not take in account if the crossfade was unsmooth. If you want to keep the tracked time you record it with the REC TIME key.
**Don´t do that in this example.**

If you move the X1 wheel faster than the X2 wheel you will get individual in and out times and if you start later with one Viking will assign a delay time to the crossfade.

Back one step in sequence.

Back sequence

SEQ
X–

**SIGNAL
OR VOICE**

"Confirm"

SEQ
X–

You are back to your former position with preset 1 in X1 and preset 2 in X2. The tracked time is removed as you did not record it. The recorded time is back.
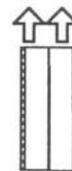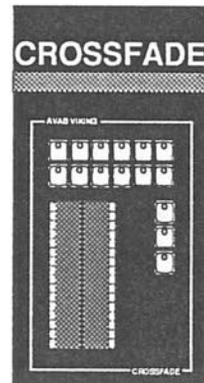
The TRACK X function gave you an average time of the manual crossfade you executed. When you use the track curve function you can record all movement you do with the manual crossfade wheels.

Preset 1 is in X1 and preset 2 in X2.

Execute a manual crossfade

Move left wheel half way up

Move left wheel back

Move both wheels up

"Done"

Record as crossfade curve number 1
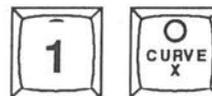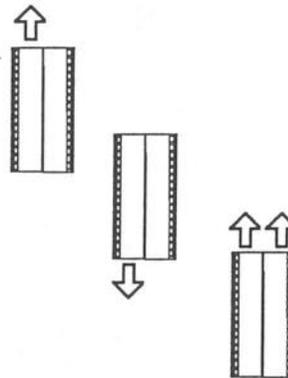
You have now recorded the crossfade, including the movements, into the memory. The curve has got a number – 1.

**Now let us run this fade and see the curve in action!**

Back sequence

"Confirm"

Run crossfade
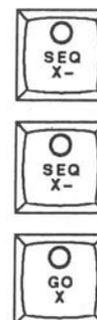
When you run the crossfade it followed the actual movements you manually created, tracked and recorded.
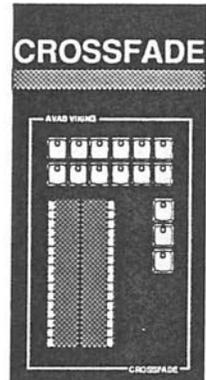
You have now experienced some basic (and some advanced) functions in the **Viking.** We hope you have found it easy to follow this step by step manual.

As you have noticed all commands given to VIKING follow the same pattern. VIKING uses a command language called "Reversed Polish Notation". This means that the function you want VIKING to Execute always is last in the command chain. The big advantage is that commands always are given in the same way not only in VIKING but in all AVAB lightboards.

If you have not worked in this way before, it is maybe a bit strange. But we promise that you very soon will understand the advantages.

The second issue we want to discuss is the working fields in VIKING, contra the playback sequence and crossfade times.

Let us compare the playback sequence with an endless film running through a projector. The light on stage is when the film passes the lens. Every frame in this film has two numbers. The first is the numerical order starting with 1, the other is your own numbering of presets.

Normally we talk of two working fields in the playback sequence. It is possible to work with two frames in our film without moving the film. We call these working fields X1 and X2. You have direct access to X1 and X2 from the VIKING modules.

But in reality you have as many working fields as your playback sequence is long. To reach all working fields without moving the playback sequence you have to work directly with the screen. We will discuss that later in this manual.

The fields are stationary while the film with playback sequence numbers and presets move.

When you alter your channels in X1 you work on stage. Everything you do will affect the light on stage. Working in the X2 field is working blind with the next frame to go public.

So, if you want to make changes in a preset without disturbing light on stage you have to work in any other field than X1. You have direct access to the X2 field from the crossfade module by the Alter X2 key

X0
STAGE X1
PRE SET X2
X3
X4
X5

ALTER X2
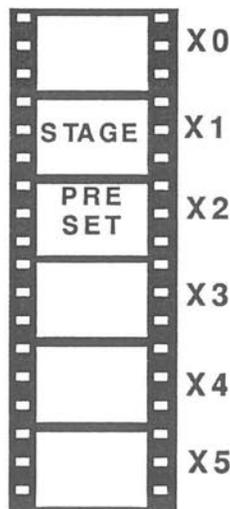
When you set times to a crossfade it is essential that you know which field you are working in. In this manual we have only worked with times in the X1 field until now.

Let us look at the difference to set times in X1 field or in the X2 field.

When you work in the X1 field you work in passed time. When you change levels and channels everything you do can be seen on stage.

The times you see in the X1 field has already been executed. If you alter a time in X1 you will see the result next time you make a crossfade with X1 in preset (X2 field).

If we compare with our film, passing a frame into the projector lens is the time you see in the X1 field.

X0 (blank)	**X0** Preset 0	**X0** Preset 1 / Time 3s
X1 Preset 0	**X1** Preset 1 / Time 3s	**X1** Preset 2 / Time 1s
X2 Preset 1 / Time 3s	**X2** Preset 2 / Time 1s	**X2** Preset 3 / Time 2s
X3 Preset 2 / Time 1s	**X3** Preset 3 / Time 2s	**X3** Preset 5 / Time 6s
X4 Preset 3 / Time 2s	**X4** Preset 5 / Time 6s	**X4** Preset 4 / Time 1s
X5 Preset 5 / Time 6s	**X5** Preset 4 / Time 1s	**X5** Preset 0 (blank)
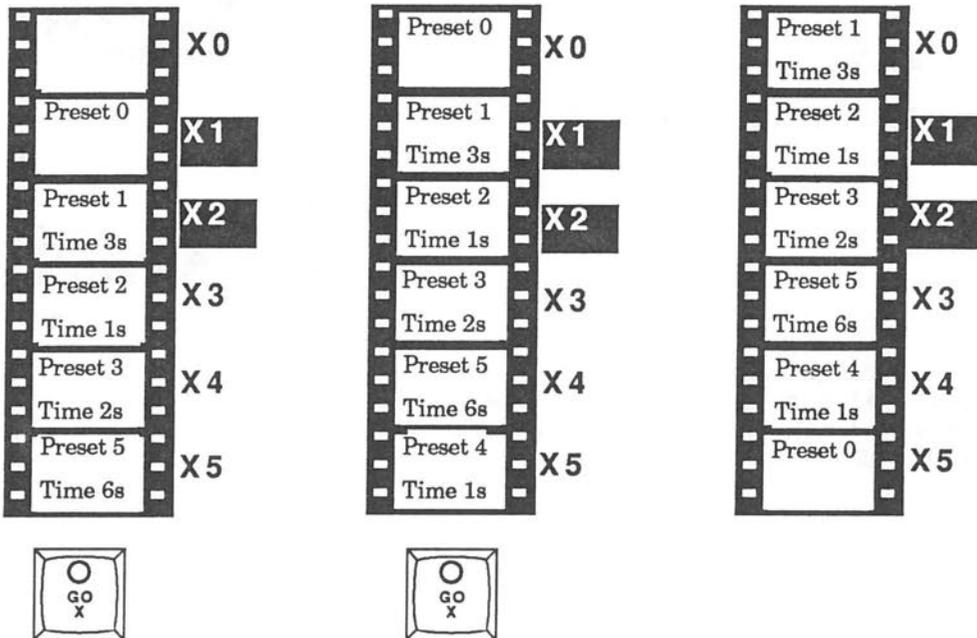
When you press the Go key preset 1 will fade into X1 field (stage) in 3 seconds. The whole playback sequence moves.

This time preset 2 will fade into Stage in 1 second and preset 1 will fade out in 1 second.

After the second crossfade the sequence will look like this.

It is essential that you know in what field you are working. This tutorial will always tell you when to change working fields.

Until now we have worked in X1 with light on stage. Every alteration we have done has affected the light on stage. Now we shall work blind, preparing a preset and crossfade times in X2. The changes in channels and levels we do will not affect light on stage and the time we record can be tried out in the next crossfade.

Preset 2 is in X1 (stage) and preset 3 is in X2 (preset).

Run crossfade

"Done"
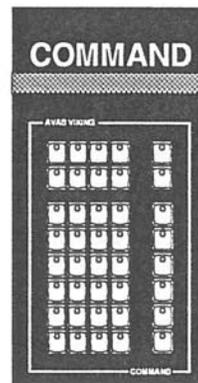
Preset 3 is in X1 and preset 0 is in X2

As we want to work blind we have to change working field.

Change field

Alter X2

You are now working in the X2 field (preset).
Preset 3 is still on stage but on the but you see no indications for activated channels on the channel monitor. What you see is the status of the X2 field. Now we start to build a preset in X2.

COMMAND

SIGNAL
OR VOICE

ALTER X2
LIT

Build a preset in X2

Set channel 1 at 75%

REC PRESET
FLASHING
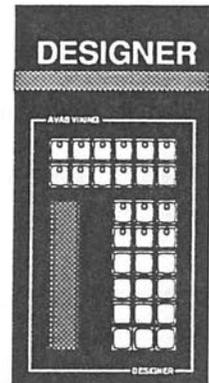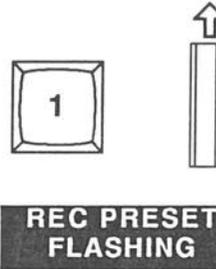
DESIGNER

**You used a new way to set levels to channels.**
By entering a number on the keypad you only have to move the designer wheel
to control over the chosen channel. Move the designer wheel up or down to see
how it works. Set the channel to 75%. Note that REC PRESET key flashes to
remind you to record the preset when you are satisfied.

Set channel 3 at 100%

3   CH
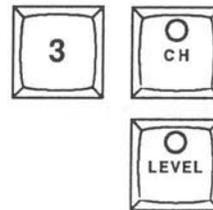
LEVEL

If you press LEVEL without anumber before you will get a level of 100%

Set channel 5 and channel 7 to 64%

5   CH

7   CH+

6   4   LEVEL
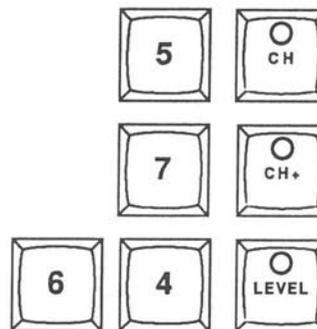
Note that the different ways to set levels on the Viking are interchangeable with
each other. If you start by using the LEVEL key , you can adjust the level with
the designer wheel etc. As long as channel or a group of channels are active you
can use any level function to change the level.

You are satisfied with your work. It is now time to record this preset.

Record preset

" Warning preset zero"

You got a warning from Viking. You tried to record in preset zero. You have to name the preset

Name and record preset
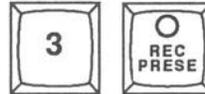
" Warning preset 3

You got another warning from Viking: "Do you want to destroy preset 3?. Preset 3 is occupied!".

Record preset

Name preset

"4 recorded"
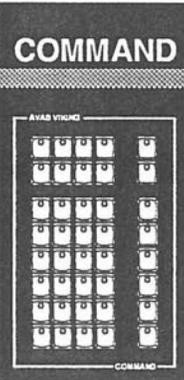
Preset 4 is recorded.

Viking has told you that preset 4 is recorded. The NEXT PRESET key looks for the first unoccupied preset counting from 1. You have used preset 1, 2 and 3 before. When you press the NEXT PRESET key Viking shows its suggestion in the module display. Note that you do not have to enter the number again, simply press the REC PRESET key.

You have recorded preset 4. Preset 3 is in X1 (stage) and preset4 is in X2 (preset).
We shall give the crossfade a time. The time we assign to preset 4 is the time for
the next preset. It is the time it will take for preset 3 to fade out from stage and
preset 4 to fade in on stage. We will give the same out and in time.

Set time for crossfade

| 1 | 0 | . | 3 | ○ TIME |

REC TIME FLASHING

COMMAND
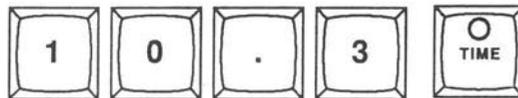
Record time

○ REC TIME

SIGNAL OR VOICE
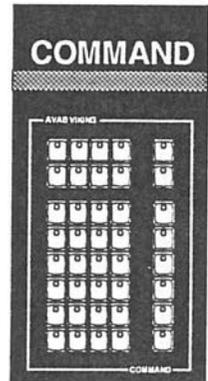
You have recorded a crossfade time of 10.3 seconds. Let us execute the crossfade.

Run crossfade

○ GO X

CROSSFADE

SIGNAL OR VOICE

"Done"

Preset 4 is in X1 (stage) and preset zero in X2 (preset).
Let us run the crossfade again, but this time we will manually slow the fade
down with the crossfade wheels.

Back one step

○ SEQ X−

**SIGNAL OR VOICE**

"Confirm"

○ SEQ X−

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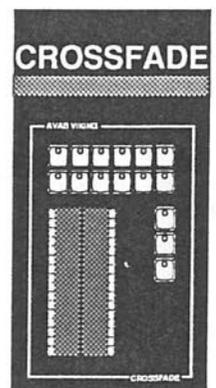
Preset 3 is in X1 (stage) and preset 2 in X2 (preset)

Now we shall run the crossfade again but manually slow it down. To do this, start the crossfade and bring both crossfade wheels back very smoothly . Do not release them, just bring them back a couple of centimeters and hold them there. You will see a new time on the crossfade module display, showing the time it will take to execute the crossfade in this position. If you move the wheels slightly forward this time will change. If you release the wheels, the crossfade will move in the time recorded.

Run crossfade
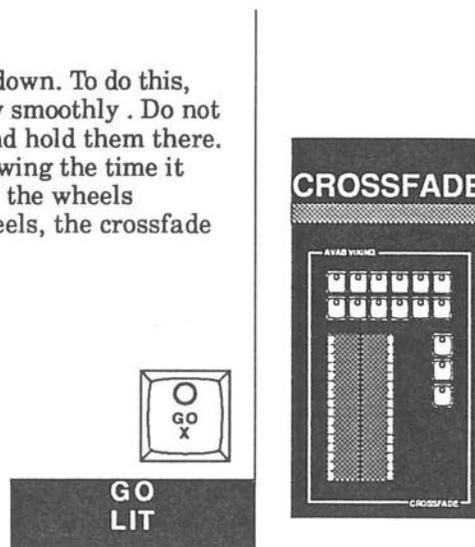
Place a finger in the center of the crossfade wheels.
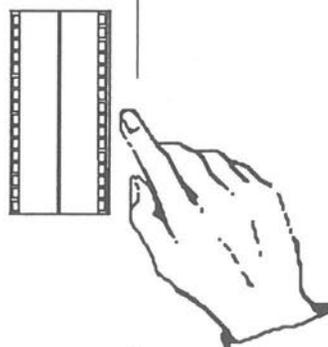
Move the crossfade wheels slowly backwards. Do not release the wheels.

Control the new time in the module disply.

After a while release the wheel. The crossfade will continue in the recorded speed.

In the same manner you can speed up a crossfade. Just bring the wheels forward. You can also slow down the fade in time. Bring the X2 wheel backwards and hold still.

The Viking wheels are very delicate instruments. You do not need big and hasty movements.

Take some time and training on speeding up and slowing down crossfade. Back one step in the sequence and run the crossfades a couple of times. Do not forget to press SEQ X– twice.
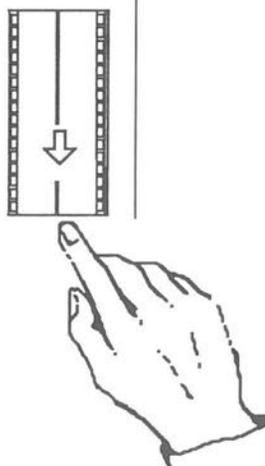
Building basic lighting groups

We will now go on making more presets for your lighting program. But now we will use a different method. Often you have groups of channels you want to treat as one channel. You have a red cyclorama, sidelights and so on. To use these groups as building blocks you build presets containing the channels you want to treat at the same time.

You do not want the "building block preset" in the sequence. Working in the X1 field or the X2 field places a preset automatically in the sequence. You have to work in the mixerfields.

Building the first group of channels

We will start building the red cyklorama. Use channel 5, 7, 9 and 11.

Choose mixerfield

```
  O
ALTER
 M1
```

**ALTER M1
LIT**

Enter group

Enter channel 5
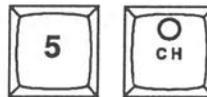
Add channel 7
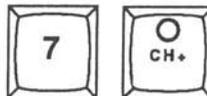
Add channel 9
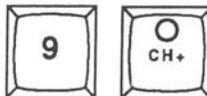
Add channel 11

Set level for group

5	O CH
7	O CH+
9	O CH+
1 1	O CH+
1 0 0	O AT LEVEL

DESIGNER

**REC PRESET
FLASHING**
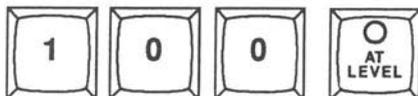
We gave this group of channels a 100% level. In this example it is uninterresting what levels the channels have as long they are not zero. Note that you have no light on stage from these channel just now, but you see the levels on the channel monitor.
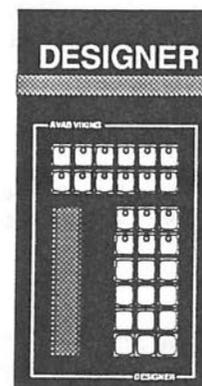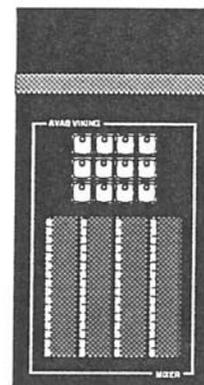
We shall give the group a preset number. As we want to treat the group as a channel we choose a number from 901 to 999. These are special preset for this use.

Record preset

Name preset
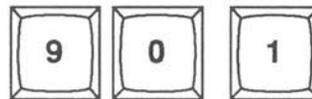
Record preset

"901 recorded"

COMMAND

SIGNAL OR VOICE

Preset 901 is now recorded. The preset is not in sequence as it was recorded with a number in the 900-series.

Try to move the sequence so you have preset zero in X1 and preset 2 in X2. Use the BACK X key or the GO key to get there as you have learned earlier in this manual.

The stage is now dark, but on the channel monitor you see the level 100% for channel 5, 7, 9 and 11. You work in mixer field 1 and the master (the mixer wheel to the left) has no level. The wheel diodes are not lit.

Light on stage from mixer

Move left mixer wheel up
You have light on stage. If you move mixer

wheel up and down the light on stage
changes. Leave the mixer wheel up.

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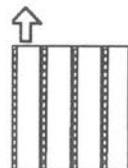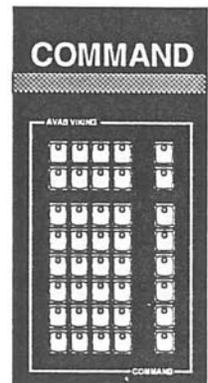
You have built your first 900 series preset. We shall build 3 more.

Next preset will not contain the same channels. You have to cleare Mixerfield 1 from all channels.

Clear all channels

In this example all the channels you used for preset 901 are still marked with a cursor. You have not entered a new channel since you built the last group. To clear mixer field 1, simply set all channels to zero.

Enter level
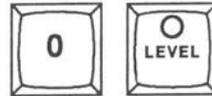
| **0** | **LEVEL** |

You have cleared mixer field 1. There is no light on stage and you are ready to prepare preset 902.

Build a group

Enter a channel

| **2** | **6** | **CH** |

Add a channel

| **2** | **8** | **CH+** |

Add a channel

| **3** | **0** | **CH+** |

Add a channel

| **3** | **2** | **CH+** |

Set level 70%

| **STEP LEVEL** |

LIGHT ON REC PRESET

Name preset

| **9** | **0** | **2** |

Record preset

| **REC PRESET** |

"902 recorded"

SIGNAL OR VOICE

You have recorded preset 902. You used the STEP level key one time and gave the group a level of 50%. As the mixer wheel 1 (master) is up you have light on stage. Make the third 900 series preset.

Clear mixer field 1

All levels to zero

As the channels you used in preset 902 is active you just fade the design wheel down to set a zero level to the channels and clear mixer field 1.

Build and record preset 903

Enter a channel

Add a channel

Add a channel

Set a level

Use the designer wheel to set any level. The Viking needs a level to record a channel.

Name the preset
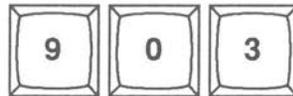
Receeord the preset

"Preset 903 recorded"

REC PRESET
FLASHING

SIGNAL
OR VOICE

You should now build your last 900 series preset

Clear mixer field 1

Set all levels to zero
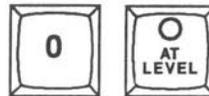
| 0 | AT LEVEL |

Build and record preset 904

Enter a channel

| 4 | 1 | CH |

All channels to channel 44

| 4 | 4 | THRU |

Set level

| AT LEVEL |

When you press the level key without a number before you will get a level of 100%.

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Now record the preset as 904.

Name and record the preset

Name preset
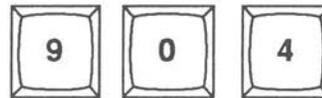
Record preset

"904 recorded"

SIGNAL
OR VOICE

You have now recorded 4 900-series presets. We are now going to use them to build presets to put in the sequence.

You have still light on stage from Mixer field 1. Fade down mixer wheel one. Preset 904 will still be in mixer field 1 but blacked out. You can fade up the channels in mixer field 1 at any time.
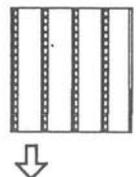
You have now created four 900 presets. You are going to use these presets to create new presets in The X1 field. The new presets will automatically be placed in the sequence.

You have three presets in your sequence. You will now create one more. Set and record a preset

Choose working field

ALTER X1

Choose channel 45

At 50 level

REC PRESET

Channel 47 at 66 level
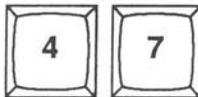
When you set the level for channel 47 you used the designer wheel. Note that you do not use the CH key. The design wheel knows that you are talking about levels for channels as the design wheel is a function.

You have now light on stage from channel 45 and channel 47

Enter channel 66

Add channel 48

Group at 70 level

Adjust level for group

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You can directly adjust the levels for an active channel (marked with a cursor on the channel monitor) or a group of active channels with the designer wheel or any other level function key. Try to adjust channel 66 and channel 75 by moving the designer wheel up and down. When you are satisfied with the level we will go on adding a 900 series preset.

Note that the last entered channels always are active until you enter a new channel or a group of channels.

Add a 900 series preset

Enter preset 901
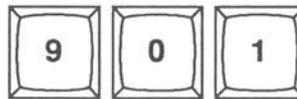
The channels in preset 901 (channel 5, 7, 9 and 11) are now active and can be treated as a group of channels.

Set level for group

At 50%
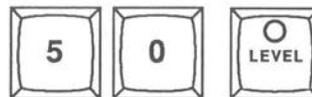
The preset is now ready to be recorded. All the time since you entered the first level , the REC PRESET key has been flashing. If you get disturbed by the flashing you can press the EXIT key on the command module. The Flash will stop but you can still record a preset whenever you want to.

If you take a break during work you shall always save whatever you have done to disk. It is a good habit to save your lighting program every hour when you work with the Viking as with all other computers.

Record the preset

Next available preset

You will get the answer "5". You do not enter this number

Record preset

"5 recorded"

SIGNAL OR VOICE

Preset 5 is recorded and automatically put in the sequence. You have light on stage from the settings from preset 5.

We shall assign a crossfade time for preset 5.

Set crossfade time

Enter time

| 1 | 0 | ○ TIME |
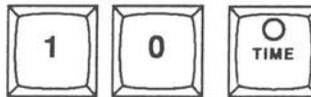
Record time

| ○ REC TIME |

Preset 5 is recorded with a crossfade time of 10 seconds.

We shall go on and set and record the next preset. We will start from the light on stage but alter some channel levels and add another 900 series preset.

You want to add the preset with channel 33, 34 and 36, but you have forgotten which preset it is. You know you have recorded four 900 series presets and already used one. You want to fast identify the preset you will add to the light on stage.

Identify channels

Choose a 900 series preset and identify

| 9 | 0 | 2 | ○ ID |

When you pressed and hold down the ID key the channels in preset 902 started to flash. When you release the key the flashing stops. In this way you can identify single channels and other groups of channels.

Preset 902 was not the right one. Try preset 903!

Identify channels

Enter preset 903 and identify

| 9 | 0 | 3 | ○ ID |
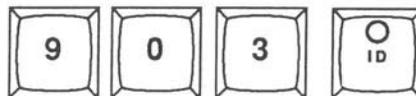
This time you were right. Channel 33, 34 and 36 flashed. The flashing is indicated on the system monitor by 100 levels and cursors.

Give preset 903 a level. Note that the group is already selected so you just enter a level.

Enter level for preset 903

| 5 | 0 | ○ AT LEVEL |
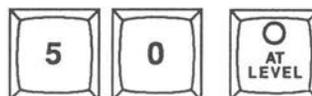
You treat the 900 series presets as channels. Channels 33, 34 and 36 are on stage together with the channels you used for preset 4. Channel 33, 34 and 36 are active channels.

You want to lower all channels you are working with 10 %.

Select all channels

| ○ ALL |

Lower 5%

| ○ -5% |

Lower 5 %

| ○ -5% |

When you press the ALL key all channels in the field you are working in get active. You are working in the X1 field (stage). All changes you are doing will be seen on stage. You could see the light go down 5% each time you pressed the - 5% key.

Now record the preset as number 6

| 6 |

"6 recorded"

| ○ REC PRESE |

Preset 6 is recorded and automatically put in the sequence. We choose to not assign a time to the preset. Instead we will track a time when we run our light program.

You have light on stage from the last preset you worked with (preset 6). Clear the X1 field (stage) from all channels to start entering channels for a new preset. We have up till now used the settings from the last preset we created as a ground for the new preset. In the following example we will mostly use channels that are not common with the former preset. The easiest way is to clear all channels from our working field.

Clear channels

Press the ALL key

All channels to zero

The stage is dark. Preset zero is in the X1 field and preset 1 is in X2 field. You work on stage (X1 field)

Enter all 900 series presets you have created at 50 level.

Enter 900 series presets

Enter preset 901

Add preset 902

Add preset 903

Add preset 904

Set level for group
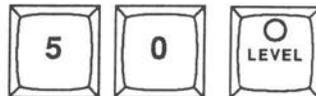
You have light on stage from all channels from all channels in the 900 series presets.

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You want to set level 100% for the channels in preset 903 (Channels 33, 34 and 36).

Set level for preset 903

Set level

[9] [0] [3]   ⬆️ | |
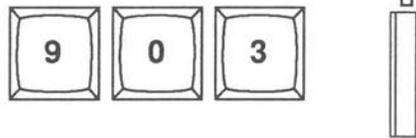
When you set a 100% level with the designer wheel, just push the wheel to its upper end.

Record preset

Next preset

[○ NEXT PRESE]

Name preset
You get 7

Record preset

[○ REC PRESE]   **SIGNAL OR VOICE**

The preset is recorded as preset 7 and automatically put in the sequence.

Set time for preset

Set in time
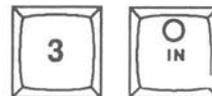
[3] [○ IN]   **REC TIME FLASHING**

Set out time

[5] [○ OUT]

Record time

[○ REC TIME]
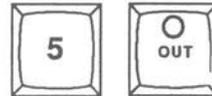
By now you have a brief idea how to work with the Viking. We have given you the very basics for doing a light program. It is now possible to create light and run a simple performance.

The next part in this school will dig deeper in the extraordinary features of the Viking.

Before you go on you should save this lighting program that we have done together.

Save a play

Press DISK to enter the Disk
operation page.
Press 'S' to save a play.

Give the play number 10 and
press RETURN.

Viking will tell you if you succeeded. If not, try again.

You have now saved your play under number 10. Later we will show you how to give the play a name.

This is the functions manual.
In this part of the manual all functions will be described
in alphabetical order.

Channels and channel groups

Number 1 - 899 are channel numbers. Every number refers to a single channel. Number 900 - 999 are special group numbers you can treat exactly as channels. You use them, for example, to premake groups of fixtures you know you will mostly use together with the same levels. This is a way to speed up your light design.

The keys

In the functions manual we will use a key pad to indicate any numerical entry within the range of VIKING.

All other keys will look exactly as they do on the module.

If we are dealing with channels you can use any number between 1 and 899. You can also use the special group numbers 900 to 999.

NUMERICAL ENTRY

To enter single channels

When you enter a selected channel number and press the CH key you activate that channel. The channel number is displayed on the DESIGNER module display as well as on the channel monitor. A square cursor shows up on the monitor. Activating a channel will deactivate any group that was active before the entry.

Using the designer wheel

You can use the DESIGNER WHEEL to enter a channel or a 900 group. You enter a number and move the wheel a little. The selected channel or preset is activated. Moving the wheel up and down will alter the channel level from the level it had.

Note: If you move the wheel very slowly the channel will not be seleted. This is to prevent a channel from being selected by just hitting the table.
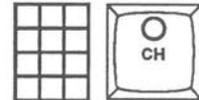
Building groups

You use the CH+ key to add a selected channel to an active channel or a group of active channels. This function is used when you build a group of channels which are not in consecutive order (like 2, 5, 7 and 10).

If you enter a 900 group with a number of channels you can add one or more channels with the CH+ key. You can also add another 900 group.

If you want to build a group of channels in consecutive order (like 2, 3, 4 and 5) you use the THRU function. The THRU function activates all channels between the first and the last channel you have specified.

To subtract a channel or a group of channels

The CH- key will subtract a channel or a group of channels from the active group leaving the rest of the group intact and active. You can also subtract a 900 series preset in this way.

To step around channels

You can use the CH+ and the CH- key to step from channel to channel. You start at the active channel and step to higher numbers with the CH+ key and to lower numbers with the CH- key. If you start from an active group the CH+ and CH- keys starts from the highest number in the group.

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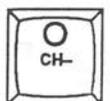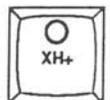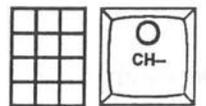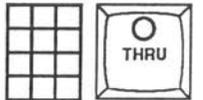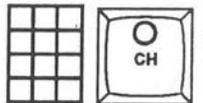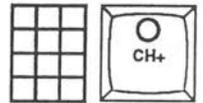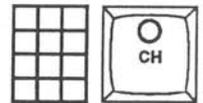
All the channel functions can be used together with each other to build and reduce a group of channels. Remember that entering a channel with the CH key will destroy the active group, if any, and make only the selected channel active.

To build a group

Enter channel 5
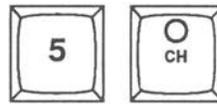
Add channels 6, 7 and 8
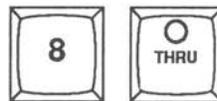
Add channel 1
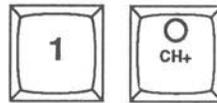
Add channels 15, 16, 17 and 18

Add group 900 (which contains channel 9, 10 11 12 and 14)
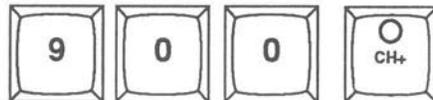
Delete channels 10, 11 and 12
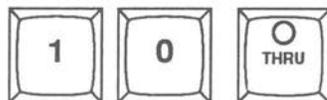
You can go on adding and deleting channels or groups of channels as long as you want.

All channels you have entered are active except for the three you deleted last. Note the reversed entry order when deleting channels 10 thru 12. Using the THRU key you can select both a positive or a negative range of channels.

You can enter any combination in this way. Trying an unlogical function like removing a channel with the CH– key when no channels are active has no effect.
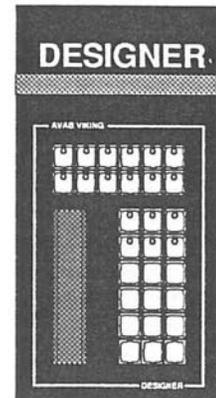
Once you have entered a channel or a group of channels it is active. You can give the channel or group of channels (including the 900 groups) a level. To do this you have a number of functions working slightly different. Which one you use depends on the situation and what result you expect.

To set a level, first select a channel or a group of channels.

You set your levels on the designer module using either the level functions keys or the designer wheel.

Set levels using the LEVEL key

LEVEL

To set a specified level to a selected channel, first choose the channel and then the level.

You can also enter a group of channels as described on the previous pages. All selected channels will then have the same level.

LAST LEVEL

If you enter a new channel directly after you have set a level for another channel you can use the previous value for the new channel by pressing only the LEVEL key. TheVIKING remembers a previous value until you enter a new value.

100%

When you enter a channel or a group of channels and press the LEVEL key twice you get a 100% value.

As soon a channel or a group of channels are active you can change the values with the LEVEL key.
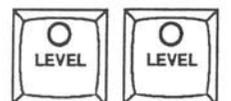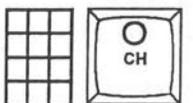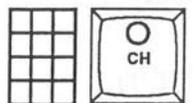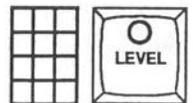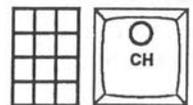
You can change or enter levels in small steps (5%) up and down using the +5% and -5% keys. Any selected channel or group of channels (including the 900 groups) can be altered in this way.

Using the +5% and -5% keys

When a channel or a group of channels are active and you press the +5% key, you will increase the level by 5%. If you press the key twice, you increase the level by 10%. You can step all the way from a zero level up to a 100% level.

When a channel or a group of channels are active you can decrease the level by 5% by pressing the -5% key. Pressing more than one time decreases the level with 5% every time.

You can change the level for the +/- function to any level you want using a screen command. See Screen Commands.

If you enter a number before pressing +5% or -5% you will select that channel AND perform the usual +/-5% action on that channel.

Using the STEP LEVEL key

When a channel or a group of channels are active, pressing the STEP LEVEL key takes you to a 50% level. Do not forget that you must make a channel active by selecting it in any of the ways described on previous pages.

If you press the STEP LEVEL key twice you get a level of 70% for the active channels.

Pressing the STEP LEVEL key a third time will give you a zero level and a forth time back to the 50% level and so on.

If you enter a number before pressing STEP LEVEL you will select that channel AND perform the usual STEP LEVEL function on that channel.

The 50% and 70% levels are the VIKING default settings. You can change these default settings to any value by using the keyboard. To learn about this see Screen Commands.
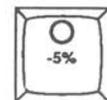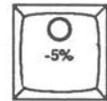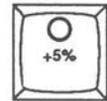
The VIKING has an identification function. You use this to identify selected channels among a lot of others. This function makes selected channels or groups of channels flash from level zero up to level 100. When you release the ID key the selected channels will go back to their previous values.

Using the ID key

If you enter a channel or a group of channels (including the 900 groups) and press the ID key, the selected channels start to flash. This makes it easy for you to identify your channels.

Using the INVERT key

The INVERT key activates all channels with a level except the ones selected as the channel group. If you build a group and then want to change all other channels with levels, simply press the INVERT key. A new group with all channels except the original group is formed. To resume, press INVERT once more.

Using the ALL key

Pressing the ALL key makes all channels in the field active. You can then alter the levels for your whole set up.
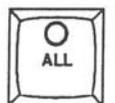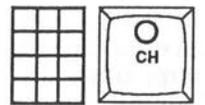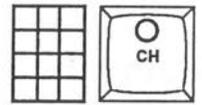
Another way to enter levels on the Viking is to use the DESIGNER WHEEL. You have earlier in this manual seen how to activate a channel or a 900 group with the DESIGNER WHEEL. When you use the wheel to activate a channel you immidiately get a level. Moving the wheel up increases the level, moving it down decreases the level. A selcted group behaves exactly as a single channel. This is a fast and simple way to control selected channels.

Using the wheel to set levels

When you enter a channel number and move the DESIGNER WHEEL up you activate the selected channel. Moving the wheel up also gives the selected channel a level.
Note: If you move the wheel very slowly, the channel will not be selected. This is to prevent you from accidentaly entering a channel just by touching the board.

The Viking DESIGNER WHEEL works proportionally. This means that if you have a group of channels with different levels active, they will reach a zero level or a 100% level at the same time, when you move the wheel up or down. If you have faded out to a zero level(or faded in to a 100% level) and fade the light back again, VIKING remembers the balanced levels.

If, for example, you have a group of channel 1, 2 and 3. Channel 1 is set to 40%, channel 2 to 60% and channel 3 to 80%. If the group is active you can change the levels of the group up and down with the DESIGNER WHEEL. Moving the wheel down will bring all channels to zero at the same time. When you move the wheel up again VIKING remembers their former levels. If you keep on moving the wheel up the channels will reach 100% at the same time.

The level functions in the Viking are interchangeable with each other. You can start using one function and then change to another. It only depends on what you want to do.

To set levels

Enter channel 1

| 1 | CH |

Set level to 57%

| 5 | 7 | AT LEVEL |
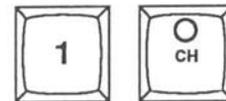
Enter channel 4 to 8

| 4 | CH |

| 8 | THRU |
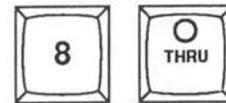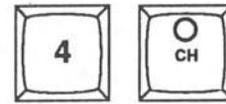
Set level 57%
(Note that you do not enter "57"
on the keypad). VIKING will
remember the last level set.

| AT LEVEL |

Enter channel 9

| 9 | CH |

Set level to 100%

| AT LEVEL | AT LEVEL |

Select all channels

| ALL |
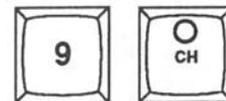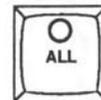
Reduce the levels with 10%

| -5% | -5% |

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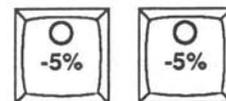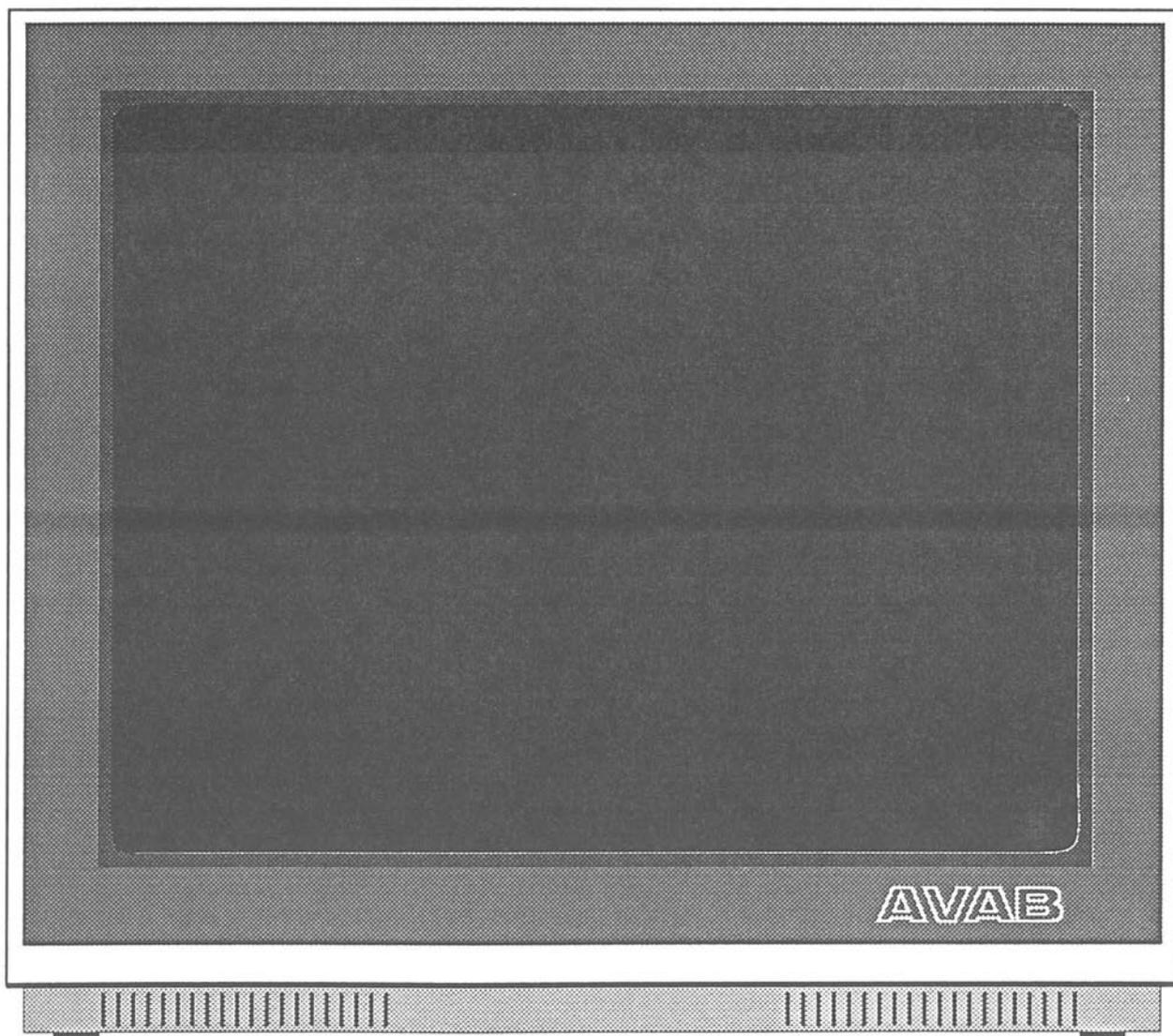
Preparing

The Channel Fail function lets you prepare replacement channels for important channels in case these channels, for some reason, should stop working.

To enter the Channel Fail setup page, select the Channel Fail item on the SETUP page.

You will now have the Channel Fail setup page on the system monitor.

To prepare a setup for a channel

Example

If channel 5 should quit functioning you want it to be replaced by channel 3.

Enter 5 = 3 and press RETURN.

To replace a channel with several channels

Example

If channel 5 should quit functioning, you want it to be replaced by channel 3 and channel 72.

Enter 5 = 3 72 and press RETURN.

You can even set a master level to the replacement channels, if for example, you are going to replace a 500W spot with a 650 or 1000W spot.
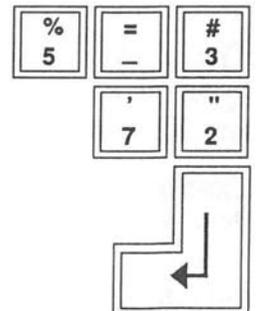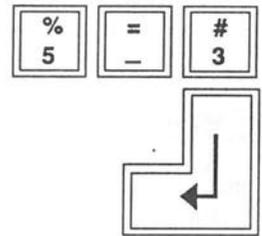
Example

If channel 5 should quit functioning you want it to be replaced by channel 64 at 50% and channel 31 at 75%.

Enter 5 = 64 (50) 31 (75) and press RETURN.

Executing

A channel fail setup will be executed automatically if you have installed the Viking sense system. When the system receives a sense signal indicating lamp or dimmer failure, the channel failure setup for that channel will be activated.

You can execute a channel failure setup by selecting the setup page and entering the channel number followed by *.

Example

Activate channel failure setup for channel 5.

Enter: 5 * and press RETURN.

Deactivating an executed setup

You can set back an executed channel failure setup to normal by selecting the setup page and entering the number of the channel followed by *.

Example

Deactivate the previously activated channel failure setup for channel 5.

Enter 5* and press return.
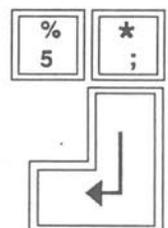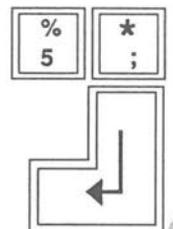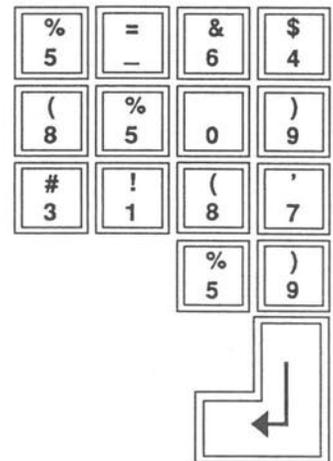
The VIKING system includes a Real time clock and a timer. Normally the real time clock is always displayed on the Command module display.
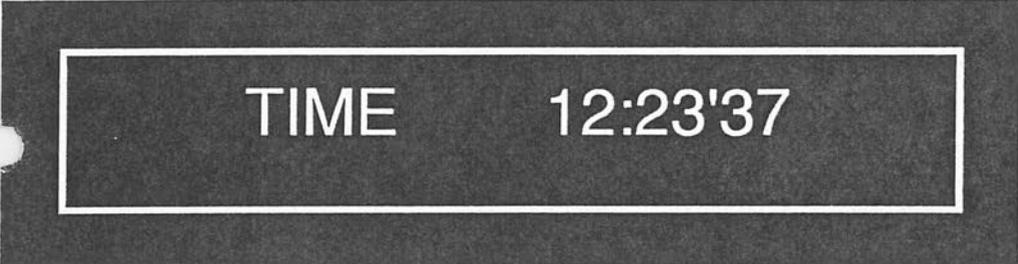
TIME   12:23'37

COMMAND

Timer

The timer function is controlled by two keys: TIMER and START/STOP. These keys are located in the lower right corner of the Command module.

To change the display to showing the timer time, press TIMER.

The TIMER key will light up to indicate that the timer is activated.

TIMER KEY LIT

TIMER   00:10'23

To start the TIMER press START/STOP.

The START/STOP key will light up to indicate that the timer is running.

START/STOP KEY LIT

To stop the timer and read the time accumulated, press START/STOP again.

START/STOP KEY OFF

Note: Each time you press START/STOP to start the timer, it will be reset to zero.
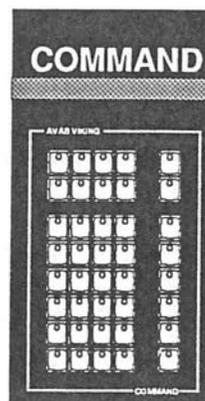
Code menu

The Code menu is a database where you can tag each channel with informa-
tion about the lighting instrument on that channel. Each channel can have up
to 8 different tags like for example: color, cyclo, gobo, lens, position. Each tag
can have up to 26 variations. A color tag can thus have identifications for up to
26 colors.

Once you have set up a Code menu you will be able to ask Viking to sort out
any combination of tagged channels as a group for you. You can ask for all
blue-filter instruments and set a level directly with the level functions or the
Designer wheel. Then you are able to quickly check if all filters are OK.
It is up to you do design the tags and the tag variations. We will help you
through an example of this to get you started.

Setting up a code menu

You can choose between two examples of setting up a code menu.

In example 1 you will start from scratch and build your own code menu.

In example 2 you will use a default menu we have prepared which is supplied
on your Viking Program disk to introduce this function.

Example 1. – Starting from scratch

The Code menu information is stored on the program disk, not in the play disk.
This is because you probably will want to be able to use a Menu for several dif-
ferent plays once it has been set up.

Therefore you must start by making sure that you have a backup copy of your
Viking Program disk.

Remove the write protection from the Program disk and insert it.

Select Code menu from the SETUP page

A prompt will ask you for a name for the Code menu (max 5 ch). If this is your
first Code menu you can name it whatever you want without using more than
5 characters.

When you have named your Code menu and pressed Return you will enter the
Code menu setup page. On the top of this page you have the command func-
tions listed and numbered from 0 (Name menu) to 7 (Print channels).

Enter 0. DO NOT PRESS RETURN.

This command lets you name each one of the 8 tags after will. A prompt will ask you which tag (menu) you wish to name.

Enter 0.

Write a name for this tag, in this example type: colors, and press RETURN.

You have now defined tag position 0 to be the color tag of your channels.

Define the different colors within this tag
Enter 1. DO NOT PRESS RETURN.

This command will produce a prompt asking for which menu to change.

Enter 0.

You have 26 variables with alphabetical identification letters which you can define as different colors within this menu.

Use the down arrow to reach variable "B".

Enter Blue and press RETURN.
You are now on "C".

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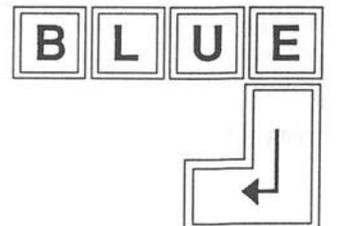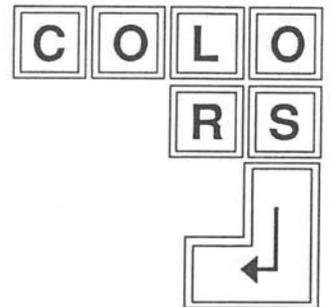
Enter Crimson and press RETURN.

Use the arrows to step around and enter Yellow at "Y", Green at "G" and Red at "R".

When you have entered a color, press RETURN to be able to move to a new position with the arrows.

Press RETURN to get back to the main menu.

You have now defined the color tag in menu 0 and specified 5 colors.

Assign these color tags to some channels
Enter 2. DO NOT PRESS RETURN.

This command will produce a prompt asking for a start channel.

Enter 1. DO NOT PRESS RETURN.

In this mode you can adress any of the 8 possible menu tags to this channel. Since we only have completed a color tag in menu 0 we will only be setting the colors for the channels.

Channel 1 controls an instrument with a red color filter, write an R over the 0 between the brackets.

Press RETURN. This will take you to channel 2.

Channel 2 controls an instrument with a green color filter, write G over the 0 between the brackets.
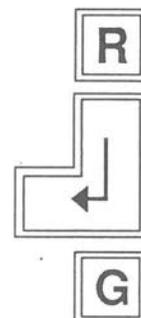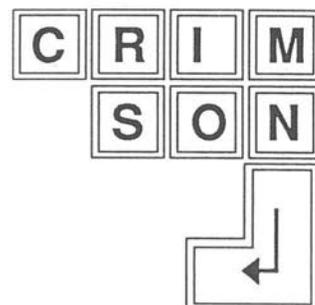
Press RETURN. This will take you to channel 3.
Channel 3 has no filter.

Press RETURN to reach channel 4.

This channel has a Yellow filter, write Y over the 0 between the brackets.

Press RETURN. This will take you to channel 5.

Channel 5 has a blue color filter, write a B over the 0 between the brackets.

Press RETURN. This will take you to channel 6.

Channel 6 has a blue filter too, write a B over the 0 between the brackets.

Press / (slash). This will take you back to the main menu.

We have now made a basic code menu setup. We have only set one tag out of eight possible, (01234567). We have named it colors and we have tagged channels 1 through 6 with their respective colors.
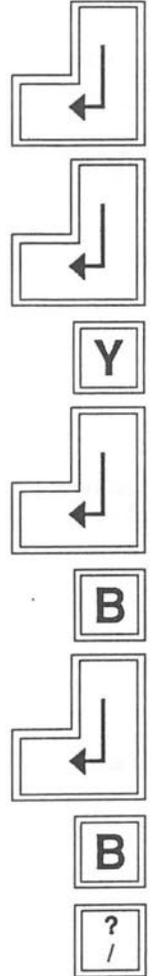
List the channels to check their information
Enter 3. DO NOT PRESS RETURN.

This command will produce a prompt asking for the first channel you want to list.

Enter 1 and press RETURN.

You now have to enter the last channel you want to list and press RETURN. These channels will be listed with their codes on the monitor.

Press RETURN.
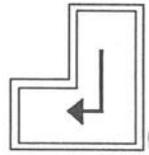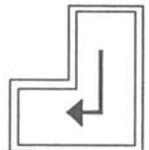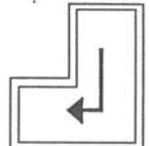
Searching for all blue channels
Enter 4. DO NOT PRESS RETURN.

Write a B over the 0 between the brackets and press RETURN.

You will now have all blue channels, that is channel 5 and 6, selected as a channel group in the X1 field. Also you will leave the Code menu page.

You can continue searching for coded channels from the normal system page.

Search for all red channels by selecting 'Code search' from the SETUP page.

Write an R over the 0 between the brackets as you did in the Code menu page and press RETURN.

Now channel 1 will be selected as you can see in the channel monitor.

This was an introduction to the Viking Code menu program. Now you can go back and create new tag menus with lens information (profiles, PC, followspots...) or gobos or left side of stage....

You will find this system expanding to your needs and once installed and set up properly, a great "lighting-secretary".
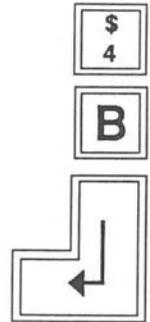
Example 2 – Using the default code menu

The Code menu information is stored on the program disk, not in the play disk. This is because you probably will want to be able to use a Menu for several different plays once it has been set up.

Therefore you must start by making sure that you have a backup copy of your Viking Program disk.

Remove the write protection from the Program disk and insert it.

Select the 'Code menu' item from the SETUP menu.
A prompt will ask you for a Code menu name (max 5 ch).

Enter tutor and press RETURN.

Tutor is the name of the code menu which we have supplied with your Viking Program as an example.

The page you have displayed is the Code menu setup page. On the top of this page you have the command functions listed and numbered from 0 (Name menu) to 7 (Print channels).
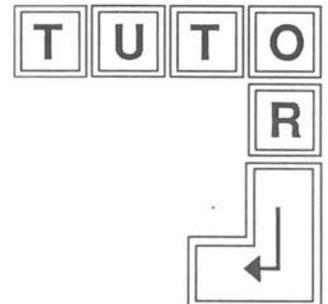
List the tag variations we have prepared
Enter 3. DO NOT PRESS RETURN.

You do not have to press RETURN when you select an alternative from the main menu of this page.

A prompt will ask you which menu you wish to list.

Enter 0.

This is a color tag. We have named some colors for the benefit of this example. The variations are tagged with the letters of the alphabet. You will later use these letters to search for a variation. Therefore we have tried to let the first letter of a color decide where it is defined. Blue has been defined at the letter B, Red at R and so on.

Press RETURN to return to the main menu.

Now lets list the second tag we have prepared.

Enter 3.

A prompt will ask you which menu you wish to list.

Enter 1.

We have chosen to make this one a tag describing the type of lighting instruments that are connected to the channels.

Press RETURN to return to the main menu.

We have assigned these tags to some channels, lets have a look:

Enter 3.
A prompt will ask you for the first channel you wish to list.
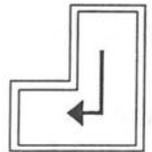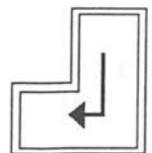
Enter 1 and press RETURN.
A prompt will ask you for the last channel you wish to list.

Enter 10 and press RETURN.

Channels 1 to 10 are listed and as you can see they have been tagged with color and type of instrument.
Channel 4 is a profile spot with a Green color filter. Channel 2 is a cyclo with a Blue filter.

Press RETURN to return to the main menu.

Now lets try using the Search function to select a group of instruments.

Enter 4.

Write a "?" over the 0 between the brackets and press RETURN.
You will have all colors listed on the screen.

Enter the letter for blue: B.

Press RETURN.

You will have all blue channels selected as a group in the X1 field and you will automatically return to the system monitor page.

This was a short introduction to the code menu. Now you can go back to example 1 and set up your own code menu. If you want to play around some more with this menu, try tracking some more channel groups as described below.
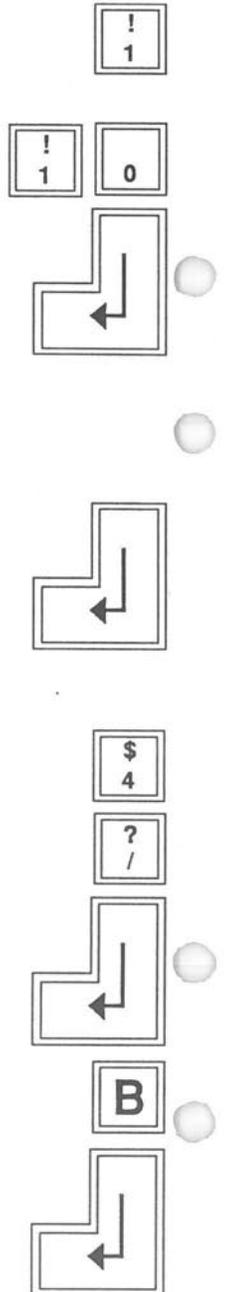
Using the code menu to track channels

You can track channels from the code menu page and from the system monitor page.

From the code menu page
Enter 4. DO NOT PRESS RETURN.

You can now enter the tag variations you want to search for over each tag position between the brackets. Press RETURN when ready.

You can also type a "?" over a tag position to have all variations for this tag listed on the screen.

From the main system page
Select the 'Code search' item from the SETUP menu.

You can now enter the tag variations you want to search for over each tag position between the brackets. Press RETURN when ready.

You can add a coded channel group to another group just like you can add channels to a group with the CH+ function.

Select the 'Code search add' item from the SETUP menu.

You can now enter the tag variations of the group you want to add to the previous group.

Press RETURN when ready.

Functions list in Code menu

0) Name menu: Is used to name a tag, ex: color, lens, position.
1) Change menu: Is used for giving names to the 26 variations in a tag.
2) Change channel: Is used for assigning different tag-variations to channels.
3) List channels: Is used to list all tags for a group of channels.
4) Search: Will execute a code search for channels with a certain combination of tag variations.
5) Change note: Allows you to change from this setup of codes to another.
6) Print menu: Prints out the different tag-menus and their variations.
7) Print channel: Prints out channels with tag-information.

$ 4

? /

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CONSTANT LEVEL

CONST LEVEL is used to keep certain channels at a constant level regardless of any other levels assigned to these channels.

Any preset can be used as argument. When the preset is assigned to the Constant field, all chanels in that preset will have the same level as in the preset on stage. All other level information (from other fields) for these channels is over-ridden as long as the preset is active in the Constant field.

Enter the preset number

and press CONST LEVEL key

The channels in preset 2 will now remain constant at the levels in preset 2.

No matter what levels are assigned to these channels in other presets, their levels will equal those in the preset assigned to CONST LEVEL.

If a channel, assigned to the constant level function, is without any level information (0%), it will not be affected.

To hold a channel or group at level 0%:

Record the channel/group with level 1% (lowest recordable level) as a preset.

Assign this preset to the constant field.

To cancel the constant level function: Assign preset 0 to the constant field.

Note: Constant field gives output even when working in Blind mode.

How to perform a manual crossfade

You can choose between a timed and a manual crossfade whenever you want to.

A crossfade is completed when both wheels on the crossfade module have been moved one full excursion up, or the programmed time has elapsed.

manual fade will overrun all recorded fade times.

The crossfade wheels have built in motors. They will give you a tactile response when a manual crossfade is executed (or when they work as a speed regulator - See Changing Times). When you are executing a manual crossfade the wheels will move slightly backwards to show you that the crossfade is completed. In the ame time you will get an audio confirmation from Viking. This warning is either an audio signal or the word "done" from the voice of Viking.

When you perform a manual crossfade with time groups involved, all times, including the separate times for the time groups, will be overrun by the manual crossfade.

If you have a delay time for a crossfade this delay time will be ignored when you start the crossfade manually.

Any crossfade you perform on Viking, manual or timed, will be remembered by Viking. It can then be recorded as a new crossfade complete with crossfade curve or times, using the TRACK X key or the CURVE X key.

You can use the wheels individually. The left wheel controls the outgoing channels (channels going to a lower level). The right wheel controls the incoming light (the channels going to a higher level). This is always true except when you a working with a split crossfade – See also Split Fade.

CROSSFADES

How to perform a split crossfade

The default setting for crossfades in Viking is a dipless crossfade. A dipless cross-fade makes common channels (channels with the same level in X1 and X2) not to move during a crossfade. This is to prevent a dip in stage light during a crossfade.

Sometimes you want, for example, to have a blackout between fade in and out.If you have common channels in the X1 and X2 preset they will never go to to zero. To control the two Presets involved in a crossfade independently you have to activate the Split function for that crossfade.

Press ALTER X1 or X2 to select which fade you want to be a split fade.

Press SPLIT X (SPLIT Y on the Y module).

An "S" will appear on the X2 information line on the system monitor.

You can now fade out the light in X1 without interference from the light in X2. Note that the Split function will automatically be recorded in the sequence.
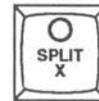
Executing timed crossfades

Start a timed crossfade:

Press GO X.

The Elapsed time clock on the system monitor will automatically reset, to give you opportunity to use the elapsed time function. See elapsed time.

For setting times – see Sequence Times functions.
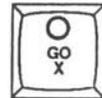
Make a GO AHEAD crossfade

If GO X is pressed again during the crossfade, it will initiate the following cross-fade.Viking will use the present light (the sum of the light in X2 and X1 on stage) and create a new crossfade between this light and the new light in X2. This is called a GO AHEAD crossfade.

Start crossfade
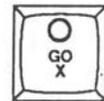
Make a go ahead crossfade

Note: You can press the GOX key as many times as you want to during the crossfade. Viking will make a step forward every time you press the key.

Pause a crossfade

You can stop the crossfade whenever you want to. To do this press the PAUSE X key.

To resume the fade press PAUSE X again. Note that the fade can be resumed manually instead of pressing PAUSE X the second time.

Start crossfade

Pause crossfade

Resume a stopped crossfade

Press the PAUSE key once more

Note: You can use the other crossfade functions after you have stopped a crossfade. Pressing the GOX key will resume the crossfade and pressing the INVERT key will invert the crossfade.

To invert a crossfade

Press INVERT. The crossfade in progress will be reversed.

Start a crossfade

Invert the crossfade

The crossfade will go back to its starting point using the programmed time
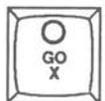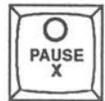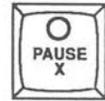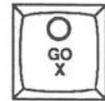
Repeat the last crossfade

To repeat a crossfade means to back one step in the sequence and redo the crossfade. To do this you use the SEQ X– function.

Press BSEQ X– twice to return to the beginning of the last crossfade before it was initiated. You have to press the key twice as Viking gives you a warning the first time you press the key. This is to warn you that your operation will dramatically change the light on stage. The warning will either be an audio signal or the voice of Viking.

Press the SEQ X– key

Audio warning

Press the SEQ X– key

Viking will back one step in the sequence. If you press The BACK X key another time you will continue to back in the sequence.

Viking will not warn you more than once.

Speeding up/slowing down a timed crossfade

Move the wheels up to speed up and down to slow down a running timed crossfade. You will have a feedback from the wheels proportionally to the speed change.

You can use the wheels individually. The X1 wheel changes the speed for the outgoing channels, the X2 wheel changes the speed for the incoming channels.

The speed can be changed with a factor of 10. A time of 10 seconds can be slowed down to 100 seconds and speeded up to 1 second.

SEQ X–

SIGNAL OR VOICE

SEQ X–
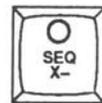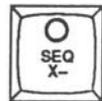
Dimmer Curves

In the Viking you can have up to 4 different dimmer curves: 1 linear (default), 1 on/off and 2 user definable.

Normally all dimmers will have the default linear curve but you can assign any of the 2 programmable user curves (or the on/off curve) to any combination of dimmers. Of course, each dimmer can only have one curve at a time.

How to define a user curve

Enter the curve setup page by selecting the 'Curve setup' item in the SETUP menu.

This will enter the curve definition page.

Select curve to change with the command N followed by number.

This page is devided into two halves. At the top you have the data entry part and at the bottom you have a rough graphical display of how the curve will look.

For each curve you have 21 points. Each point is corresponding to one 5% step of the default linear curve. The first point is always 0% and the last point is always 100%. These two points can not be changed. However, for the remaining 19 points you are free to set any value between 0 and 100% to sculpture your curve.

The current point is indicated with a green square. You can move the current point forward and backward with the forward and backward arrow of your keyboard. You are not allowed to step to the first and last point, because they are not changeable.

To enter a new value for the current point, enter the level (0-100%) and press RETURN.

The graphical display of the curve will change to show the modified curve. Based on your 21 points the internal curve, which consists of 256 steps, is calculated.

Note: As soon as you press RETURN the current point is incremented one step. This means that you can directly enter a new value for this new point and press RETURN.

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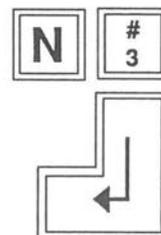
How to reset the curve to a linear shape

Press R on the keyboard.

R

This stands for Reset. It will reset the curve to a linear one.

How to build a curve by defining only the breakpoints

Press C on the keyboard.

C

This stands for Clear and will set all the 19 user definable points to 0%.

However, the curve will still be calculated to be linear between the start point and the end point (point 21). This is where the row 'CalcValues' on the monitor comes in. It will show you the calculated values for the curve.

To make the curve steeper in the beginning try entering a value for point 4 that is bigger than the calculated value for point 4. The curve will now be calculated in two parts: First, there will be a linear curve from point 1 to point 4. Second, there will be another linear curve from point 4 to point 21. In this way you only need to enter the levels of the desired breakpoints of the curve and the Viking will do the rest and calculate a smooth curve for you.

Note: There is no limitation on how the curve can be shaped. Special effects can be obtained by, for example, specifying a curve that goes up and down several times during its way from the first to the last point.

How to save the curve and leave the curve setup page

Press /.

?
/

This will store the curve and leave the curve setup mode.

DIMMER CURVE

How to assign a curve to a channel
Select the channel (or channels) as a channel group.

Enter the curve number and press DIMMER CURVE to assign the channels in the channel group to this curve.

How to assign a channel back to the default linear curve
Select the channel (or channels) as a channel group.

Press C and press DIMMER CURVE.

This will assign the channel group to the default curve.

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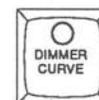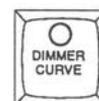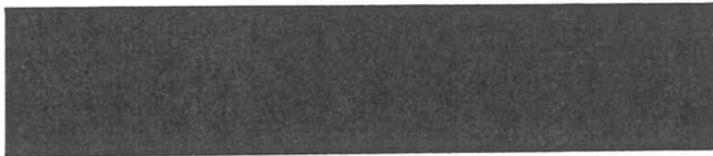
To save a play

Make sure that you have a formatted disk in the righthand or lower disk drive. (The other drive is for the Operational Program Disk).

If there is no disk in the driver place a formatted, not write protected disk there.
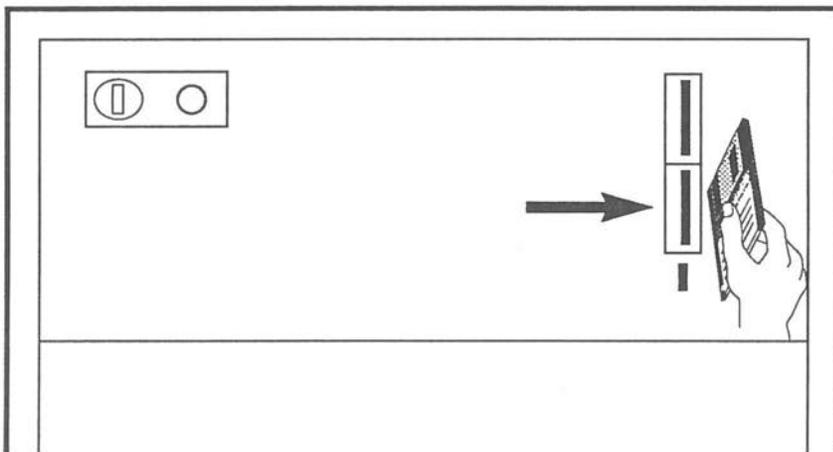
Not Write Protected

You can protect your disk from unauthorized writing by locking it.

Just push the little plastic button towards the edge of the disk and the disk is Write Protected. You can now see a hole thru the disk.

Write Protected

To remove the Write Protection from the disk just push the button back.
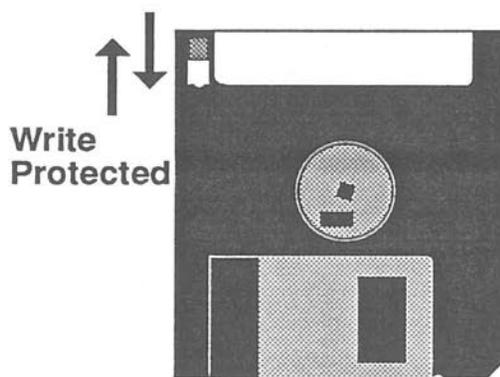
How to save a play to a disk

Insert a formatted, not write protected, disk in the lower drive.

How to retreive a play from a disk

Insert the lighting program disc containing the play in lower disk drive.

Ny text om Playlist

Formatting a 3.5" Viking disk

You can format your own disks for Viking.

To do this you have to boot the Operational system disk. This will destroy all lighting information that has not been saved to disk.

Save whatever lighting information you have programmed in Viking to disk.

Remove the play disk.

Insert the "Operational System" disk in the upper disk drive.

Boot the system (turn the Autoload key).

You will now have a menu with 4 Viking game alternatives. You are not interested in these right now and therefore you will type "E" to exit this menu. A command line will appear on the top of the screen.

Choose the "Xecute" command by typing an X.

A prompt will appear asking for which file to execute.

Type "initformat" and press RETURN.

This is a command for Viking to load the formatting program internally, which will take about 30 seconds. A lot of information will be displayed on the monitor during this period.

When this is done the command line will reappear on the top of the screen. Choose the command Xecute by typing an X.

Again a prompt will appear asking for which file to execute.

This time, type "fdnb2" and press RETURN.

You have now entered the formatting program.

A text on the monitor will explain how you are to format a disk.

NOTE: The right hand drive which may be referred to in this text is equivalent to the lower drive if you have a double 3.5" disk drive.

When you are finished formatting and want to return to the lightboard Viking, just change the Operational System disk for a Viking Program disk and boot the system with the Autoload key.
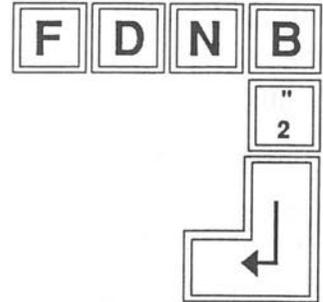
KEYBOARD

The optional alphanumerical keyboard of the VIKING can be used for four different purposes:

To walk around in the Screen Editor using the arrow keys.

To enter text for sequence, preset or play texts.

To access the different special functions, such as Screen Setup, Curve Setup, Code Menu etc.

As a Backup for the VIKING modules
All key commands are available from the keyboard. In some cases you can also supply extra arguments to commands. These arguments can not be used without the keyboard.

The Keyboard
The Viking Keyboard works as a normal typewriter when you write text. However, you have to understand some special function keys when working with Viking and the Keyboard.

The Escape key
You use this key to leave the Screen Editor

The Arrow keys
These keys are used for moving around in the Screen Editor.

The Backspace key
This key is the same as the left arrow key.
You use this key to step back and change something you have written.

The Return key
This key is used to execute a command given from the Keyboard.

The "Slash" key
All Backup commands start with this key (/)

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To enter text

Use the Screen Editor (see below) to move the cursor to the text you want to set or modify.

Write the new text directly on the keyboard and press RETURN.

Example

Enter AVAB as a Sequence text

Move to where you want the text with the screen editor (See chapter about Screen Editor)

To get capital letters press the Shift Key and keep it down

Enter AVAB

Release the shift key

Press the Return key

Note: To get capital letters all the time, you press the Alpha Lock key. A diod in this key will be lit while Alpha Lock is activated.

To use the keyboard with the Screen Editor

The 4 arrow keys on the keyboard moves the Screen Editors blue cursor around the screen to the different fields. You can directly enter data using the alpha keys or the numerical keys.
Finish your entry with the RETURN key. To toggle between the different alternatives for a field, press RETURN. If you want to leave the Screen Editor, press ESC.

See also the special chapter about the Screen Editor.

The arrow keys
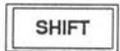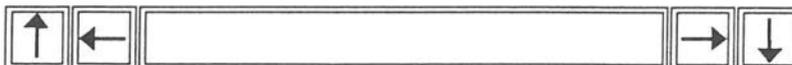
To enter commands from the keyboard

Generally, all Backup commands from the VIKING keyboard starts with a /. This character is called a 'slash'. All such commands also ends with a RETURN.

Using the keyboard as a Backup

In the Backup case, the command simply consists of the letters the corresponding key gives you in the Last Action window. This window is visible on the main page of the system monitor.

The priciples for these Last Action 'codes' are as follows:
Take the two first letters of the first word on the corresponding key + the two first letters of the second word. If there is only one word you will only have two letters.

Examples

Execute a crossfade (GO X) on the Crossfade modul

Excute a crossfade from the keyboard /GOXreturn

Don't forget the '/'!

The DIMMER CURVE command is written on the keyboard:

/ DICU return

Note: Numbers can be entered directly as ONE slash-command:

/ 123 return

Note: You can build several commands together on the same line just by separating them with '/'-characters.
Example: / 1 / CH / 50 / ATLE return will set channel 1 to 50%.

Note: See Appendix Keyboard Commands for a complete list of all Backup Commands.
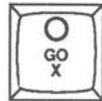
KEYBOARD

KEYBOARD
SPECIAL COMMANDS

The mixer modes

Each mixer field can operate in one out of three modes:
Master, Balance and Inhibit mode.

The Balance mode is the perhaps most useful of the three.

In Balance mode the mixer wheel works directly with the stage output. You can
add and/or remove channels from the stage output.

To enter Balance mode

Press MODE to set a mixer wheel in group mode. (Press again to exit).
MODE is lit when you are in balance mode.

Set Balance mode

Press MODE
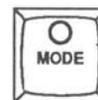
MODE
LIT

The leds and the Mixer wheels in balance mode

The level of the wheel (the master) for a field is indicated by a LED bar. Because
the wheel can control channels both up and down the default position of the
wheel (and the LED bar) in Balance mode is halfway up.

By moving the wheel upwards you can increase the levels of the channels
controlled by the wheel up to 100%.

By moving the wheel downwards you can decrease the levels of the channels
controlled by the wheel down to 0%.
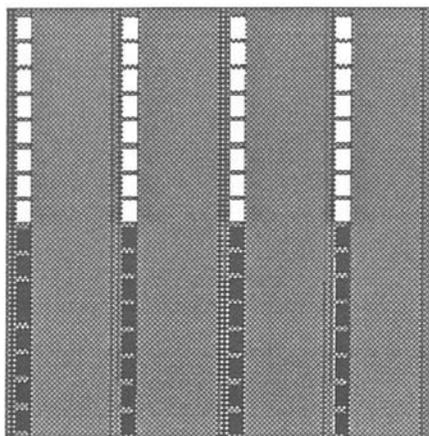
When you get into Balance mode the
Leds of the chosen Mixer wheel will
lit up halfway, to indicate that this is
the zero point of the wheel.
Moving the wheel up will increse the
level of the involved channels.
Moving the wheel down will decrea-
se the level.

All the wheels in the figure are in
balance mode

Load a preset to a mixer in Balance mode

You can load an existing preset to the field. All channels in the preset will be controlled by the wheel.

Example

Load preset 5 to Mixer 1

Enter preset number 5

Choose Mixer
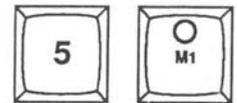
Load channels to a mixer in Balance mode

You can load a group of channels to the wheel directly with the TO MIX function.

Example

Load channel 5, 6 and 8 to Mixer 1

Select Channels

Select Mixer

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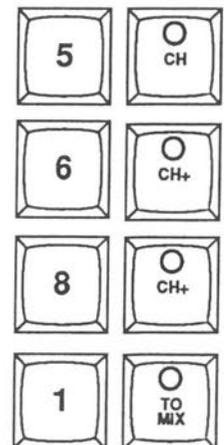
Active and inactive channels

Normally only those channels (of the channels controlled by a balance wheel) that have a level greater than zero on stage and are active in the working field will be controlled by the wheel.

This means that you can control parts of the light on stage with the balance wheels.

You can, however, control all channels that are included in the mixer group even if they are not active on stage.

Press the ALTER key for the balance wheel. All channels that are included in the balance preset will now be set to level 0%. If you move the balance wheel you will raise the levels of the channels as a balanced preset.

The function of the balance wheel is now very similar to the ADD PRESET function.

Use the balance wheels to control basic groups of lights; sidelights left, sidelights right, red cyclo, blue cyclo. Balance mode will provide you with an exellent control over these basic blocks of light when creating and recording your presets.

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Auto groups

Each preset can "remember" from which groups it was recorded.

When the preset is playbacked then all the building blocks are automaticly loaded to their original mixer fields. The mixer fields are also changed to Balance mode.

This means that you can directly work with your original groups right within the stage output! In this way you can very easily make changes or corrections to already recorded presets.

To activate this remember function

Select Groupmode = Yes in the Setup page.

When a mixer field is changed into Balance mode, the word BAL will appear on the display.
On the monitor, the channels that are affected by the balance wheel will be marked with the number of the controlling wheel.
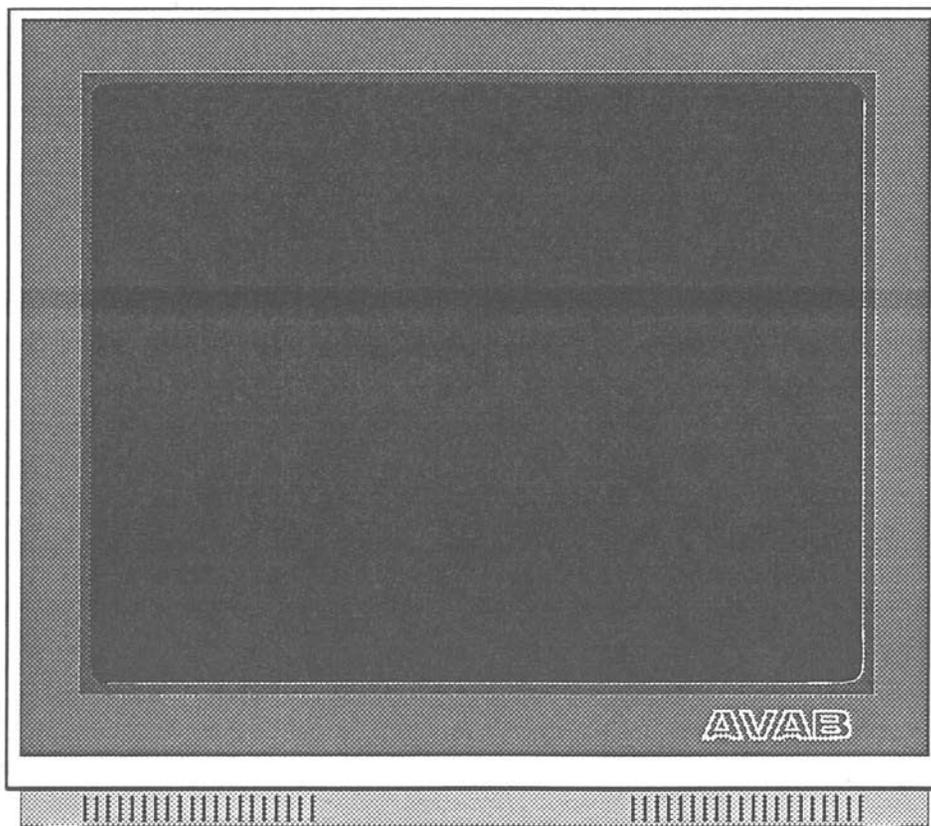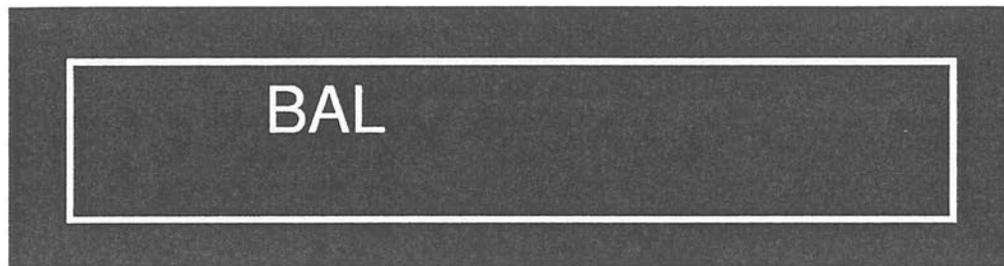
BAL

The mixer modes

Each mixer field can operate in one out of three modes:
Master, Balance and Inhibit mode.

In Inhibit mode the mixer wheel is used as a grand master for a group of channels. The channels that will be mastered are the channels that are loaded to the mixer field.

To enter inhibit mode

Hold down the MODE key on the mixer you want to select and **at the same time** press the M key for the same wheel.

Set inhibit mode

Enter inhibit mode for mixer 3

Press the MODE key for Mixer 3 and **at the same time** press the M3 key.
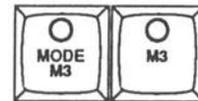
MODE &
M3 LIT

The leds and the wheels in inhibit mode

The level of the wheel (the inhibit master) for a field is indicated by a LED bar.When you enter inhibitmode the leds of the selected wheel will light up all the way.

When the wheel is at zero (the LED bar is off) then the channels controlled by the inhibit field will be totally removed from the stage output.

When the wheel is at full (all LED's are on) then the stage output will not be affected.
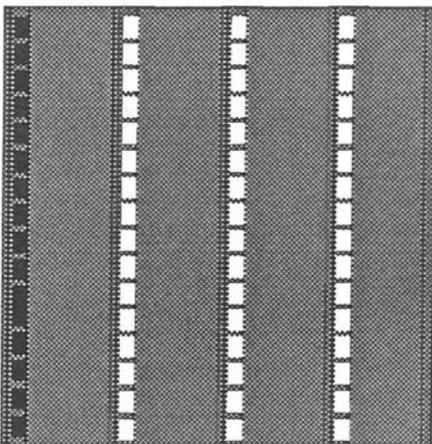
When you enter Inhibit mode the leds will light up all the way. Moving the wheel down will decrease the value of the selected channels.
When you have moved the wheel all the way down the selected channels will be zero.

The wheel to the left is in Inhibit mode. No levels are affected because the wheel <Inget>is on full.

Load a preset to a mixer in inhibit mode

You can load an existing preset to the field. All channels in the preset will be controlled by the wheel.

Example
Load preset 9 to Mixer 3

Select preset 9
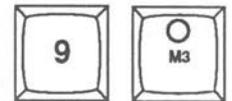
Load to Mixer 3

Load channels to a mixer in inhibit mode

You can load a group of channels to the wheel directly with the TO MIX function.

Example
Load channel 4 and channel 8 to mixer 4

Select channel 4

Add channel 8

Send to Mixer 4

Channel 4 and 8 are master channels with Mixer 4 as Inhibit Wheel.
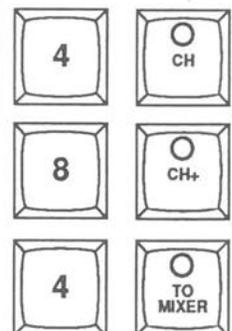
Note: You can build some light directly in the mixer field by using the ALTER key to select the Mixer as working field and then use the channel functions as usual.

When a mixer field is changed into Inhibit mode, the word INH will appear on the display.
On the monitor, the channels that are affected by the inhibit wheel will be marked with the number of the controlling wheel.
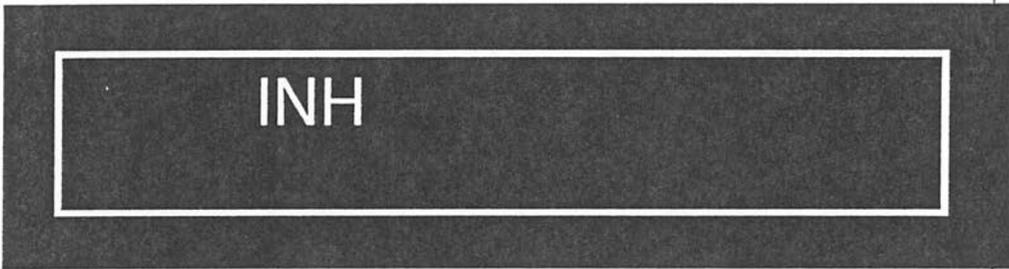
INH
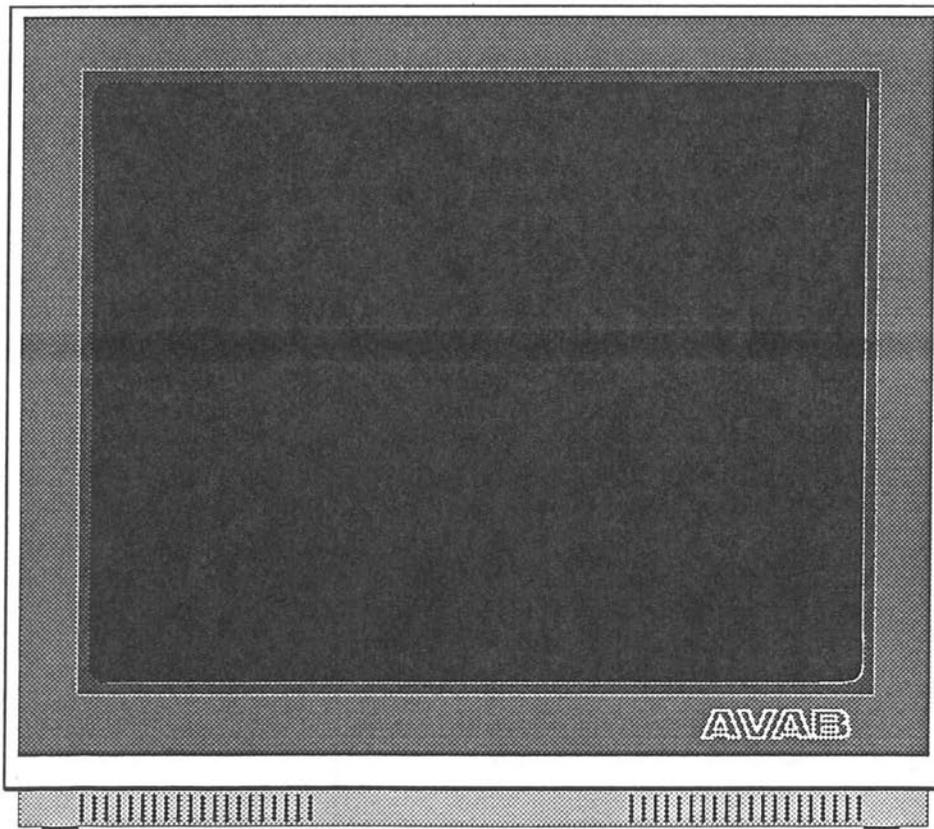
AVAB

The Mixer modes

Each mixer field can operate in one out of three modes:
Master, Balance and Inhibit mode.

In Master mode the mixer wheel controls the output from the field on an additive basis. This means that the light in the mixer field will be added to the light on stage.

This addition is made so that the highest level for a specific channel will be the level on stage for that channel.

This method is called Highest Level Takes Precedence.

To enter Master Mode

Normally a mixer field is in master mode. In you are in Balance or Inhibit mode simply press the MODE key to get back to Master mode. The lamp in the MODE key will be off the indicate normal (master) mode.
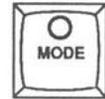
The leds and the wheels in master mode

The level of the wheel (the master) for a field is indicated by a LED bar. When the wheel is at zero (the LED bar is off) then there will be no light output from that field.

If you move the wheel up to full (all LED's are on) then the levels loaded to the field will be added to stage.

If the wheel is positioned somewhere between zero and full then the levels of the channels will be scaled by that amount. If, for example, the wheel is at 25% then the output levels from that field will be 25% of the loaded levels.
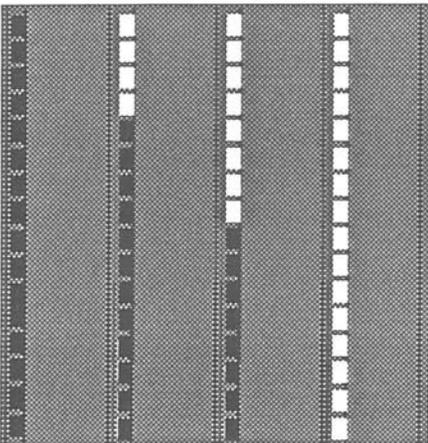
All four Mixers are in master mode.

The Mixer to the left gives full output to stage.

The two mixers in the middle gives 75 and 50 % output respectivly.

The Mixer to the right has a zero level and gives no output

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Load a preset to a mixer in master mode

You can load an existing preset to the field. All channels in the preset will be controlled by the wheel.

Example
Load preset 9 to Mixer 3

Select preset 9
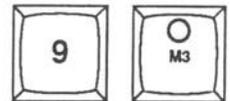
Load to Mixer 3

# Load channels to a mixer in master mode

You can load a group of channels to the wheel directly with the TO MIX function.

Example
Load channel 4 and channel 8 to mixer 4

Select channel 4

Add channel 8

Send to Mixer 4
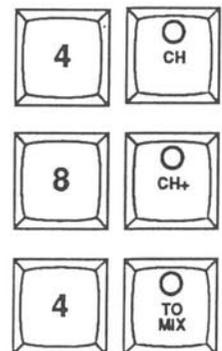
You can build some light directly in the mixer field by using the ALTER key to select the working field and then use the channel functions as usual.

Note about Highest Level Takes Precedence
If a channel is activated from several fields then you have to take each of these fields down to zero to remove that channel from stage (You can also use the Inhibit mode described in MIXER: Inhibit mode).

When a mixer field is changed into Master mode, the number of the preset in that field will appear on the display.

100.1

Times in the mixer fields

You can have a time assigned to each Mixer wheel. This time will either work as a fade in time or as a fade out time depending of the status of the mixer wheel.

How to assign a time to a preset in a mixer field

Select the mixer field as active field with the ALTER key for that field.
Enter the time and press TIME. Press REC TIME to record the time.

Select a time of 5 seconds to mixer wheel 3

Choose working field

Enter time
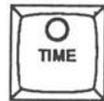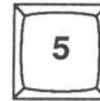
Record time

How to start a fade on a mixer wheel

Enter the number of the wheel and press GO MIX.

Run mixer 3

Enter mixer number
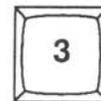
Start fade

Note: This function can be combined with both the Master and the Inhibit modes of the mixer wheels.

Getting connected

Connect the power cable of the modem.

Connect the modem output cable to the connector marked "MODEM" in back of your Viking computer rack.

Then connect your modem telephone jack to a telephone plug and your telephone into the back of the modem telephone jack.

Calling the AVAB test computer

Set the switch on the Viking computer rack to the position "Test 2".

Set the A/B switch on the modem to the "A" position.

Set the TFN/DATA switch on the modem in the "TFN" position.
(As long as this switch is in the TFN position, the telephone will function as a normal telephone).

Dial the number to AVAB's test computer (+46 31-118454).

When you hear the test computer answer (a long continous tone), switch the TFN/DATA switch on the modem to the "DATA" position.

Hang up the phone.

Press Return (on the keyboard of Viking) until the prompt 'Login:' appears on the bottom line of the monitor.

You can now login. Enter 'viking' (small letters) and press Return.

You will now have a prompt for a password, enter the password 'viking' (small letters) and press Return.

NOTE: The Viking login and password are common to all Viking users. This is only for the modem test routine that will follow. Each Viking user can aquire a special login to the AVAB computer and network.

For more information call your local AVAB dealer.

A few seconds after you have entered the "viking" password and pressed return, you will have entered the special Viking User Program.

Follow the instructions given on the monitor.

Modem instructions for Viking users with an acoustic "910" modem

If your theatre is equipped with a modem called 910 you should read this chapter. This modem is an older type of modem, which works differently than the newer direct modems. Nevertheless it works just as fast (300 Baud) as the newer Viking modems and is still used worldwide by journalists and travelling technicians.

This type of modem is sensitive to vibrations som make sure you have placed it on a firm surface before attempting to use it.

When using this modem together with a telephone, you have to place the modem on the side. This is because of a defect in the microphone structure of these telephones.

To establish contact with AVAB's test computer

Switch the main computer to the TEST 2 position.

Call AVAB's test computer as you would place any ordinary international telephone call. The number for the test computers direct line is : +46 31 - 11 84 54 .

When you are connected to the computer you will hear a strong, constant tone. Make sure that the modem is switched off. Insert the receiver in the modems cradle in the direction shown on the modem.

Twist the receiver a bit in the rubber cups to equalise any uneven pressure distribution.

When the receiver is properly seated, switch on the modem. Both LED's on the modem should now be illuminated.

Press Return (on the keyboard of Viking) until the prompt 'Login:' appears on the bottom line of the monitor.

You can now login. Enter 'viking' (small letters) and press Return.

You will now have a prompt for a password, enter the password 'viking' (small letters) and press Return.

NOTE: The Viking login and password are common to all Viking users. This is only for the modem test routine that will follow. Each Viking user can aquire a special login to the AVAB computer and network.

For more information call your local AVAB dealer.

A few seconds after you have entered the "viking" password and pressed return, you will have entered the special Viking User Program. Follow the instructions given on the monitor.

How to record a preset

Once a lighting scene is set up to your satisfaction, it can be recorded into the memory of Viking.

Choose a memory number for the preset on the keypad or with NEXT PRESET. NEXT PRESET will give you the next free memory number available in the system.

In both cases, the number will be displayed in the display on the Designer module.

Example

Choose number 8 as preset number

Press REC PRESET to record the preset.

Note: If you have chosen a previously occupied preset number there will be a warning issued on the system line of the monitor. See below "How to re-record a preset".
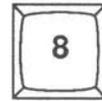
How to re-record a preset

When you have modified a preset and want to re-record it, press REC PRESET once. You will then have a warning that the preset number is occupied. To re-record the preset press REC PRESET again. If you should change your mind after the warning, press ESC, and the preset will remain unchanged.

How to copy a preset

To copy a preset is very simple. Just give the preset a new number, record it and you will have a copy. To give a preset a new number you have to assign the preset to the active field. Enter a number of your choice or use the NEXT PRESET function. Press the REC PRESET key.

Normally you copy a preset to use it as a base for a new preset. When you are working with your light program you mostly work in the X1 field (light on stage).When you are satisfied with the preset you are working with you record it. Then you make changes for the next preset using your former preset as a base. When you are ready just rename the preset and record it and you have copied the modified preset to the new one.

You can also copy a preset blind (without affecting the light on stage) using the Mixer.

Example

Copy preset 8 and call the copy 1. Use Mixer 4

Load preset 8 to Mixer 4

Name the preset 1 and record it
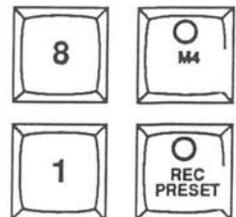
Note: Blind copying can also be done in the X2 field.

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How to delete a preset

Assign the preset to a mixer field. Choose that field as the active field using the ALTER key. Press DELETE PRESET. You will now receive a warning on the system line of the monitor. To delete the preset, press DELETE PRESET again.

Example
Delete preset 8

Select preset 8

Assign the preset to Mixer 1

Select Mixer 1 as active field

Delete preset

The preset is now eliminated from your lighting program and the preset number will be available as a free preset number in the system

Note: If you should change your mind after the warning, just press ESC, and the preset will remain unchanged.
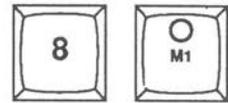
Adding presets to a preset or field

There are two ways in which you can add information from previously recorded presets.

By entering the number of the preset you wish to add and pressing GROUP, you will have all channels with a level in that preset as a group.

You can then use the wheel or the keypad to set a level to this group.

By entering the number of the preset you wish to add and pressing GROUP twice, you will have also the levels of the channels in that preset copied into your active field.

Example 1:
Add all channels with a level in preset 6 to the working field
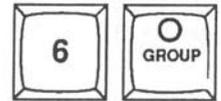
Example 2:
Add all channels **and** the levels in preset 6 to the working field

Remember groups

"Remember groups" is a special mode for the group wheels of the mixer module. In this mode Viking will acknowledge the presets that are used in the group fields when you are recording presets. When you are running through your performance, Viking will assign these presets to the same group wheels. This will give you control over the sub-groups of your presets during performance, for corrections or effects.

We will illustrate the use of Remember groups with an example: In this example we will record presets 1 through 11. Make sure before you start that you can save whatever information that may be recorded to these presets.

To enter "Remember groups"-mode
Press SETUP.

Place the cursor on top of the text "Remember Groups: No" and press RETURN on the keyboard or SELECT on the command module. This will turn the text "Remember Groups: No" into "Remember Group: Yes".

Start by building 4 basic lighting groups and recording them as presets.

If you are working without light on stage, try thinking of the channel monitor as a stage seen from above. The opening of the stage is the bottom line of the channel monitor.

Record channels 5 - 15 with levels as a backlight-preset and so on...

Assign these presets to the wheels 1 - 4 of the mixer module.

Set these wheels to Balance mode by pressing the MODE key above each wheel.

The key will light up.

These wheels will now affect the active field, which should be the X1-field of the sequence unless you have selected otherwise.

Clear the output in the X1 field by pressing ALL and using the Designer wheel to set all channels in the X1 field to 0.
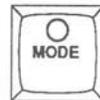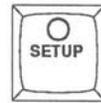
Now move the mixer group wheels and check the channel levels on the monitor. All channels which are in the presets will be indicated on the channel monitor. The number of the group wheel controlling each channel will be displayed under the channel number.

Use group wheels 1 and 2 to create a new preset.

Record this preset as preset 10.

Clear the output in the X1 field by pressing ALL and using the Designer wheel to set all channels in the X1 field to 0.

Use group wheels 3 and 4 to create a new preset.

Record this preset as preset 11.

Presets 10 and 11 which we just have recorded represent a large sequence of presets which we have created. We have used basic lighting groups on the group wheels for cyclos, sidelights and such.

Now lets reset the group wheels to normal by pressing the MODE key above each wheel again.

Clear the presets from the mixer fields by entering C on the keypad and pressing the top key above each wheel.

Imagine that we are about to run through our sequence to check all presets and to make some small corrections if neccesary.

Press GO.
Preset 0 will fade in.

Press GO.
Preset 1 will fade in.

Press GO.
Preset 2 will fade in.

Press GO.
Preset 3 will fade in.
Press GO.
Preset 4 will fade in.

Look at the mixer module, all wheels are in normal Master mode, all fields are empty and no key is lit.
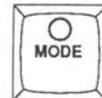
Press GO.
Preset 10 will fade in.

Look again at the mixer module, presets 1 and 2 have been automatically assigned to wheels 1 and 2. Also these two wheels have been set to Balance mode.

You can now directly use these wheels to correct the lighting group levels in the preset on stage.
If you want to record the change, press REC PRESET twice.

Press GO.
Preset 11 will fade in.

Presets 3 and 4 will have been loaded to wheels 3 and 4.

The wheels are set to Balance mode and you can directly control the same lighting groups that you used for building preset 11 to correct it.

To exit Remember groups

Use the Screen editor as when you entered. The group presets will not be recorded together with the presets and they will not automatically be assigned to the wheels as long as "Remember Groups" are set to "No".

Moving around in the sequence

Note that you have to move the whole sequence when editing sequence steps.
This can be done as described below.

Backing one step in the sequence

Back the sequence

Viking will warn you as this action will make dramatic changes on stage.

Press SEQ X– again to execute the move.

**Note that you can back as many steps as you want to. Viking will only
warn you the first time.**

Jumping in the sequence to a preset

Enter the preset number and press PRESET X2. The preset will be placed in X2
in its sequence position. The preset in X1 (the light on stage) will not be affected
by the jump.

Jump to preset 9

Preset 9 is placed in X2

Jumping in the sequence to a specific sequence step

Enter the number of the sequence step and press SEQ X2. The preset occupying
that step will be placed in X2. The preset in X1 (the light on stage) will not be
affected by the jump.

Jump to sequence step number 7

The preset occupying cue number 7 will be placed in X2

In the next crossfade the sequence will continue from step 7 and onwards.
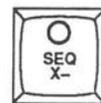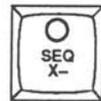
Numerical sequence

Numerical sequence format is the default setting of Viking.

Creating a numerical sequence
When a preset is recorded either in the X2 or X1 field using REC PRESET, it will automatically be arranged in ascending numerical order into the sequence.

Inserting a preset into the numerical sequence
You may insert up to nine presets between any two consecutive whole-number presets in the sequence. Use decimal presets for this.

Insert preset 6.7 between preset 6 and 7

Note:Preset 6.7 will automatically be placed in sequence in con-sequtive order between preset 6 and 7.
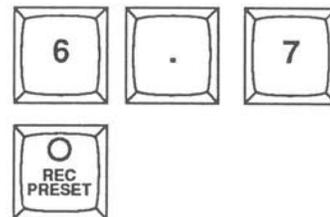
Deleting a preset from the numerical sequence

Select X or Y sequence using either of the ALTER keys for X or Y fields. You can delete the preset occupying the sequence in the X2 field by pressing DELETE SEQ twice.

Jump to the sequence step with preset 4.

Delete sequence step with preset 4

Viking will ask " are you sure"

Delete preset

If you change your mind after the warning you can press the EXIT key.

Note: In this case the preset itself will not be destroyed, it is only removed from the sequence. If you want to delete the preset itself use the DELETE PRESET key.

155
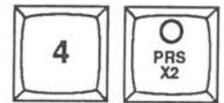
Non-numerical sequence

The presets in the VIKING sequences can also be arranged in any desired order. The sequence then becomes a non-numerical sequence.
Any preset may occur any number of times in the sequence. This will help your orientation in the sequence. For example: A blackout preset can have the same number throughout the play.

Inserting a preset into a the sequence

To insert a preset after the preset in the sequence occupying X1, enter the preset number and press SEQ INSERT.

Example
Insert preset 5 in the sequence

Preset 5 is now inserted after the X1 preset in the sequence AND before the X2 preset.

Crossfade times

In a crossfade you can have different fade times for the outgoing and incoming presets. You can assign a delay time to either one of them.

A crossfade can be set to start automatically after the previous one, by assigning a wait time to this crossfade.

A wait time can be toggled into "alert" mode, which will give an indication 10 seconds before an important crossfade by voice or acoustic signal, but it will NOT start the following fade.

Setting IN and OUT times for a crossfade

Choose ALTER X1 to set times for the previous crossfade, or ALTER X2 to set times for the coming crossfade.

Enter a time for the outgoing preset and press OUT.

Enter a time for the incoming preset and press IN.

Press REC TIME.

Note: If you wish to have the same in and out time, enter the time and press TIME. Then press REC TIME.
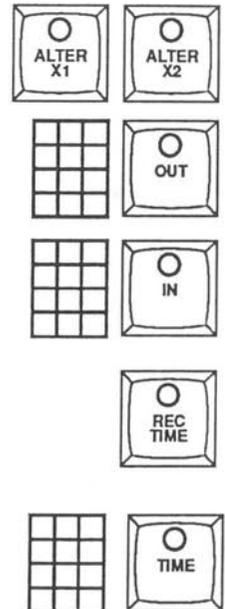
Delay time

You can delay either the in or the out time in a crossfade. This means that the start of the fade in or the fade out will be delayed at your choice.

Setting a delay time for a preset in a crossfade

Choose ALTER X1 to set times for the previous crossfade, or ALTER X2 to set times for the coming crossfade.

Enter the delay time

Press DELAY.

Press IN to delay the incoming preset

OR

OUT to delay the outgoing preset.

Press REC TIME.

NOTE: It is sufficient to press REC TIME once, after setting all times for a crossfade (IN, OUT, DELAY).

NOTE: The reason for having a REC TIME key is that it shall be possible to try times out without recording them in the sequence. All times are set temporarily until you press the REC TIME key to record them to the sequence.
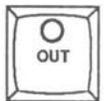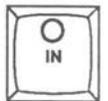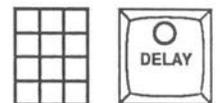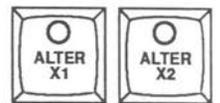
Track time

You can record the exact times you used for a crossfade after performing it manually.

How to Track and record the actual times used in a manual/timed crossfade:

Perform the crossfade. Press TRACK X . The times used will be displayed on the system monitor as if they were assigned from the keypad.

To record these times press REC TIME.

TRACK X will record the exact in, out and delay times used in the fade.

Note: You can also record the exact times that were used when accellerating or braking a timed crossfade using the the track curve function. (See Track Curve).

Example:

Perform a manual crossfade

Press the TRACK X key

The times of the performed crossfade (in, out and delay times) are displayed on the system monitor.

Record the times (That is if you are satisfied. Otherwise you back one step in the sequence and try another time.)

NOTE: Up to nine different curves can be recorded but the same curve can be used several times in the sequence. With the Screen Editor you can assign the same curve number to several different crossfades.

⇧ ⇧
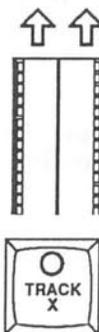
TRACK
X

**TRACKED TIME
ON MONITOR**

REC
TIME
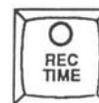
Alert time

Alert time is the time between two crossfades. Setting an alert time will not automatically start a new crossfade but will warn you 10 seconds before it is time to perform a new crossfade.

Setting an Alert time for a crossfade

Press ALTER X1 to set times for the previous crossfade, or ALTER X2 to set times for the coming crossfade.

Enter a time and press ALERT.

The Alert time function will warn by voice or signal when there are 10 seconds left.

The Alert time will be indicated by an "A" on the system monitor.

Note: You can also automatically track the Alert time. See Track Alert in the Setup Page
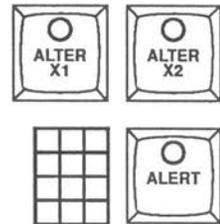
Wait time

A Wait time is a time between two crossfades. A Wait time will automatically start a new crossfade ,with all recorded times and other features, when the wait time has elapsed.

Setting an Wait time for a crossfade

Press ALTER X1 to set times for the previous crossfade, or ALTER X2 to set times for the coming crossfade.

Enter a time and press WAIT.

The crossfade to which you have assigned this time will now automatically be executed after the wait time has elapsed. The wait time will start to elapse when the previous crossfade is completed.

Note that the wait time function will emit a warning by voice or signal 10 seconds before executing the crossfade.

Example

Set a wait time of 15 seconds for the coming preset.

Choose working field

Select time and record

Back sequence and perform the crossfade

You start manually the first crossfade. When the crossfade is executed the wait time will start to elaps. After 15 seconds the second crossfade will be executed.

Note: You can have as many wait times after one another as you like.
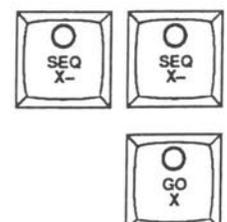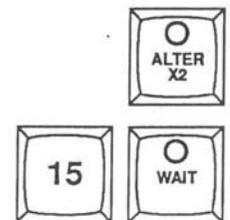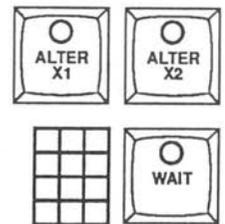
SWAP

This function will change (swap) the level between two channels. The two channel levels will be exchanged with each other.

The Swap function can be used for removing a channel from the performance. This can be useful when a lantern is accidentaly moved to a wrong direction. Instead of using an Inhibit wheel to keep the channel down you can swap all level information with another channel which is unused or less important.

A channel swap can be made in the whole perfomance (all presets) OR in any selected range of presets.

Note: To be able to specify a range of presets you have to enter the command from the keyboard

Enter the first channel with CH key. Enter the second channel and press SWAP.

VIKING will tell you how many swaps that was made.

Example
Swap the levels of channels 1 and 5:

Enter channel 1

Swap with channel 5

The levels of channel 1 and channel 5 have exchanged.
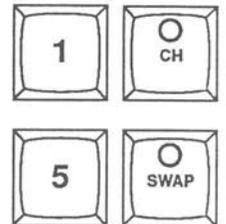
How to swap only in a range of presets

Note: This can only be made from the alphanumerical keyboard. Enter the first and last presets as arguments to the swap function. See also Keyboard functions.

Example

Swap channels 4 and 105 in presets 100 thru 200:

Enter /4/CH/105/SW>100,200. The '>'-sign tells Viking that the following numbers are arguments to the previous command.

| ? / | $ 4 | ? / | C | H | ? / | ! 1 | 0 | % 5 |

| ? / | S | W |

| > . | " 2 | 0 | 0 | < , | ! 1 | 0 | 0 |

⏎
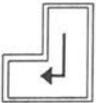
Note: The Swap is made in the presets directly. Is has the same effect as if you have changed and re-record the levels in each preset. It is not a temporary change that is activated, it is directly recorded in the presets. However, you can of course reverse the Swap by repeating the same Swap again.

You can set individual fade and delay times for single channels and groups in a crossfade in the X-sequence.

You can have up to 32 such time groups in any crossfade in the X-sequence. The time groups will be activated when the crossfade is started, but can also be started one by one with the PART FADE key on the crossfade module.

You can create time groups for the X1 preset or the X2 preset by choosing either field with the ALTER keys as you would when setting an ordinary fade time for a crossfade.

To create time groups in a preset

Choose working field

We choose X2 as working field. The time groups will be connected to the preset in X2 (The preset to be faded in during the next crossfade).

Press SELECT GROUP .

Four squares for the time group information will appear on the system monitor. There will be a cursor where the information for time group A is to be displayed.

Select the channel or group you want to include in the first time group just as if you were to set a level to this group.We use channel 5 to 9 as example.

Select channel 5 to 9

Note that you can use the CH, CH+, CH- and THRU keys for this OR you can use existing groups with the ADD PRESET function or as 900 groups.

Now the key REC GROUP will light up to remind you that you have to press it to record the group.

Before you do this, you have to set a time for the group.
Choose a time for the group, and press TIME.

Set a time for a time group
Select a time of 4 seconds

Note that you do not have to define if it is an in or an out time since that will be decided by the channel levels in the preset before the crossfade.
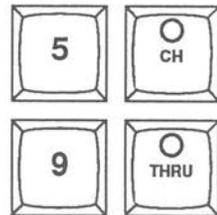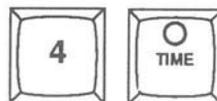
Set a delay time for a time group

Set a delay time of 2 seconds for the group

This will delay the start of the timegroup when you execute a crossfade.

If you are finished with this group you can press REC GROUP to record the group.

The group is now recorded.

The cursor will now jump to the position for the next group, group B. You can immediately create and record a second group.

Example:
Create a time group with channel 1 and 4 with a time of 9 seconds.

Select channel 1 and 4.
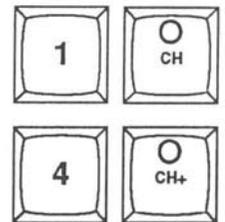
Set time

Record the group

The group is now recorded and the cursor jumps to the next group (C).

TIME GROUPS

The SELECT GROUP key has a stepping function, which will allow you to step through the time groups.

The cursor is placed at time group C. Step to group B.

Press the SELECT GROUP key

This will take you to time group A.

Press the SELECT GROUP key one more time.

This will take you to time group B. A third press on the key will take you back to time group C.

If you want to alter the channels of a time group select the time group you want to change. Then build a new channel group with the channel functions and re-record it with REC GROUP. You can also enter a new time in this way.

NOTE: You can also build and modify time groups with the screen editor in the usual way.

Activating the time groups manually

When you make a manual crossfade you will overrun both the crossfade time and
the times you recorded to each individual timegroup.

You have also the opportunity to start the single time groups one by one manu-
ally. When a "time grouped" crossfade is situated in X2 ready to start, press
PART FADE. When you hit GO X you will start the main crossfade but not the
time groups. Every time you press PART FADE you will start a new time group,
starting with time group A.

Press the PART FADE key

Start the crossfade
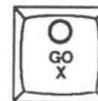
Press the PART FADE key

Time group A starts

Press the PART FADE key

Time group B starts

The PART FADE key will be lit and stay lit until the crossfade and all timed
groups are ready.

IR

The IR transmitter admits control over a number of functions:

Accessing single channels.
Identifying single channels with the ID function.
Calling up presets to the X1 field.
Creating a group out of all active channels in the X1 field.
Recording presets.
Moving within the sequence.
Starting a timed crossfade.
Reversing a timed crossfade.

Note: See chapter "Setup" on: How to set the IR to control other fields than X1, How to set the IR in focusing mode, How to set a working range of channels so two persons can work at the same time with IR controls.

Whenever the IR transmitter is not in use, it should be connected to its battery charger. This is to make sure that it always will be fully charged when someone need to use it.

To start the IR transmitter

Hold down the C key for 2 seconds.

Accessing channels and setting levels

You use the numerical keypad on the IR-TRANSMITTER to access a channel. You use the four lefthand keys to set channel levels.

The F key gives you a 100% level and the 0 key will give you a zero level. The upwards arrow smoothly increases the level and the downward arrow decreases the level.

Accessing a single channel

Enter the channel number and use the level keys.

Accessing a single channel, example

Set channel 54 to a 100 % level

Start the transmitter

Enter the channel number

Set level to 100%

Decrease level

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Identifying a single channel

Enter the channel number (for example 54).

Press uppwards arrow.

Enter 992.

Press F

The channel will now flash for identification **until you press O**.

When you press O you will revert the channel to the level it had before the identification.

Calling up a preset to the active field

Note that X1 is the default active field

Enter the preset number.

Press the . key.

If the preset is recorded in the sequence, it will move the sequence to the position of the selected preset.

If the preset is not present in the sequence, it will be faded in in 1 second.

Creating a group out of all active channels

This function is the equivalent of the ALL key on the Designer module.

Enter 999.

Use the level keys to set or change the levels of the group.

Re-recording a preset with the IR

Enter 998.

Press the . key.

The currently selected preset will be re-recorded with any changes made.

Moving around within the sequence

Move forward one step in the sequence.

Enter 997

Press F

Move backward one step

Enter 997

Press O

Jumping in the sequence

Calling up a preset to the active field will move the sequence to the position of the preset.

Example

Enter preset 54

Press the . key

The sequence moved to the positon that contains preset 54.

Timed crossfades

You can start any crossfade which has a fade time set in the sequence. If there is no time assigned in the sequence, the crossfade will run with a default time of approximately 4 seconds.

Starting a timed crossfade

Enter 997

Press the upward arrow

The crossfade will run as long as you press the upward arrow. To pause the crossfade, release the arrow key.

To continue press the upward arrow key again.

Inverting a timed crossfade:

The corssfade will be reverted using the time programmed in the sequence. If no time has been programmed in the sequence, it will be reverted with a default time of approximately 4 seconds.

Enter 997

Press the downward arrow key

The crossfade will run inverted as long as you press the arrow key.

The crossfade will pause if the downward arrow key is released.

Cutting a timed crossfade

Enter 997

Press F

The running fade will be completed immediately.

174

To work with the Remote control

Select preset 78

⑦ ⑧ ▪

Select all channels

⑨ ⑨ ⑨ ▪

Decrease the total level

Ⅴ

Select channel 54

⑤ ④ Ⓕ

Set channel 54 to 100 %

Rerecord preset 78

⑨ ⑨ ⑧ ▪

Make one step forward in the sequence

⑨ ⑨ ⑦ Ⓕ

Cut the recorded time. The fade will be completed.

Ⓕ

Printer functions

There are 10 different printer formats. You can select which information that you will have on the print-out.

You can produce printouts while operating Viking. However, you cannot record information while the printer is in operation.

To start a Printout

Enter the number of the printer format.

Press PRINT.

The printer will immediately begin to produce the desired printout.

To stop the printout

Press PRINT

The printer will now stop after the current page has been fully printed.
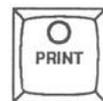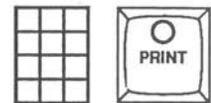
Printer formats

FORMAT 1:
Sequence information and all channels in the system, active and inactive.

FORMAT 2:
Sequence information and channels in formatted form.

FORMAT 3:
Sequence information and only the active channels in each preset. Formatted form.

FORMAT 4:
Sequence information only.

FORMAT 5:
Lists all channels which are not used in the current production.

FORMAT 6:
Printout of a channel track listing of a selected channel or group.

FORMAT 7:
Printout of all presets where any one or more of a selected channel or group of channels appear.

FORMAT 8:
Printout of all presets currently in memory. Also those presets which have been recorded, and erased from the sequence.

FORMAT 9:
Printout of programmed special effects.

FORMAT 10:
Playlist.

AT MODE

The Viking uses Reversed Polish Notation as command language. AVAB thinks that this is a superior way of working.

However, traditionally most manufacturers uses another command language. If you are an experienced light designer and you are used to the traditional way of working, it will take some time to get accustomed to this new working method. But, we assure you that it is worth trying to work the Viking in its original way.

As an extra feature you can change the Viking command language to AT MODE. This make the Viking behave as most other light boards when it comes to working with channels and levels.

But, if you follow this manual step for step you will very soon feel the superiority of the Reverse Polish Notation.

Getting AT MODE

To enter AT MODE, change the parameter called At mode in the Setup page to On.

Entering levels and channels in AT MODE

Enter channel 5 at 50%.
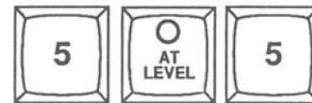
Enter channel 3 at 66%
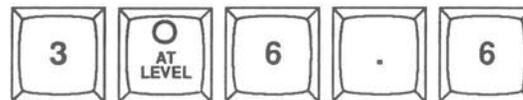
Change to 62 level

Change to 55 level

178
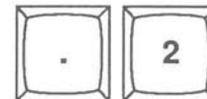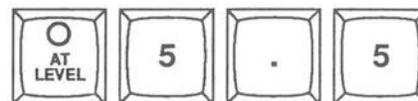
When you press the AT LEVEL key Viking waits for a level to end the command chain. You can give this level by using any of the level buttons on Viking.

Enter channel 7 at 70%
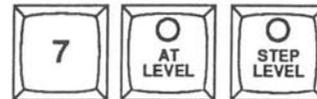
Reduce with 10%
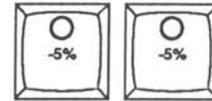
You can use the thru function to build groups. Enter channel 1 to 5 at 60 level

Remove channel 3 and 4 from group Note that you use the CLEAR key not to end the command chain without changing the level.
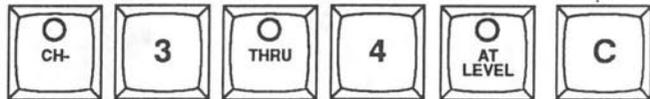
Add channel 9 to group at level 80
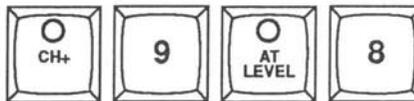
NOTE: Some features on Viking, connected to channels, uses numerical entrances that are not levels. If you, for example, want to assign a dimmer curve to a selected channel you must press the CLEAR key before you enter the number of the dimmer curve. In AT MODE Viking waits for a level after you have pressed the AT LEVEL key. If you, for example, enter 3 after you have pressed the AT LEVEL key you will get a 30% level, not dimmer curve 3.
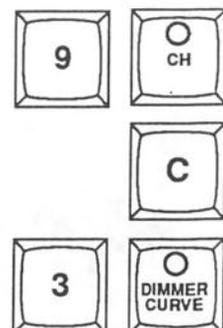
DISK CARE

Viking uses 3.5 floppy disks to store information and to load the Viking program into the system.

Note: Older Viking systems may use other types of disks. If you have any questions about these you should consult AVAB.

3.5" disk

Front   **Back**
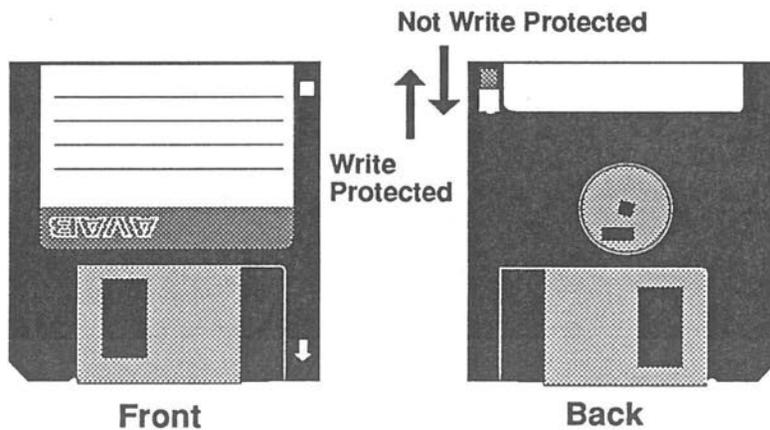
You can protect your disk from unauthorized writing by locking it. Push the little plastic button towards the edge of the disk and the disk is locked. You can now see a hole thru the disk. To unlock the disk push the button back.

A disk is quite tough, but it does have a few physical requirements, about the same as audio cassettes.

Never touch the exposed disk under the metal covering

Keep the disks out of range of anything that contains a magnet, like a telephone or a loudspeaker.

Store and keep your disks in a dry place.

Keep the disks away from extrem heat. (above a monitor, in the sun)
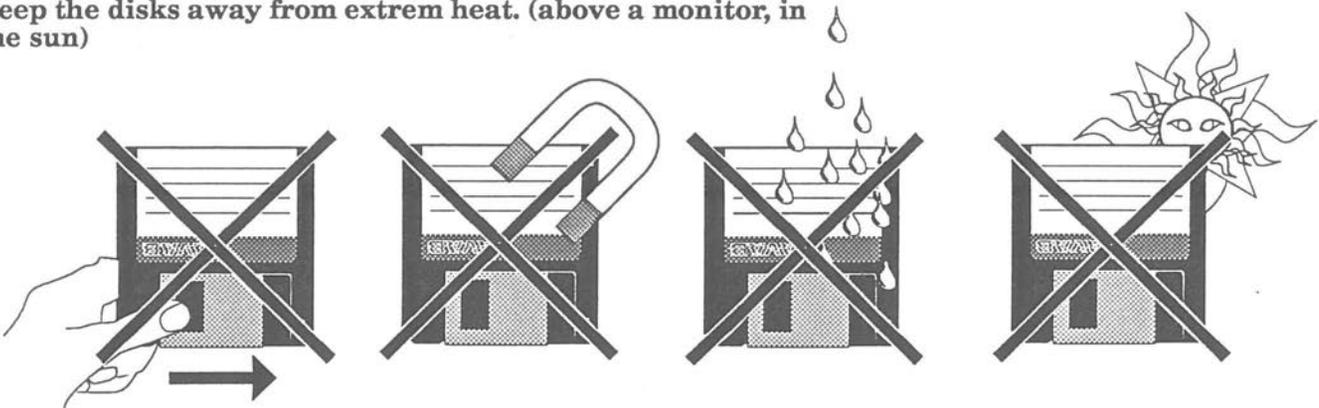
KEYBOARD COMMANDS

This is all keyboard commands used in the Viking^2 system. Note that all commands start with a " Slash" (/).

A right hand arrow (>) tells Viking that an argument is coming. If there is more than one argument they must be separated by a (,)

To execute a command you have to press the Return key. See also Keyboard in this manual.

Command Module

AUTO TIME	/AUTI	REC GROUP	/REGR
COLOR	/CO	REC NEXT	/RENE
CONST LEVEL	/COLE	REC LAST	/RELA
DELAY	/DE	REC PRESET	/REPR
DELETE PRESET	/DEPR	REC TIME	/RETI
DIM CURVE	/DICU	SELECT GROUP	/SEGR
FROM DISK	/FRDI	SEQ EDIT	/SEED
GO MIXER	/GOMI	SEQ X	/SEX
IN	/IN	SEQ Y	/SEY
JUMP COUNT	/JUCO	SWAP	/SW>start,stop
JUMP SEQ	/JUSE	TIME	/TI
MULTI CUE	/MUCU	TO DISK	/TODI
NAME PRESET	/NAPR	^	/^
NEXT PRESET	NEPR	V	/V
NO	/NO	* START/STOP	/*ST
OUT	/OU	* LAP	/*LA
PAGE	/PA	* RESET	/*RE
PLEASE REPEAT	/PLRE	* CLOCK	/*CL
PRINT	/PR		

Designer Module

+5	/+5	THRU	/TH
-5	/-5	TO MIXER	/TOMI
AT	/AT	TOTAL CH	/TOCH
CH	/CH	VIEW STAGE	/VIST
CH +	/CH+	0	/0
CH -	/CH-	1	/1
ID	/ID	2	/2
INV GROUP	/INGR	3	/3
REVERT	/RE	4	/4
STEP LEVEL	/STLE	5	/5
		6	/6
		7	/7
		8	/8
		9	/9
		C	/C

Crossfade Module X

ALTER X1	/ALX1
ALTER X2	/ALX2
BACK X	/BAX
GO X	/GOX
INVERT X	/INX
PREHEAT X	/PRX
PRESET X2	/PRX2
SEQ X2	/SEX2
SPLIT X	/SPX
ST/ST X	/STX
TRACK X	/TRX
UNLOCK X	/UNX
X1	/X1
X2	/X2

Crossfade Module Y

ALTER Y1	/ALY1
ALTER Y2	/ALY2
BACK Y	/BAY
GO Y	/GOY
INVERT Y	/INY
PRESET Y2	/PRY2
SEQ Y2	/SEY2
SPLIT Y	/SPY
ST/ST Y	/STY
TRACK Y	/TRY
UNLOCK Y	/UNY
Y1	/Y1
Y2	/Y2

Mixer Module 1

M 1	/M1
M 2	/M2
M 3	/M3
M 4	/M4
MIX/GR 1	/MI1
MIX/GR 2	/MI2
MIX/GR 3	/MI3
MIX/GR 4	/MI4
ALTER 1	/AL1
ALTER 2	/AL2
ALTER 3	/AL3
ALTER 4	/AL4

Mixer Module 2

M 5	/M5
M 6	/M6
M 7	/M7
M 8	/M8
MIX/GR 5	/MI5
MIX/GR 6	/MI6
MIX/GR 7	/MI7
MIX/GR 8	/MI8
ALTER 5	/AL5
ALTER 6	/AL6
ALTER 7	/AL7
ALTER 8	/AL8

Mixer Module 3

M 9	/M9
M 10	/M10
M 11	/M11
M 12	/M12
MIX/GR 9	/MI9
MIX/GR 10	/MI10
MIX/GR 11	/MI11
MIX/GR 12	/MI12
ALTER 9	/AL9
ALTER 10	/AL10
ALTER 11	/AL11
ALTER 12	/AL12

THE VOICE OF VIKING

The voice of VIKING is an optional speech synthesis card for the VIKING.

This makes it possible for the VIKING to speak to you, giving you verbal warning messages instead of written. It can also speak the sequence text for a sequence step. This can, for example, be used to give an automatic spoken message to a followspot technician.

How to use the Voice of VIKING

Once it is installed, you don't have to do anything to make it work. Warning messages are automaticly sent to the Voice of VIKING.
<Inget>ounted inside the VIKING computer.

How to send a sequence text to the Voice of VIKING

If a sequence text begins with a #-sign, then the text will automatically be transferred to the Voice of VIKING when the sequence step is placed in the X2-field.

How to play around with the Voice of VIKING

In the Setup page you can set Talk mode to On.

In Talk mode, everything that you write on the keyboard will go directly to the Voice of VIKING.

To leave Talk mode, select Talk mode Off in the Setup page.

On the following pages we have collected some of the pages from the AVAB Info serie of information letters.

This section also includes information about our new product AVAB Expert.

WHY UPDATES

Software updates - advantage or disadvantage?

All AVAB computerised lightboards and digital dimmers are constantly being updated at a low cost. Are these updates really necessary, and who makes the benefit?

There are two different kinds of updates:
1) Updates correcting program malfunctions known as bugs.
2) Updates containing new or/and improved features.

Updates to fix bugs
A program should, of course, be free from bugs when sold to end-users. This is not reality!
According to the world leading manufacturers of software (word processing, databases, administration programs) a program is never 100% bug-free.
Most programs however, have reached a very stable status before they are released. The bugs that can be found in a good program are often smaller bugs which do not affect the main features of the program.

Thus, there obviously is a need for updates. Mostly for the sake of the buyer, since it can take even years before some bugs appear. A manufacturer who does not allow for updates is leaving the customer stranded after the bill has been paid!!

Updates to provide new functions
In a large control system, the most expensive part is the hardware. A good hardware is never out of date as long as it can adapt to software improvements. In fact, such a system will never be out of date (except for design perhaps).

This is great from the customers point of view, provided that the company which has manufactured the system is capable of and will provide updates with improved features.

AVAB usually build a product around a general computer which can be used for a lot of different tasks. This means that the hardware leaves an open end to the future. New features can easily be added with new software.

Today, the software is the most important part of a computer system. It is the software that creates all the features and functions of the system. To make good software is not an easy task. It takes a lot of experiance, knowledge and time.
AVAB was one of the first lighting manufacturers in the world that used computers for their products. Therefore AVAB has gained a lot of experiance in making computer software.
AVAB will continue to improve the software several years after a product has been delivered.

Basic philosophy

RPN is a method for entering commands into calculators and computers. We at AVAB have chosen to use this principle in all our products.

The main principle is that you enter numbers first and then a command key. We can say that the numbers are similar to words in a normal sentence and the command is the full stop. As in a sentence you must have words and a full stop. Then everyone understands that you have finished your sentence or idea.

An example

Let us assume that you want to select Monitor page 2. When using RPN you start with the number and then you choose the command you want to be executed.

First the number and then the functions key.

Why AVAB use RPN

Your command is always finished: As soon as you press the command key you have executed the command and updated the monitor. With other methods you begin by entering the command and then the number. With this method the computer is not able to know when the command is finished.

To fix this problem the maker of the equipment has two choices:

1. To use an extra key to finish the command (usually an execute key).

2. To decide that all numbers must be, for example, 3 digits. Then the computer can count the keys and after counting 3 it understands that the command is finished.

These two methods require extra keystrokes. It will also lead to different methods for different functions.

If we analyze this we find that these other methods are illogical and require unnecessary keystrokes.

Flexible

In the RPN method you have great power and control over your commands. In the entering of a command you can always cancel the command before it is finally entered. This is because no action is taken until the command key is entered.

With other methods you begin with the command key and then enter a number.

Then the number is predestinated to that command. If you want to change your mind you have to back out the command you entered to enter a new one.

In RPN you will never get "stuck" in a command, you can change function as you change your mind. Very flexible.

REVERSE POLISH NOTATION

Quick response

In RPN every command is finished as soon as you press the function key.
The monitor can be updated immediately with the correct information. The information on the monitor will always be up-to-date.
With another method (in this case the At method) you will always be one step behind in
the update of the channel group on the monitor. If you build a group of channels 1 + 120 then the indication for the second channel of the group (channel 120) will not be visible until you press a new command (15 minutes later, or so). Then the computer understands that the previous command was finished.
This means that you will never have an updated image on the monitor The monitor is always one step behind.

Logical

All commands have the same structure. You don´t have to invent new methods of keystrokes for different types of commands. We can always have Number, Command. This makes the equipment easy to use and understand because all commands work the same way.

Scientific

Hewlett Packard use the RPN method for their calculators. The advantage in the calculation business (and of course in the lighting business too) is that you can always see the subresults of a complex calculation. You don´t need the parenthesis and equal sign keys (the execute key) because of the logical RPN method. You can solve any calculation with a minimum of key strokes.

CONCLUSION

- few keystrokes and no execute key
- quick response in action and on the monitor
- always logical and consequent
- always free to change your mind

Technical Facts

The Postfix Notation is a way to describe mathematical expressions where the operator is placed after the operand. An expression like A+B will in Postfix Notation be AB+.

The Postfix Notation has been developed by Jan Lukasiewics, a Polish mathematician. That is why the Postfix Notation also is called Reversed Polish Notation.

The Postfix Notation is developed from the Prefix Notation. In mathematics both the Prefix Notation and the Postfix Notation is used to eliminate parenthesis.
The expression (2+3)/(5-2) in Prefix Notation will be 2 3 + 5 2 - / in Postfix Notation (RPN). Note that no paranthesis are needed to define evaluation order.

Reversed Polish Notation is used in several programming languages and compilers because there is no need for parenthesis or other interpunctuation.

The famous scientific calculators from Hewlett Packard work in this way
And, of course, AVAB has since the microcomputer lightboard boom started in the mid-seventies known about the superiority of RPN as a command language for lightboards.

Two main principles in computer lightboards – advantages and disadvantages

LATEST ACTION TAKES PRECEDENCE

Basic Philosophy

With this method you work directly with the outgoing light. All channels share one area that is called a field.
A single channel in that field can only be controlled from one controller a time.

Say, for example, that channel 1 is part of a crossfade going on and you want to take it down a little (it is a little too bright). Then you enter channel 1 on the channel controller (usually a wheel or joystick).
Now the control of channel 1 is moved so it is now controlled by the channel controller. It has completely forgot about the fact that it was originally part of a crossfade.
If you want it to continue its fading process in the crossfade then you have to start a new crossfade (or other fade) in which that channel is included.
Then the fade "steals" back the channel from the channel controller.

This means that you can not have two (or more) crossfades running at the same time because a crossfade always involves all channels and thereby "steals" all channels from other controllers.

General rule: One channel can only be controlled from one controller (master, crossfade, channel control etc.) a time.

Advantages

– You can easily capture a channel from a complex mix. You just call it up on the channel controller and then change the level.
However, at the same time, you also "steal" the channel from any other controllers (crossfade, master etc.) and can not put it back.
To move it back you have to activate the channel from that controller again. This could mean that you must start a new crossfade to get the channel on stage again.

– This is a method that does not require a lot of time consuming calculations for the computer and thereby is easy to construct for a manufacturer. Easier computer programming for the manufacturer and the possibility to use slower computers are the main benefits.

Disadvantages

– You can only "steal" a channel, never return it to a controller. This means that if you take control over a channel that has been lit a few cues ago (which is a common case when you work with Move Fades) you can never return it to sequence control again unless you start a new fade where that channel is included.

– You have one field where all controllers (crossfaders, channel control, masters) works together. This makes it difficult to make adjustments to channels/presets live or blind. Often there is a need to invent a special modification area where you can modify channels blind.
– You can not run more than one crossfade a time, not even theoretically. This means that a lightboard with this method can not run several stages – or parts of the stage – at the same time.

You can not have two sequences which share the same channels.
You have to work with Move fades which will not include all channels in the fading process. The bad thing with Move fades is that you will never be sure what will be the result after a completed fade. This is because in a Move fade you only record channels that are going to move.
This means that the result of a fade is very dependent of the history for a specific channel. If a channel was taken down by some reason then it will never come back until a preset with that channel in is faded in.

If you have made jumps in the sequence (under rehearsal, for example) and the history of Move presets is not correct then you never get the correct light.
When you work with Crossfades all channels are always recorded in the upcoming preset and thereby you can always be sure what the result will be.

HIGHEST LEVEL TAKES PRECEDENCE

Basic Philosophy

With this method you work in one of several working areas, so called fields.
Each of these fields (usually at least 16) can contain one lighting preset. The different fields work completely independent of each other.
This means that you can have the same channel active at different levels in different fields at the same time.
Each field has its own individual master which controls the output from the field.
You can connect the channel controller (usually a wheel or joystick) to any field.
If the master for the field is at full then you will be building light live. If the master is at zero then you will build blind.
The outgoing level for a specific channel is the highest level from the different fields.
If channel 1 exists in field 1 (the field master is at full) at 50% and in field2 (the field at 75%, then the outgoing level will be 75% because that is the highest level for that channel.
If you then move the master for field 2 down to 50% then channel 1 will be at 50% of 75% (37%).
Now the level for field 2 is lower than the one from field 1 so thereby the outgoing level for channel 1 will be 50% (from field 1).
The highest level for a channel is recalculated about 40 times per second to make a smooth take–over between the different fields.

This means that you can easily make 2 (or more) crossfades going on at the same time (with common channels if you want) with full control.

General rule: One channel can be controlled from several fields at the same time where the highest level for that channel will be the outgoing level.

Advantages

– A channel can exist in several fields at the same time. This means that you can build/modify/add channels and levels without disturbing what's going on in the other fields. You can build/modify light blind or live in all fields in parallel. For example, you can change the balance of the channels in a preset while it is fading in on a master field.

– Unlimited number of crossfades running at the same time. You can run several stages (or parts of stages) at the same time completely independent of each other even if they have some common channels!

– Using the MASTER function you can raise channels without removing them from the fading process. With the INHIBIT function you can lower channels without "stealing" them from fading action.

Disadvantages

– Difficult for the manufacturer to make it possible to quickly remove a channel from a mix of presets.
The AVAB solution: The INHIBIT function quickly removes a channel from, or lowers the level in, a complex mix of channels and presets.

– Difficult for the manufacturer to construct because you need very fast computers compared to the Latest Action method.
The Highest Level method needs a lot of fast calculations to be done, because a channel can exist a several (or all) fields at the same time.
Despite this, AVAB has always mangaged to make lightboards in this way!

AT MODE

The At mode is a common method for entering channels and levels into computerised lighting systems. It is used by most manufacturers on the market and offers some advantages and some disadvantages compared to the Reverse Polish Notation (RPN) that is standard on all AVAB systems.

Advantages

Fast – this method is specially designed for setting levels to channels. Therefore it usually works slightly faster than the RPN method. The RPN method is a general method that works through a whole system. It is not optimised for doing one specific thing better than others.

Disadvantages

Not General – Because the At mode is only designed for setting levels to channels it will always be an exception in a system. It is not a general method for entering commands. Therefore a manufacturer will have to create different methods for entering other types of commands (times, presets etc.). Lets look at delay times as an example of this:

At mode:

DELAY TIME	indicates that you are going to set a delay time
5	a time of five seconds is entered
DELAY TIME	now this key has to be pressed again to complete.

whilst in RPN this command would be:

RPN:

5	enter a time of five seconds
DELAY TIME	Define the time as a Delay time.

Predetermined – With the At function you will enter different modes in which several keys will work differently than usual. For example, after entering a channel number and pressing the AT key, the system waits for a digit to be pressed to specify the level. In this case you can not change your mind without backing out of the AT function or completing it with a level.

With the RPN method there are no such modes where the system waits for you to press more keys. In RPN a command is always finished – you can always change your mind any time, because you are never in something that must be completed.

Slow update – A system with At mode will always be a step behind in updates. This is because a command is not finished until a new command starts (immedeately or an hour later). Let us look at an example: Select channels 1 and 2 for level control.

At mode:

1	select channel 1 – no update of the channel group until...
+	tell the system that we shall add a channel – the update will be made because the system now understands that the previously entered channel number was finished.
2	add channel 2 – no update of the channel group until...

some other command...

RPN:

1	select a number.
CH	define it as a channel – immediately the channel group is updated.
2	select another number.
CH+	add that channel to the group – the command is finished and the group is updated.

AVAB supports At mode

In the bigger AVAB lightboards you have the possibility to select At mode for working with channels in the At way.

This can be used if a user is very familiar with the At method and does not want to learn a new method.

Arguments for DIGITAL DIMMERS

Stability

Digital dimmers are very stable One could say that a digital dimmer gets a numerical value.from the lightboard.It then puts the level to exactly that value.This value will remain exact during the life of the dimmer.

Analog dimmers on the other hand have to make analog. comparisons which accuracy depend on different component values.These values (foremost in transistors) change with time and temperature.

A digital dimmer is more serviceable.If it happens to break it can be repaired and restored to its original condition.Exactly!An analog dimmer will become worse and worse until it cannot be repaired at all.

A digital dimmer need no maintenance.It will aiways work exactly.Remind people with large installations of analog dimmers of the time they spend getting their old analog system to function in a satisfying and stable way.

Example

The San Francisco.Opera has a number of AVAB digital dimmers and a few older Kliegl dimmers (about 350).Two persons spend 5 days per year just to trim these analog dimmers.This does not include the time that is needed to mend the broken dimmers but only the trimming. The Opera is for the present negotiating with AVAB about changing these analog dimmers for our digital technology.

Facilities

It is true that digital dimmers from the are more expensive to buy,but on the other hand they have facilities that no other system has.

Built-in backup

The memory of the dimmer can register up to 24 presetsThis is included in the system without extra costs.The only extra expence in a 24 channel lightboard is for the dimmer that controls the backup.Since the backup unit is placed in the digital dimmer. it is the most decentralized and secure backup solution existing.

Free choise of curve

Optional curve can be assigned to optional dimmer.Each dimmer can be connected with one of 5 curves; Linear, Square Law, etc.A must for an installation using different types of projectors.

Accuracy

Since a digital dimmer fires the triac exactly it will become possible to connect with most kinds of.loads inductive loads, motors, neon, fluorescental loads, etc.

Transmission from lightboard

Many manufactures maintain that they have some kind of digital dimmer. They try to confuse their customers by putting equal-sign between digital transmission and digital dimming. Watch out for this! The dimmer must have a processor to trig a digital value.
Strand even tries to declare that their analog multiplexed transmission is a digital link!

Fault controls

The fundamental advantage of digital transmission is the ability to make fault controls. Check sum and paritets control make it possible to confirm that the information to the dimmer is the same as that was sent.

Experience of digital dimmers

AVAB produced the first digital dimmer in the world.It was delivered in 1982.AVAB is now its second generation of digital dimmers.These almost unmodified dimmers have been delivered since 1984.

It is a market tested, reliable, and stable product.It is known to function in hundreds of small and large installations, much thanks to our long experience of this technology.
Dimmers are often placed in an environment full of disturbance where it can be difficult to run.
The trick is a good utilization of the watch-dog channels that will restart the processor after serious disturbances.

When AVAB first started to deliver digital dimmers they were very simple. They did not even take digital signals since no lightboards were able to produce any.
Now they have all kinds of functions and exclusive features.

PROTOCOLS

A problem solved by AVAB

A world standard

The way to communicate between electronic devices is called a protocol. There are a great number of these in the world even for lightboards. USITT tried to standardize these protocols in 1988 after pressure from lighting hire companies in New York. They decided to accept 3 sorts of protocol as a standard.

All manufactures are recommended to follow these protocols.

Analog protocol

Control voltage 0 to +10 volt.
0 volt stands for darkness, +10 volt for full light.
One wire is demanded for each dimmer.

Digital protocol - DMX 512

Digital signal is transmitted by a two-wire, shielded, balanced cable (RS485).
512 dimmers can be controlled with this kind of cable.

Analog multiplexed protocol - AMX 192

This protocol comes from Strand and is a concession to Strand.
Everybody judges this protocol as dying out.
192 analogic pulses is multiplexed on a two-wire cable where the pulse height in current decides the channel level. Simply speaking, AMX192 is simular to an AM radio and DMX512 is simular to a FM radio.

AVAB follows these standards

AVAB already has a protocol like DMX512 but for 256 channels. This protocol has been in the market so long that it is considered a world standard and is supported by many other manufactures. Besides, AVAB's lightboards and digital dimmers follows the DMX512 protocol and the analog protocol as well.

The analog protocol in works parallel with the digital on AVAB's dimmers according to the principle Highest Level Takes Precedence

The user can anytime change between three different protocols on AVAB dimmers: AVAB, DMX512 and Analog.
AVAB lightboards can change between AVAB and DMX512.

If you want analog outputs on a AVAB lightboard you connect a so-called Mux-box which converts the digital signal to analog signals.

MIDI is an international standard which allows communication of musical performance by means of digital signals.

MIDI enables the connection between instruments (and other equipment) from different manufacturers.

There are various kinds of MIDI devices on the market, such as synthesizers, sequencers, effect generators etc. Now there is also light dimmers, light boards and other AVAB equipment which can communicate with MIDI signals.

MIDI and sound

When MIDI was invented is was mainly intended for use with sound equipment, basically synthesizers.

It was the first method for connecting synthesizers from different manufacturers together.

Therefore, the basic form of MIDI is concentrated on controlling musical parameters usually found on synthesizers: Notes, Pitch, Modulation, Sustain etc.

Each time you play a note on the keyboard the synthesizer will send a message on MIDI which tells the receiving unit which note you pressed and how hard you played it.

In this way the receiving unit can reproduce the notes you play on the sending unit.

When you move the Pitch Wheel or the Modulation Wheel information about what is happening is transmitted in the same way.

This means that you can synchronize two instruments (or more) perfectly together.

The next step was to record the information transmitted over MIDI into a sequencer. A sequencer is similar to a tape recorder, but instead of recording sound on a magnetic media it records MIDI data into a memory.

The sequencer can be a program in a computer or a unit by itself.

Similar to a tape recorder the sequencer has several tracks (usually 16 or 32) which can contain data for the different instruments.

MIDI includes 16 different channels. A unit which sends or receives on MIDI can be setup to do this on a specific channel (1-16).

With a sequencer you can decide on which channel a specific track will be transmitted on.

This gives you the possibility to connect different synthesizers (each one with a different sound) listening on different MIDI channels.

In this way you play the sounds of a whole orchestra from the sequencer.

The difference from working with a multi-track tape recorder is that the sound itself is not recorded anywhere.

It is just the information for creating the sound that is recorded (which notes, what length etc.).

This gives you the possibility to create qualified high-quality recordings without the need for making overdubs and mixings.

With a sequencer you can easily build or adjust your music, add new instruments, new notes, copy parts and do all kinds of manipulation.