

QUATRIX

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Welcome!

The QUATRIX is Bässgen's unique synergy of a large number of important functions in a single unit. With the QUATRIX the question is no longer „which control units will be necessary“ but rather „which QUATRIX configuration will best satisfy the task at hand“.

Universality and easy-of-use are two hallmarks of the QUATRIX. Its menu-based editing system and configurable output ports allow you to adapt the QUATRIX to practically any imaginable presentation need. Its non-volatile memory allows you to build a library of configurations for each new challenge.

The QUATRIX also understands a multitude of control signals. Whether it be PlusTrac (or compatible signals), Freetrac, Dataton Syncode, Leitz DU24, Simda F101, Imatronic, Kindermann, Kodak P-Bus or the signals of earlier Bässgen units, the QUATRIX handles with ease the control languages of the past and present while opening fascinating possibilities for future developments. What's more, the QUATRIX can accept these control signals in analog as well as digitally-encoded form.

Here's how this works: the QUATRIX identifies the incoming signal and optimizes the data for a set of virtual projectors inside. It then creates and sends out the commands executable by the actual projectors attached to it. Not only projectors benefit from this: 10-volt interfaces, auxiliary relays, CD-players (via ESI-codes), standard remote

controls, and custom-made control pads are equally controllable. And it doesn't stop there: the built-in Timecode Upgrade (available via keycodes) opens you to the multi-faceted world of timecode programming using Bässgen's state-of-the-bit IMAGIX software. Imagine being able to load your productions into the QUATRIX and leave your computer at home. Even upgrading the QUATRIX's operating system for future enhancements is a snap with QUATRIX.

Let us take a moment to get acquainted with your new purchase. The chapter „Quick Start“ reviews setting up and configuring the QUATRIX while the chapter „Playback with QUATRIX“ describes the numerous playback scenarios. Once you are familiar with the unit continue with the chapter „Menu Architecture“ for in depth coverage of each menu item in the QUATRIX. The chapters „Total Control“ and „Live Presentations („Speaker Support“)" walks you through various presentation situations. Finally, „Timecode and Memory Upgrade“ and „Technical Appendix“ cover the Timecode Upgrade as well as the technical the ins and outs of your QUATRIX.

QUATRIX Overview

This chapter walks you through setting up and operating your QUATRIX. It is intended for both novices and experienced users. Simply follow these steps and you should master the QUATRIX in no time at all.

The QUATRIX is a highly versatile control unit which can control up to four projectors of practically any type, as well as relays and other devices — and it can read and translate a number of control signals in various formats.

Navigating with the QUATRIX

Two the right of the QUATRIX's LCD display are four buttons used for programming and for navigating through the QUATRIX's menus:

ENTER button two functions:	enter next menu level; mark (at times „unmark“) a menu item as selected.
ESC button	Return to previous menu level
Upper Scroll button	Navigate (scroll) up list (be it a menu, a list of values, etc.)
Lower Scroll button	Navigate (scroll) down list (be it a menu, a list of values, etc.)



The two outer buttons are labeled „ESC“ and „ENTER“; they function much in the same manner as their counterparts on a computer keyboard. The two inner buttons serve as up- and down-arrow keys; they are the Scroll buttons used for stepping up and down through the menu lists and items viewed in the display. The QUATRIX's display shows one menu item at a time.

Setting up and cabling your projectors

Set up your projectors according to the manufacturer's recommendation. Practically all dissolvable projectors can be used with the QUATRIX. (The QUATRIX's focussing and alignment feature will be covered in a moment.)

Tray-magazine projectors with built-in triacs are connected using Projector Cable Q-1 by connecting the 10/14-pole plug into the projector and the other end into the desired A - D port on the QUATRIX.

Round-magazine projectors with 12-pole sockets (Kodak S-AV, Simda, Elmo, Hasselblad) require an additional Triac Adapter TA-4001 since these projectors do not have triacs for controlling the lamps. Use Cable Q-5 to connect the Triac Adapter to the desired A - D port on the QUATRIX.

For **digitally-controlled** projectors use Cable Q-3 for Kodak Ektapro and Cable Q-4 for Simda 3262/3462 and Reflecta Profiline 7000/8000 AV projectors.

Digitally-controlled projectors with an addressing feature (Kodak Ektapro 7000/7010 and 9000/9010, for instance) must be set to Address 0.

Power to the unit! The QUATRIX, of course, needs power in order to operate. It can detect automatically a 24V AC current on any of its ports. Should the connected projectors not deliver this current, connect the QUATRIX's external power supply to its AC-24 socket on the back of the unit.

Initial Configuration

Using the buttons on the front panel, let us configure the QUATRIX to match your setup. You only need to do this once since you can save this setup (and other setups) in the QUATRIX's non-volatile memory; configurations can be changed individually at any time.

For purposes of illustration let us assume that you want use a PlusTrac signal to control four Kodak Ektapro projectors as projectors A B C D. If your purposes differ from this example, consult the enclosed menu diagram and the chapter „Menu Architecture“ for alternative settings.

Power up

Turn on your projectors (and if necessary QUATRIX's external power supply). As soon as the QUATRIX receives power, it will display „BAESSGEN QUATRIX“ and then switch over to

---- 0 0 0 0

which is the Status Display as well as the first line of the Main Menu.

Signal Selection

Signal Select

- Scroll through the Main Menu until „SIGNAL SELECT“ appears in the display.

To scroll through a menu, simply press a Scroll button; the Scroll buttons are the two upper and lower buttons on the front panel.

- Press ENTER to access the list of the available control-signal interpreters.
- Scroll through until „AUTO FT/PT/SY“ appears in the display.

This setting means „search automatically for control signals in Freetrac, PlusTrac or Syncode format“ — a practical one-step solution to a multitude of possible configurations.

- Select this by pressing ENTER; an asterisk, „*“ will appear, indicating that this menu item has been selected.

If you are configuring the QUATRIX straight out of the box, then an asterisk is probably already set.

- Press ESC to return to „SIGNAL SELECT“.

---- 0 0 0 0
INPUT SELECT
SIGNALSELECT
ADRESSSELECT
OUTPUT SELECT
CONFIGPORTS
SAVECONFIGS
READCONFIGS
DIAGNOSTICS
ADVANCED FUNCT.
INFRAREDREMOTE
TIMERFUNCTIONS
MEMORY FUNCT.

Address Selection

- Scroll through the Main Menu until „ADDRESS SELECT“ appears.
- Press ENTER to access the extensive port-addressing section.
- Scroll until „PLUSTRAC/FT/PCOM“ appears.

Signals in PlusTrac, FreeTrac or Kodak P-COM use the same addressing scheme.

- Press ENTER to access the port-configuration section.
- Scroll until „PROJECTORS<xxxx>“ appears whereby „xxxx“ refers to the current address setting of Ports A-D. For instance, if „PROJECTORS <ABCD>“ appears, then the QUATRIX's ports are configured as follows:

QUATRIX Port	Projector Address
A	A
B	B
C	C
D	D

If the current setting is „PROJECTORS <ABCD>“ then press ESC („ADDRESS SELECT“ appears again) and skip to the heading „Configure Ports“ below; otherwise:

- Press ENTER to access the port-address section; „PORT x“ appears whereby „x“ refers to the output socket on the QUATRIX (and not to a Projector „x“ in a setup).

Setting the port addresses

- Scroll until „PORT A“ appears.
- Press ENTER to access Port A's setting; „PORT A ADR = x“ appears whereby „x“ is the current address assigned to Port A.
- Scroll until „PORT A ADR = A“ appears.

- Press ENTER to set „A“ as Port A's address; an asterisk confirms this.
- Press ESC to return to „PORT A“.
- Press the lower Scroll button once; „PORT B“ appears.
- Repeat the above procedure for Ports B-D, setting them to B, C, and D, respectively.

Check the port configuration

- Press ESC again; „PROJECTORS <ABCD>“ should appear now.
- If this is so, then press ESC repeatedly until „ADDRESS SELECT“ appears. If not, then repeat the above procedure.

Configure Ports

- Scroll through the Main Menu until „CONFIG PORTS“ appears.
- Press ENTER to access the port configuration section; „PORT x“ appears x“ appears whereby „x“ refers to the output socket on the QUATRIX.
- Scroll until „PORT A“ appears.
- Press ENTER to access Port A's device configuration.
- Scroll until the desired port configuration appears; in our example here you would want „EKTAPRO“ to appear in the display.

The following table lists the possible settings available at this writing and which devices belong each which category:

STANDARD1 Braun Paximat, Kindermann, Leitz, Rolleivision 66 AV

STANDARD2 Elmo, Hasselblad, Kodak S-AV, Simda (via TA-4001)
STANDARD3 Zeiss, Zett
STANDARD4 (reserved for future developments)
EKTAPRO Kodak Ektapro via serial connection
EKTAPRO HI Highlight operation for compatible projectors (eg., Ektapro
7010 and 9010)
SIMDA V3.3 Simda via serial connection
AUX PORT The selected port serves as an output for Aux-Relays

- Press ENTER to confirm the port configuration selection.
- Press ESC to return to „PORT A“.

Copy function

Since we want to have all of the ports configured for Ektapro projectors, we can use the QUATRIX's copy function to duplicate Port A's setting to the other three ports:

- Scroll until „COPY PORT A->BCD“ appears.
- Press ENTER to start the copy procedure. Once Port A's setting has been duplicated, the display will return to „CONFIG PORTS“.

The QUATRIX is so fast that the copy procedure may seem instantaneous.

Save configuration

Save your configuration as the startup configuration using this procedure:

- Scroll through the Main Menu until „SAVE CONFIGS“ appears.
- Press ENTER to access the list of storage addresses.
- Scroll until the storage address „CONFIG MEMORY 0“ appears.
- Press ENTER to save your configuration as Configuration 0 which is what the QUATRIX will load into memory at subsequent power-ups.. Once the configuration has been saved, the display will return to the

Status Display („_ _ _ _ 0 0 0 0“).

Focussing and Alignment

The QUATRIX's focussing and alignment feature is available when no control signal is present at the QUATRIX's inputs (that is, the CUE-LED on the front of the QUATRIX is not lit).

- Scroll through the Main Menu until the Status Display (_ _ _ _ 0 0 0 0) appears.
- Press ENTER to cycle through each step of the eight-step alignment routine.

The QUATRIX will first bring up the lamps one at a time for purposes of focussing each individual projector. Next, the QUATRIX will bring up the lamps two at a time, using the projector on Port A as a reference. Finally, the QUATRIX will turn on all the lamps. The bargraph in the QUATRIX's display shows the current brightness as well.

- Press ESC at any time to exit the routine.

Home

To send the projectors back to their home positions,

- Press and hold the ENTER button on the QUATRIX for at least one second.

Alternatively, when the Status Display is visible,

- Press and hold the ESC button for at least one second.

Reset

To reset the QUATRIX itself,

- Press and hold the ESC button, and then while still holding it,
- Press the ENTER button.

The QUATRIX will load the configuration stored in „CONFIG MEMORY 0“ (cf. „Save Configuration“ above).

The Reset function is equivalent to switching the QUATRIX's power off and then back on again. With the configuration for the productions stored in „CONFIG MEMORY 0“, simply reset the QUATRIX after each production.

Furthermore, you can use the Reset function to erase a configuration which you temporarily programmed.

Large Installations

When one QUATRIX is not enough for controlling projectors, 10-volt interfaces, auxiliary relays, ESI/RC5 devices, etc., then a number of QUATRIXes can be daisy-chained via the SIG OUT and SIG IN sockets on the rear panels.

Configure each QUATRIX for the specific devices connected to it (hint: follow the „Quick Start“ procedure for each QUATRIX). Each QUATRIX will then read out of the control signal only those commands which pertain to the devices configured and connected to it.

Important: Set the menu item „OUTPUT SELECT“ of each QUATRIX to „INPUT -> OUTPUT“ so that a 1:1 copy of the control signal will be set through each unit.

Menu Architecture

This chapter guides you step by step through the QUATRIX's menu architecture. As soon as the QUATRIX receives power, it will display „BAESSGEN QUATRIX“ and then switch over to

— — — — **0 0 0 0**

which is the Status Display as well as the first line of the Main Menu.

The Main Menu

The Main Menu is the gateway to the heart of the QUATRIX. Through it you have access to the configuration areas, read/write routines, diagnostics, advanced features, and memory functions. The Scroll buttons (between the ESC and ENTER buttons) are used for stepping up and down through the Main Menu. Once the desired Main Menu item appears in the display, press ENTER button in order to gain access to further settings or to select the setting currently visible.

--- 0 0 0 0
INPUT SELECT
SIGNALSELECT
ADRESSSELECT
OUTPUT SELECT
CONFIGPORTS
SAVE CONFIGS
READCONFIGS
DIAGNOSTICS
ADVANCED FUNCT.
INFRAREDREMOTE
TIMERFUNCTIONS
MEMORY FUNCT.

The Main Menu groups the QUATRIX's diverse features under specific topics, each containing a number of submenus and selections:

Status Display (_ _ _ _ 0 0 0 0)

Display projector status; Alignment routine

INPUT SELECT

Monitor specific input sockets for control signals

SIGNAL SELECT

Specify input signal type(s)

ADDRESS SELECT

Set Port addresses

OUTPUT SELECT

Specify output signal type

CONFIG PORTS

Specify device type(s)

SAVE CONFIGS

Store user configurations

READ CONFIGS

Load user or factory configurations

DIAGNOSTICS

Test routines; Version number; Keycode

ADVANCED FUNCT.

Functions for power users

MEMORY FUNCTIONS

Stand-alone functions

Status Display (_ _ _ _ 0 0 0 0)

The first item in the Main Menu is the Status Display, which is also the first item displayed after power-up.

Its first four positions (_ _ _ _) show in realtime the current status of the QUATRIX's four ports:

- A straight line indicates a „zero level“; that is, lamp off, no blinking, shutter open;
- A bar-graph indicator shows the current lamp level;
- A blinking indicator shows that the projector is in blink (pulse) mode;
- A small dot under the indicator shows that the projector's shutter is closed (only on projectors having this feature).

The four digits to the right of the indicators (0 0 0 0) show the current position of each projector's tray. At power-up the digits are set to zero, indicating that the tray of each projector is currently in its Home (zero) position.

Alignment routine

When no control signal is present at the QUATRIX's inputs (that is, the „CUE“ LED on the front of the QUATRIX is not lit), the ENTER button can be pressed to bring up the lamps of connected projectors individually and in groups:

- Press ENTER to cycle through each step of the eight-step alignment routine.

The QUATRIX will first bring up the lamps one at a time for purposes of focussing each individual projector. Next, the QUATRIX will bring up the lamps two at a time, using the projector on Port A as a reference.

Finally, the QUATRIX will turn on all the lamps. The bargraph in the QUATRIX's display shows the brightness as well.

- Press ESC at any time to exit the routine.

Alternatively, double clicking the ENTER button will turn on all the lamps (the last step of the cycle).

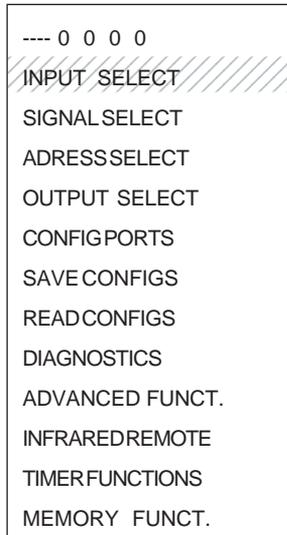
INPUT SELECT

The second item in the Main Menu is titled „INPUT SELECT“ and is used for determining the type of input signal being feed into the QUATRIX.

Press ENTER to access the list of possible input signal types.

Press the Scroll buttons until the desired input signal type appears in the display.

There are a number of possible input selections:



INP AUTOSENSE

QUATRIX monitors the selected inputs for signals.

INP DIGITAL

QUATRIX monitors the SIG IN and OPT IN sockets for digitally-coded control signals.

INP COAXIAL

QUATRIX monitors the SIG IN socket for a digitally-coded electrical control signal.

INP OPTICAL

QUATRIX monitors the OPT IN socket for a digitally-coded optical control signal.

INP ANALOG

QUATRIX monitors the SIG IN socket for an analog control signal.

- Press ENTER to confirm the selection with an asterisk.
- Press ESC to return to the Main Menu.

SIGNAL SELECT

The QUATRIX understands a multitude of control signals. „INPUT SELECT“ is used for setting the format of input signal being feed into the QUATRIX.

- Press ENTER to access the list of possible input signal formats.
- Press the Scroll buttons until the desired input signal format appears in the display.

There are a number of possible format selections:

AUTO FT/PT/SY

QUATRIX monitors the selected inputs for signals in FreeTrac, PlusTrac and Dataton Syncode format.

PLUSTRAC

QUATRIX monitors the selected inputs for signals in PlusTrac format.

FREETRAC

QUATRIX monitors the selected inputs for signals in FreeTrac format.

SYNCODE

QUATRIX monitors the selected inputs for signals in Dataton Syncode format.

KINDERMANN

QUATRIX monitors the selected inputs for signals in KINDERMANN format.

---- 0 0 0 0

INPUT SELECT

SIGNALSELECT

ADRESS SELECT

OUTPUT SELECT

CONFIGPORTS

SAVECONFIGS

READCONFIGS

DIAGNOSTICS

ADVANCED FUNCT.

INFRAREDREMOTE

TIMERFUNCTIONS

MEMORY FUNCT.

LEITZ DU 24

QUATRIX monitors the selected inputs for signals in LEITZ DU 24 format.

SIMDA F 101

QUATRIX monitors the selected inputs for signals in SIMDA F 101 format.

UD-2000

QUATRIX monitors the selected inputs for signals in UD-2000 format.

UX-2000

QUATRIX monitors the selected inputs for signals in UX-2000 format.

KODAK PCOM

QUATRIX monitors the „V-24 in“ sockets for a KODAK PCOM control signal.

- Press ENTER to confirm the selection with an asterisk.
- Press ESC to return to the Main Menu.

ADDRESS SELECT

Each port on a QUATRIX can be set as need be — that is, independent of traditional bank addressing. This means that you are not longer confined to the bank addressing of traditional control units (eg., ABCD, EFGH, or 10-11-12-13, 14-15-16-17,...). This opens fascinating possibilities for flexibly combining relays, projectors and other devices in an installation.

When the QUATRIX monitors a control signal, it picks out the commands assigned to the addresses configured for each port; commands for other ports are ignored. „ADDRESS SELECT“ is used for setting the actual address of each port on a QUATRIX. There are currently two addressing schemes in use: **letters** (A-P) used with the PlusTrac, FreeTrac, and Kodak P-Bus control signals, and **numbers** (10-77) used with Dataton Syncode.

The address selection for other control signals has been preconfigured for immediate use and need not be configured separately. These signals include Leitz DU 24, Simda F101, Imatronic, Kindermann, and the signals of earlier Bässgen units (for instance, UX2000).

---- 0 0 0 0

INPUT SELECT

SIGNALSELECT

ADDRESSSELECT

OUTPUT SELECT

CONFIGPORTS

SAVECONFIGS

READCONFIGS

DIAGNOSTICS

ADVANCED FUNCT.

INFRAREDREMOTE

TIMERFUNCTIONS

MEMORY FUNCT.

- Press ENTER to access the Address Selection section.
- Use the Scroll buttons to choose between the „PLUSTRAC/FT/P-COM“ and „SYNCODE“ addressing systems.
- Press ENTER to confirm your selection.

This will bring you into separate sections, one for PLUSTRAC/FT/P-COM signals and one for SYNCODE signals. Since these sections are nonetheless very similar, let us handle them together.

Devices

The Devices list groups devices into three categories:

- 1) Projectors
- 2) 10V output devices
- 3) Auxiliary relays.

1) Projectors

To configure the ports for use with projectors,

- Scroll until „**PROJECTORS<xxxx>**“ or „**PROJECTORS**“ appears. With PLUSTRAC/FT/P-COM signals, the „xxxx“ refers to the current address setting of Ports A-D. If, for instance, „PROJECTORS <ABCD>“ is displayed, then the QUATRIX’s ports are configured as follows:

Port A	Address A
Port B	Address B
Port C	Address C
Port D	Address D

Press ENTER to access the port-address section.

„PORT x“ appears whereby „x“ is the name of the specific port on the QUATRIX. („Port A“, for instance, refers to the output socket on the QUATRIX and not necessarily to „Projector A“ in a setup.)

Scroll until the desired port appears (eg., „PORT A“)

Press ENTER to access the port's setting.

„PORT x ADR = y“ appears whereby „x“ is the name of the port and „y“ is the current address assigned to the port.

Scroll until the desired port address appears in the display.

Examples:

PLUSTRAC/FT/P-COM signals: If, for instance, Port A is connected to Projector A, then the setting would be „PORT A ADR = A“.

SYNCODE signals: If, for instance, Port A is connected to Projector 10, then the setting would be „PORT A ADR = 10“.

- Press ENTER to confirm the selected address with an asterisk.
- Press ESC to exit this particular port configuration.
- Scroll to the next port to be configure.
- Repeat the above procedure for the other ports.

When you are finished,

- Press ESC again; „PROJECTORS<xxxx>“ or „PROJECTORS“ appears.

With PLUSTRAC/FT/P-COM signals, the „xxxx“ refers to the new address setting of Ports A-D. If the configuration is not correct, then

repeat the above procedure.

Press ESC to exit this section; „PLUSTRAC/FT/P-COM“ or „SYNCODE“ appears.

2) 10V output devices

Four 10V outputs are available via the V-24 IN socket on the QUATRIX; they can be accessed using a special cable.

To configure the ports for use with 10-volt devices

Scroll until „10V OUTPUT<xxxx>“ or „10V OUTPUT“ appears.

With PLUSTRAC/FT/P-COM signals, the „xxxx“ refers to the control signal addresses used for controlling the 10V devices. The addresses referred to by „xxxx“ are **not** addresses assigned to the QUATRIX's Ports A-D. If, for instance, „10V OUTPUT <MNOP>“ is displayed, then the addresses in the control signal will be assigned to the following 10V devices:

Control-signal address M	will control device 1 (Pin 1-5)
Control-signal address N	will control device 2 (Pin 6-5)
Control-signal address O	will control device 3 (Pin 8-5)
Control-signal address P	will control device 4 (Pin 9-5)

Press ENTER to access the 10V Output Address section.

„10V-x (PIN y-5)“ appears whereby „x“ is the V-24 OUT 10V output address and „y“ is the pin number for that output. The pin numbers serve as a handy reminder of the socket itself's configuration.

Scroll until the desired 10V output address appears (10V-1, 10V-2, 10V-3, 10V-4).

Press ENTER to access the Control-Signal Address Recognition setting.

„10V OUT x = y“ appears whereby „x“ is the 10V output address (1-4) and „y“ is the address of the 10V device.

Examples:

PLUSTRAC/FT/P-COM signals: If, for instance, 10V output 1 is connected to 10V device M, then the setting would be „10V OUT 1 = M“.

SYNCODE signals: If, for instance, 10V output 1 is connected to 10V device 50, then the setting would be „10V OUT 1 = 50“.

Scroll until the desired address of the 10V device appears.

Press ENTER to confirm the new setting with an asterisk.

Press ESC.

Repeat this procedure for the other addresses for 10V devices. Use the Scroll buttons to scroll to the next 10V device.

When you are finished,

Press ESC again; „10V OUTPUT<xxxx>“ or „10V OUTPUT“ appears.

With PLUSTRAC/FT/P-COM signals, the „xxxx“ refers to the new addresses of the 10V devices. If the configuration is not correct, then repeat the above procedure.

Press ESC to exit this section; „PLUSTRAC/FT/P-COM“ or „SYNCODE“ appears.

3) Aux Relays

The QUATRIX's four ports can control up to three auxiliary relays each. Three additional auxiliary relays are available via the AC-24 socket even when an external power supply is being used; in this case a special cable will be necessary.

Scroll until „AUX RELAYS“ appears.

Press ENTER to access the Aux Relays section.

„REL PORTx“ or „REL AC 24“ will appear whereby „x“ is the port address A-D.

Scroll until the desired port address appears in the display.

Press ENTER to access the port's addressing section.

Scroll until the desired address for that port appears in the display.

With PLUSTRAC/FT/P-COM signals, the addresses ABC, EFG, IJK, and MNO are available. They refer to the auxiliary-relay addresses used for controlling the auxiliary relays and **not** to the projector addresses.

With SYNCODE signals, the usual Syncode address numbering scheme is available

Press ENTER to confirm the new setting with an asterisk.

Press ESC to return to exit this section.

Repeat the above procedure for any other auxiliary relays.

When you are finished,

Press ESC once to return to „AUX RELAYS“ or three times to return to the Main Menu (four times brings you to the Status Display).

OUTPUT SELECT

This function is only activated when the QUATRIX is in stand-alone mode. With it you can indicate in which form an input signal (SIG IN, OPT IN) will appear at the output (SIG OUT).

When „OUTPUT SELECT“ is visible in the display,

Press the Enter button to access the list of possible output configurations.

Scroll until the desired output configuration appears in the display.

```

---- 0 0 0 0
INPUT SELECT
SIGNALSELECT
ADDRESSSELECT
OUTPUT SELECT
CONFIGPORTS
SAVECONFIGS
READCONFIGS
DIAGNOSTICS
ADVANCED FUNCT.
INFRAREDREMOTE
TIMERFUNCTIONS
MEMORY FUNCT.

```

There are three possible output configurations:

INPUT -> OUTPUT — This setting sends an 1:1 copy to the output.

A digital audio input signal appears as a digital audio signal at the output. An analog input signal appears as an analog signal at the output. When a number of QUATRIXes are daisy-chained, each will read the commands from the passing signal for the ports as assigned under ADDRESS SELECT.

DIGITAL -> CUE — The incoming digital audio signal will be analysed for cues; the cues will be passed out the output (SIG OUT). At the same time the control data will be processed and sent to the appropriate ports.

DIGITAL -> TC — The incoming digital audio signal will be analysed for timecode; the timecode will be passed out the output (SIG OUT). At the same time the control data will be processed and

sent to the appropriate ports.
Press ENTER to confirm the selection with an asterisk.
Press ESC to return to the Main Menu.

CONFIG PORTS

In this section, the QUATRIX's four ports can be configured individually for specific devices. These include analog and digital projectors as well as devices controlled as auxiliary relays. In addition to setting specific devices to a port, a number of copy functions are available for duplicating the settings on other ports.

Press the Enter button to access the Port Configuration section.

Scroll until the desired device or copy function appears.

There are four port addresses and three copy functions available:

PORT A — Select this for configuring Port A.

PORT B — Select this for configuring Port B.

PORT C — Select this for configuring Port C.

PORT D — Select this for configuring Port D.

COPY PORT A->BCD — Selecting this item copies the configuration for Port A to Ports B, C, and D.

COPY PORT B->CD — Selecting this item copies the configuration for Port B to Ports C and D.

COPY PORT C->D — Selecting this item copies the configuration for Port C to Port D.

---- 0 0 0 0

INPUT SELECT

SIGNALSELECT

ADDRESSSELECT

OUTPUT SELECT

CONFIGPORTS

SAVECONFIGS

READCONFIGS

DIAGNOSTICS

ADVANCED FUNCT.

INFRAREDREMOTE

TIMERFUNCTIONS

MEMORY FUNCT.

Port device configuration

Projector or Aux Relay selection

A QUATRIX port can be configured for a specific projector or for auxiliary relays. With the desired port visible in the display (for instance, „PORT A“),

Press ENTER to access that port's device configuration.

„<port address> = <device>“ will appear whereby „<port address>“ is the port address on the QUATRIX (A-D) and „<device>“ is the device assigned to that port.

Scroll until the desired device appears.

The following table lists the various categories of device available at this writing:

STANDARD1 Braun Paximat, Kindermann, Leitz, Rolleivision 66 AV

STANDARD2 Elmo, Hasselblad, Kodak S-AV, Simda (via TA-4001)

STANDARD3 Zeiss, Zett

STANDARD4 (reserved for future developments)

EKTAPRO Kodak Ektapro via serial connection

EKTAPRO HI Highlight operation for compatible projectors (eg., Ektapro 7010 and 9010)

SIMDA V3.3 Simda via serial connection

AUX PORT The selected port serves as an output for Aux-Relays

Press ENTER to confirm the selection with an asterisk.

If you have selected SIMDA V3.3 or AUX PORT as the configuration for this port, then press ESC once to return to the list of ports or twice to return to the Main Menu; **otherwise:**

Press ENTER to access the Cycle-Time or Auto-Standby configuration sections, depending on the device selected. With standard projectors, the Cycle-Time configuration will appear. With projectors such as the Kodak Ektapro, the Auto-Standby configuration will appear

Cycle-Time setting

With standard projectors, „x CYCTIME=y“ will appear whereby „x“ is the port address and „y“ is the transport speed in seconds. There are twenty time intervals between 0.5 and 4.0 seconds available.

Scroll until the desired time interval appears. Consult your projector's handbook for the recommended setting. You may wish to add a tenth of a second or so to the recommended value in order to compensate for possible deviations in tolerance.

Press ENTER to confirm the setting with an asterisk.

Press ESC twice to return to the port selection.

Auto-Standby setting

With projectors such as the Kodak Ektapro, „x AUTO-STBY=y“ will appear whereby „x“ is the port address and „y“ is the time interval after which the projector will switch into standby mode. There are nine time intervals between 2 seconds and 10 minutes available plus an „OFF“ setting which you can set when you do not wish to use the auto-standby mode. If you choose to use the auto-standby mode, the projector will „sleep“ once the time interval since the last command has elapsed. When the projector receives a command, it will be activated again.

Scroll until the desired setting appears.
Press ENTER to confirm the setting with an asterisk.
Press ESC twice to return to the port selection.

If the remaining ports will have the same type of device connected to them, then use a copy function to duplicate the current port's setting to the remaining ports. Otherwise, once all the ports have been configured,

Press ESC to return to the Main Menu.

Copy Functions

If you want to copy the present configuration to the remaining ports, Press ENTER to use the copy function you have selected in the display. Once setting has been copied (this happens instantaneously), the display will return to „CONFIG PORTS“ in the Main Menu.

SAVE CONFIGS

The QUATRIX can save six separate configurations in its non-volatile memory. Each storage position can be overwritten with a new configuration at any time using the following procedure.

To save a configuration for future use, Scroll until „SAVE CONFIGS“ appears in the Main Menu.

Press ENTER to access the Save Configurations section.

„CONFIG MEMORY x“ with appear whereby „x“ indicates the storage position. Scroll until the desired storage position appears.

Press ENTER to save the current configuration at that memory position. After saving, the QUATRIX will return to the Status Display.

Note: Save the desired startup configuration at storage position zero („CONFIG MEMORY 0“).

```
---- 0 0 0 0
```

```
INPUT SELECT
```

```
SIGNALSELECT
```

```
ADRESSSELECT
```

```
OUTPUT SELECT
```

```
CONFIGPORTS
```

```
SAVE CONFIGS
```

```
READCONFIGS
```

```
DIAGNOSTICS
```

```
ADVANCED FUNCT.
```

```
INFRAREDREMOTE
```

```
TIMERFUNCTIONS
```

```
MEMORY FUNCT.
```

READ CONFIGS

Any of seven separate configurations can be called up from the QUATRIX's non-volatile memory. The first six configurations (numbered from 0 to 5) are user defined while the seventh („FACTORY DEFAULTS“) contains default settings.

Loading user configurations („CONFIG MEMORY x“)

To load a user configuration for immediate use,

Scroll until „READ CONFIGS“ appears in the Main Menu.

Press ENTER to access the Read Configurations section.

„CONFIG MEMORY x“ or „FACTORY DEFAULTS“ appears whereby „x“ indicates the storage number.

Scroll until the desired „CONFIG MEMORY x“ storage number appears.

Press ENTER to load the configuration stored at that position number.

After loading, the QUATRIX will return to the Status Display.

Note: Memory position zero („CONFIG MEMORY 0“) will be loaded automatically when the QUATRIX is powered up.

Caution: Be sure to save changes to the present configuration before loading a different one, otherwise the changes will be lost.

---- 0 0 0 0

INPUT SELECT

SIGNALSELECT

ADRESSSELECT

OUTPUT SELECT

CONFIGPORTS

SAVECONFIGS

READCONFIGS

DIAGNOSTICS

ADVANCED FUNCT.

INFRAREDREMOTE

TIMERFUNCTIONS

MEMORY FUNCT.

Loading the factory configuration („FACTORY DEFAULTS“)

To load the factory configuration for immediate use,

Scroll until „READ CONFIGS“ appears in the Main Menu.

Press ENTER to access the Read Configurations section.

„CONFIG MEMORY x“ or „FACTORY DEFAULTS“ appears whereby „x“ indicates the storage number.

Scroll until „FACTORY DEFAULTS“ appears.

Press ENTER to load the factory configuration into memory.

After loading, the QUATRIX will return to the Status Display.

The factory configuration contains the default settings for Elmo, Hasselblad, Kodak S-AV, and Simda projectors. The cycle time is 1.5 seconds. The ports A-D are addressed for projectors A-D (or 10-13).

DIAGNOSTICS

This area holds the QUATRIX's version and serial number as well as functions which transform the QUATRIX into a testing instrument:

Scroll until „DIAGNOSTICS“ appears in the Main Menu.

Press ENTER to access the Diagnostics section.

The Diagnostics section houses a host of useful routines.

Scroll until the desired routine or information appears.

```

---- 0 0 0 0
INPUT SELECT
SIGNALSELECT
ADRESSSELECT
OUTPUT SELECT
CONFIGPORTS
SAVECONFIGS
READCONFIGS
DIAGNOSTICS
ADVANCED FUNCT.
INFRAREDREMOTE
TIMERFUNCTIONS
MEMORY FUNCT.

```

TEST 10V <_ _ _ _> routine

Use this routine for testing devices connected to the 10-volt output.

This item is similar to the projector alignment function. The area between the brackets displays the current status of the 10V outputs.

Press ENTER to access the Test 10V routine.

Scroll until the desired output number (1 to 4) appears.

Press ENTER to test the device; the output voltage to that device will climb to 10V as shown in the bar graph display.

Press ENTER again to halt the test; the output voltage will return to zero.

To test the other outputs,

Scroll until the desired output number (1 to 4) appears and then use the ENTER button as explained above.

To exit the Test 10V routine,

Press ESC.

Version Number and Date

The QUATRIX's version number and version date can be viewed in this display. The display has the form „Vx.xx dd-mm-yy“ whereby „xx“ is the version number and „dd-mm-yy“ is the version date expressed as day-month-year.

ID Number

Each individual QUATRIX has its own serial number which can be used for identifying the QUATRIX for purposes of upgrading your unit. It is recommended that you write down your QUATRIX's serial number and keep it handy, because if your QUATRIX becomes lost or stolen, it can then be unequivocally identified when found.

Keycode

When you purchase an upgrade, enter its keycode here. If the code number is correct, the upgrade will be unlocked and ready for use.

Before entering the keycode,

Scroll until „KEYCODE“ appears.

Press ESC to access the Set Keycode routine.

Use the Scroll buttons to set the proper letter or number in each position in the display;

Use ENTER to advance to the next position.

At the end of the keycode, „SAVE keycode ?“ will appear whereby „keycode“ is the code number you entered.

Compare the keycode you received with the keycode you entered.

If the keycode was correctly entered,

Press ENTER to confirm the entry; the QUATRIX will reset itself and return to the Status Display.

If the keycode was incorrectly entered,

Press ESC to exit the routine.

AC Line Frequency display

The QUATRIX displays here the current line frequencies in Hertz on each individual port.

S/PDIF display

The QUATRIX displays here the sampling rate of the digital audio signal entering the OPT IN or SIG IN socket. At the same time the yellow „LOCK“ LCD on the front panel will glow. Should no digital audio signal be detected, the QUATRIX will display „S/PDIF= no lock“.

EXT-INPUT display

An external control 11 can be connected to the V24 socket as explained in the Technical Appendix. The External Input display routine allows you to test the functionality of the control pad.

Connect the control pad to the V24 OUT socket.

Press one of its buttons (1-4).

The corresponding hyphen in the display will change to an „X“. If, for instance, button 1 is pressed, then the left-most hyphen should turn into an „X“.

CD CTRL OUT TEST routine

This routine tests the control codes on a connected CD player.

Press ENTER to access this routine.

„SEND protocol CD command“ appears whereby „protocol“ is the protocol to be used and „command“ is the command to be sent using that protocol.

There four settings which can be sent:

SEND RC5 CD PLAY	Using the RC5 protocol, send „play“ out the QUATRIX.
SEND RC5 CD STOP	Using the RC5 protocol, send „stop“ out the QUATRIX.
SEND ESI CD PLAY	Using the ESI protocol, send „play“ out the QUATRIX.
SEND ESI CD STOP	Using the ESI protocol, send „stop“ out the QUATRIX.

Scroll until the desired protocol and command appear.

Press ENTER to send the command in that protocol. If properly connected, the CD player should carry out the command immediately. Press ESC to exit the routine.

Tray Position display (POS: 0 0 0 0)

This menu item displays the current position of each projector's tray.

MEMORY CONTENTS

With the Timecode and Memory Upgrade, the QUATRIX can store four complete IMAGIX productions in its non-volatile memory. Information about each production can be read in the „MEMORY CONTENTS“ section.

Press ENTER to access the „MEMORY CONTENTS“ section.

„Mx name #####“ appears whereby „x“ is the memory storage position, „name“ is the name of the IMAGIX production (the name of the production was loaded along with the production itself), and „#####“ is the number of program steps in the production.

If no production is stored in a particular memory position, „Mx NONAME 0000“ will appear whereby „x“ is the memory storage position.

Use the Scroll buttons to step through the four memory positions.

Press ESC to exit the routine.

ADVANCED FUNCT.

The extensive advanced functions housed here are intended for power users and not for experimentation.

AC LINE SYNC

This section is important when using conventional projectors; when serial projectors are being used, no changes must be made here.

When controlling lamps on conventional projectors via triacs, a synchronization with the mains frequency is necessary. The QUATRIX's AC Line Sync feature can alleviate this restriction.

Each of the QUATRIX's ports has its own mains frequency synchronization unit. This means that the projectors delivering 24 volts AC to the QUATRIX can be plugged into any mains socket of any phase. Besides that, deviations from 40Hz to 70Hz in the mains frequency are tolerated. This feature offers your installations even more operational security.

As already mentioned, the projector must deliver 24 volts AC to the QUATRIX. If this is not so, QUATRIX cannot recognize the mains' phase. In this case, each projector can use the synchronization of another when they are plugged into the same mains socket.

---- 0 0 0 0

INPUT SELECT

SIGNALSELECT

ADRESSSELECT

OUTPUT SELECT

CONFIGPORTS

SAVECONFIGS

READCONFIGS

DIAGNOSTICS

ADVANCED FUNCT.

INFRAREDREMOTE

TIMERFUNCTIONS

MEMORY FUNCT.

Let us take the example of a projector connected to Port B not delivering the 24 volts AC to the QUATRIX. Since the projector connected to Port A is delivering the 24 volts AC, it can „share“ its synchronization with Port B:

Scroll until „AC LINE SYNC“ appears.

Press ENTER to access this section.

Scroll until „PORT B“ appears. (We want Port B to receive Port A's synchronization.)

Press ENTER to access this section.

„PORT B FROM x“ appears whereby „x“ is the other port's name.

Scroll until „PORT B FROM A“ appears; that is, „Port B receives its synchronization from Port A“.

Press ENTER to confirm this with an asterisk.

Press ESC twice to exit this section.

PT STEPDELAY

Use this feature for overriding the step delay programmed into the PlusTrac signal. This feature allows you to change the step delay (which is set at one second in the PlusTrac signal) to a different time interval ranging from 0.0 to 3.0 seconds. This feature can be useful, for example, when fast animations are desired. Caution, though: A compatibility with standard PlusTrac cannot be guaranteed when using this feature. Also: very short time intervals may cause the slide to change will the lamp is on.

To access this section,

Scroll until „PT STEPDELAY“ appears.

Press ENTER to access this section.

„PT SDELAY=x.x“ appears whereby „x.x“ is the time interval in seconds.

Scroll until the desired time interval appears in the display.

Press ENTER to confirm this with an asterisk.

Press ESC to exit this section.

NOCUE → AUXOFF

This feature governs the handling of a relay when no cue signal is present. Selected relay groups can be released automatically after a time interval specified in „AUX HOLD TIME“ expires while the other relays remain on.

To access this section,

Scroll until „NOCUE → AUXOFF“ appears.

Press ENTER to access this section.

„RELS x-x-x-x“ appears whereby „x-x-x-x“ refers to the relay group.

Scroll to access the relay groups.

Press ENTER to set an asterisk to that group; an asterisk indicates that the group should release when the cue signal is not present and the AUX HOLD TIME has expired.

Press ENTER again to remove an asterisk from a group; a group having no asterisk will not release when the cue signal is not present and the AUX HOLD TIME has expired.

Press ESC to exit this section.

NOCUE → NOLAMP

This feature governs the handling of a projectors' lamp when no cue signal is present. The lamps on selected ports can be shut off automatically when no cue signal is present while the lamps of the other projectors remain on.

To access this section,

Scroll until „NOCUE → NOLAMP“ appears.

Press ENTER to access this section.

„PORT x“ appears whereby „x“ indicates the port on the QUATRIX.

Scroll until the desired port appears in the display.

Press ENTER to set an asterisk to that port; an asterisk indicates that the lamp on that port should shut off automatically when the cue signal is not present.

Press ENTER again to remove an asterisk from a port; a port having no asterisk will not shut off the lamp when the cue signal is not present. Press ESC to exit this section.

AUX HOLD TIME

The „AUX HOLD TIME“ determines the time interval to be used with the „NOCUE → AUXOFF“ and „NOCUE → NOLAMP“ features described above. This function can be quite useful in installations. For instance, a hold time of two minutes can be used for shutting off the house lighting two minutes after the end of a production. The possible time intervals range from one second to 10 minutes.

To access this section,

Scroll until „AUX HOLD TIME“ appears.

Press ENTER to access this section.

„HOLD AUX x“ appears whereby „x“ indicates the time interval.

Scroll until the desired time interval (1'-10") appears in the display.

Press ENTER to select the interval; an asterisk marks the selection.

Press ESC to exit this section.

NOCUE → 0 VOLT

This governs the handling of 10 volt devices when no cue signal is present. Pins selected in this group can be set to zero volts automatically after a time interval specified in „10V HOLD TIME“ while the voltages to the other devices remain unchanged.

To access this section,
Scroll until „NOCUE → 0 VOLT“ appears.
Press ENTER to access this section.
„10V-x (PIN y-5)“ appears whereby „x“ is the V-24 OUT number and „y“
is the pin number for that output.
Scroll until the desired pin appears in the display.
Press ENTER to set an asterisk to that selection; the asterisk indicates
that the voltage to that pin should set to zero when the cue signal is
not present and the 10V HOLD TIME has expired.
Press ENTER again to remove an asterisk from a selection; the voltage
to a pin having no asterisk will remain unchanged when the cue signal
is not present and the 10V HOLD TIME has expired.
Press ESC to exit this section.

Caution: Be sure that the settings in „NOCUE → 0 VOLT“ and „NOCUE
→ 10 VOLT“ do not conflict. Eventual conflicts will be resolved to zero
volts.

NOCUE → 10 VOLT

This governs the handling of 10 volt devices when no cue signal is
present. Pins selected in this group can be set to 10 volts automatically
after a time interval specified in „10V HOLD TIME“ while the voltages to
the other devices remain unchanged.

To access this section,
Scroll until „NOCUE → 10 VOLT“ appears.
Press ENTER to access this section.
„10V-x (PIN y-5)“ appears whereby „x“ is the V-24 OUT number and „y“
is the pin number for that output.
Scroll until the desired pin appears in the display.

Press ENTER to set an asterisk to that selection; the asterisk indicates that the voltage to that pin should set to 10 volts when the cue signal is not present and the 10V HOLD TIME has expired.

Press ENTER again to remove an asterisk from a selection; the voltage to a pin having no asterisk will remain unchanged when the cue signal is not present and the 10V HOLD TIME has expired.

Press ESC to exit this section.

Caution: Be sure that the settings in „NOCUE → 0 VOLT“ and „NOCUE → 10 VOLT“ do not conflict. Eventual conflicts will be resolved to zero volts.

10V HOLD TIME

This determines the time interval to be used in the „NOCUE → 0 VOLT“ and „NOCUE → 10 VOLT“ sections described above. The possible time intervals range from one second to 10 minutes.

To access this section,

Scroll until „10V HOLD TIME“ appears.

Press ENTER to access this section.

„HOLD 10V x“ appears whereby „x“ indicates the time interval.

Scroll until the desired time interval (1'-10") appears in the display.

Press ENTER to select the interval; an asterisk marks the selection.

Press ESC to exit this section.

SYNCODE AUX MODE

This section allows you to determine which three of Syncode's four possible auxiliary relays (W, Y, EW, EY) will be controlled by the QUATRIX. The factory setting is EW, EY, W.

To access this section,
Scroll until „SYNCODE AUX MODE“ appears.
Press ENTER to access this section.
„AUX a b c“ appears whereby „a b c“ indicates the possible combinations of Syncode auxiliary relays available on the QUATRIX.
Scroll until the desired combination appears in the display.
Press ENTER to select the combination; an asterisk marks the selection.
Press ESC to exit this section.

DIG. CH. TOGGLE

A timecode and a control signal can be encoded in a digital audio signal as two separate additional channels. The „DIG. CH. TOGGLE“ feature allows you to interchange these two additional channel, thus putting the timecode on the control-signal channel and vice versa.

To access this section,
Scroll until „DIG. CH. TOGGLE“ appears.
Press ENTER to access this section.
„NORMAL CHANNELS“ denotes the original timecode and control-signal channels.
„INVERS CHANNELS“ denotes interchanged timecode and control-signal channels.
Scroll until the desired setting appears in the display.
Press ENTER to select the setting; an asterisk marks the selection.
Press ESC to exit this section.

FT PROJ. GROUP

The governs the projector groups for a FreeTrac signal: Groups 0-15 and Groups 16-31.

To access this section,
Scroll until „FT PROJ. GROUP“ appears.
Press ENTER to access this section.
„FT PROJ 00...15“ denotes projector group 0-15.
„FT PROJ 16...15“ denotes projector group 16-31.
Scroll until the desired group appears in the display.
Press ENTER to confirm the selection with an asterisk.
Press ESC to exit this section.

EXT INPUT MODE

The QUATRIX can be controlled by an external control pad (see the Technical Appendix for details.) The external control pad can be used to call up individual productions stored in the QUATRIX four memory positions.

„EXT INPUT MODE“ is used for setting the command which each button on external control pad should trigger.

To access this section,
Scroll until „EXT INPUT MODE“ appears.
Press ENTER to access this section.
„EXT x (PIN y-5)“ appears whereby „x“ is the external control pad button number and „y“ is the pin number for that output. The pin numbers serve as a handy reminder of the socket itself's configuration.
Scroll until the external control pad button number appears (EXT 1-4).
Press ENTER to access the list of possible commands:
„STANDARD FCT.“ allows the following standard functions when using a Kodak Ektapro cable remote control via the REMOTE socket:

Button 1	Dissolve forward; issue tray transport on darkened projector.
Button 2	Step back with hard dissolve.
Buttons 3 + 4	Focus the lit projector (Ektapro only)

„Mx IMMEDIATELY“ forces the QUATRIX to start playing back the production stored in memory position „x“ when the button is pressed.

„Mx IF NO CUELED“ has the QUATRIX ignore the external control pad while the CUE LED is lit. Once the CUE LED extinguishes, the QUATRIX will commence playing back the production stored in memory position „x“ corresponding to the button pressed.

Scroll until the desired command appears.

Press ENTER to confirm the new setting with an asterisk.

Press ESC.

Repeat this procedure for the other control pad buttons. Use the Scroll buttons to scroll to the next button assignment.

When you are finished,

Press ESC again to exit this section; „EXT INPUT MODE“ appears.

PCOM IN BAUDRATE

This section allows you to set the baud rate for an incoming Kodak P-COM signal from a computer.

To access this section,
Scroll until „PCOM IN BAUDRATE“ appears.
Press ENTER to access this section.
„x BAUD“ appears whereby „x“ indicates the baud rate.
Scroll until the desired baud rate appears in the display.
Press ENTER to select the baud rate; an asterisk marks the selection.
Press ESC to exit this section.

V24 OUT BAUDRATE

This section allows you to set the V-24 OUT socket's baud rate for controlling external devices programmed using IMAGIX's CTRL-ASCII commands.

To access this section,
Scroll until „V24 OUT BAUDRATE“ appears.
Press ENTER to access this section.
„x BAUD“ appears whereby „x“ indicates the baud rate.
Scroll until the desired baud rate appears in the display.
Press ENTER to select the baud rate; an asterisk marks the selection.
Press ESC to exit this section.

CUE PLAY OFFSET

This feature allows you to offset the starting position for the trays of a production. The number set here will be added to the tray positions in the original cue signal. This feature can be useful when the trays hold a number of productions where each production begins at the same position in each tray. Instead of programming a tray offset in IMAGIX, the offset can be „programmed“ after the fact in the QUATRIX.

To access this section,
Scroll until „CUE PLAY OFFSET“ appears.
Press ENTER to access this section.
„TRAY OFFSET x“ appears whereby „x“ indicates the desired offset position for the trays.
Scroll until the desired offset position (0-80) appears in the display.
Press ENTER to select the starting position; an asterisk marks the selection.
Press ESC to exit this section.

MEMORY END MODE

This section allows you to determine what the QUATRIX should do (wait or exit) after a production played from memory is finished.

To access this section,
Scroll until „MEMORY END MODE“ appears.
Press ENTER to access this section.
„WAIT AT END“ allows you to step back through the production once it has ended.
„EXIT AT END“ allows a completed running to be started from the beginning again. This can be useful when triggering productions using an external control pad. When using the „Mx IF NO CUELED“ function, the external control pad will be enabled once the CUE LED extinguishes.

Scroll until the desired mode appears in the display.
Press ENTER to select the mode; an asterisk marks the selection.
Press ESC to exit this section.

POWER ON MODE

This mode is only available with the Timecode and Memory Update. This section allows you to determine in which mode the QUATRIX should set itself on power-up. This feature can be useful in installations where a production should start running when the installation itself is powered up.

Note: When using a „RUN MEMORY“ mode, be sure to have the necessary QUATRIX settings saved in „CONFIG MEMORY 0“ since these will be called up automatically when the QUATRIX is powered up.

To access this section,
Scroll until „POWER ON MODE“ appears.
Scroll until the desired mode appears in the display.
There are a number of possible modes:

STANDARD MODE

Upon power-up the QUATRIX enters its basic mode.

RUN MEMORY 1

Upon power-up the QUATRIX automatically commences playback of the production saved in Memory 1.

RUN MEMORY 2

Cf. RUN MEMORY 1.

RUN MEMORY 3

Cf. RUN MEMORY 1.

RUN MEMORY 4

Cf. RUN MEMORY 1.

Press ENTER to confirm the selection with an asterisk.

Press ESC to exit this section.

MAX VOLT LEVEL

The QUATRIX can exert an additional control over the voltage of lamps on triac-controlled slide projectors. The various levels are explained below.

To access this section,

Scroll until „MAX VOLT LEVEL“ appears.

Press ENTER to access this section.

A list of possible settings appears:

STANDARD LEVEL

With this setting, no addition control is exerted over the projector lamps.

HI VOLT LEVEL

A small amount of voltage will be added to the current voltage (Highlight function).

ECONOMY LEVEL

The voltage level will be lowered in order to save the lamp resulting, though, in less luminance.

Scroll until the desired voltage level setting appears in the display.

Press ENTER to select the voltage level setting; an asterisk marks the selection.

Press ESC to exit this section.

MEMORY FUNCTIONS

This section is only available with the Timecode and Memory Update. It allows you to call up and run a production stored in the QUATRIX's memory. This means that you can have up to four complete productions available at your fingertips at any time.

To select a production for instant playback, Scroll until „MEMORY FUNCTIONS“ appears.

Press ENTER to access the playback list. Scroll until the desired memory location appears in the display.

The playback list includes:

```

---- 0 0 0 0
INPUT SELECT
SIGNALSELECT
ADRESSSELECT
OUTPUT SELECT
CONFIGPORTS
SAVECONFIGS
READCONFIGS
DIAGNOSTICS
ADVANCED FUNCT.
INFRAREDREMOTE
TIMERFUNCTIONS
MEMORY FUNCT.

```

STANDARD MODE

Selecting this mode cancels playback from memory and returns the QUATRIX to its basic operating mode.

RUN MEMORY 1

Play back the production saved in Memory 1.

RUN MEMORY 2

Cf. RUN MEMORY 1.

RUN MEMORY 3

Cf. RUN MEMORY 1.

RUN MEMORY 4

Cf. RUN MEMORY 1.

Press ENTER to start playback of your selection immediately.
To cancel playback, select“STANDARD MODE“.

Note that this section can be quickly accessed from the Status Display by pressing the upper Scroll button once.

Playback with QUATRIX

The QUATRIX is the solution to practically any playback need. The numerous built-in solutions can be grouped into three categories. They include:

Standard Playback

- Analog Playback
- Digital Playback
- KODAK P-COM Playback

Timecode-based Playback

- Analog Playback with timecode
- Digital Playback with timecode

Memory-based Playback

- Memory Playback
- Cancelling Memory Playback
- Memory Playback with Timecode
 - Analog Memory Playback with timecode
 - Digital Memory Playback with timecode
- Memory Playback Loop (Endless Playback)
- Live Playback (Speaker Support)
 - IMAGIX and QUATRIX

Before playback, be sure that the QUATRIX has been properly configured. Four items in the Main Menu are critical:

INPUT SELECT	set „AUTOSENSE“ (or in special situations a more specific setting)
SIGNAL SELECT	set the input control signal type
ADDRESS SELECT	set the proper addressing for the projectors
CONFIG PORTS	set the proper projector types

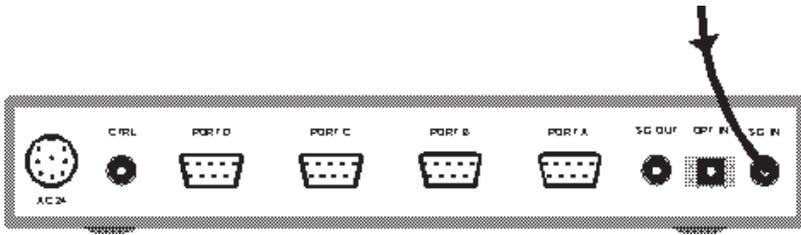
Standard Playback

Standard Playback includes all presentation situations where the control signal originates from a multitrack deck, a CD or DAT player, or a computer, with or without music and speech.

Analog Playback

Control signals recorded on multitrack decks are feed into the QUATRIX via the SIG IN socket.

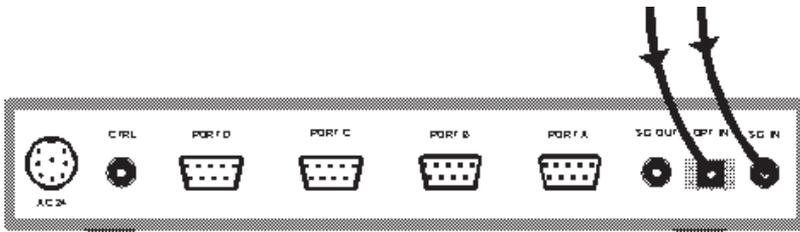
Simply start your multitrack to run the production. The green „CUE“ LCD will light when the control signal is detected. The incoming commands will be sent onto the projectors. The QUATRIX's Status Display will show the status of the projectors' trays, lamps, and shutters.



Digital Playback

Control signals coded into the digital audio signal (eg., DAT or CD) are feed into the QUATRIX via the SIG IN or OPT IN sockets.

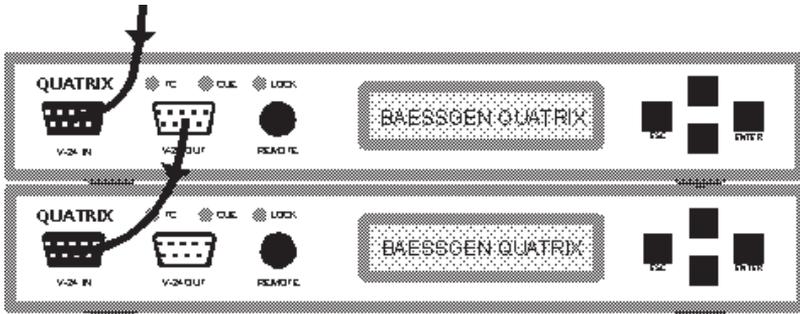
Simply start your playback device to run the production. The yellow „LOCK“ LED will light when the digital audio signal is detected and the green CUE LED will light when the control signal is detected. The incoming commands will be sent onto the projectors. The QUATRIX's Status Display will show the status of the projectors' trays, lamps, and shutters.



KODAK P-COM Playback

Kodak's P-COM protocol is used for controlling Ektapro projectors directly from a computer. Until now, only Kodak Ektapro models 7000, 7010, 9000, and 9010 were capable of being daisy-chained for use with this protocol. The QUATRIX changes this: now practically any projector can be used.

The computer is connected to the first QUATRIX via the V-24 IN socket. A total of four QUATRIXes can be daisy-chained via the V-24 sockets; use cable Q-3.



Timecode-based Playback

Timecode-based Playback includes all presentation situations where timecode is used to synchronize a music or speech source (eg., a multitrack deck, CD, DAT) to a computer running Bässgen IMAGIX.

Analog Playback with timecode

Timecode on your multitrack can be played back into the QUATRIX.

- Connect your gear according to the following schematic:
- Play-enable your multitrack deck for playing back the timecode (usually track 3 on 4-tracks).
- Set IMAGIX into play mode with timecode („sYnc“+“Play“+“ext“).
- Start your multitrack; the timecode will be read into the QUATRIX and passed onto IMAGIX; IMAGIX's external clock will run.

You may start and stop your multitrack at any position where there is timecode. IMAGIX will follow that position instantly.

Digital Playback with timecode

Timecode which has been coded into the digital audio signal can be played back into the QUATRIX.

- Connect your gear according to the following schematic (be sure to connect your CD, DAT, or other digital playback device to the appropriate SIG IN or OPT IN socket):
- Set IMAGIX into play mode with timecode („sYnc“+“Play“+“ext“).
- Start your CD, DAT, or other digital playback device; the timecode will be read into the QUATRIX and passed onto IMAGIX; IMAGIX's external clock will run.

You may start and stop your playback device at any position where there is timecode is encoded. IMAGIX will follow that position instantly.

Memory-based Playback

Memory-based Playback is available with the Timecode and Internal Memory Update. It includes all presentation situations where the QUATRIX's internal memory is used for playing back the production's IMAGIX cues.

Memory Playback

To play a production from the QUATRIX's memory,

- Scroll through the Main Menu until „MEMORY FUNCTIONS“ appears. If you start from the Status Display, then just press the upper Scroll button once.
- Press ENTER to access the Memory Function area.
- Scroll through until you locate the desired memory number (RUN MEMORY 1/2/3/4).
- Press ENTER to start running the production.

The QUATRIX will enter Memory Playback mode and start playing the cues in memory. When it reaches the end of memory (the last cue), it will then switch to the Status Display which will show

__ _ _ _ **Mx END zzzz**

whereby „x“ is the memory number and „zzzz“ is the last IMAGIX step to be executed.

Cancelling Memory Playback

To escape the Memory Playback mode,

- Press the upper Scroll button once; „MEMORY FUNCTIONS“ appears.
- Press ENTER to access the Memory Function area; „STANDARD MODE“ appears.
- Press ENTER to enter Standard Mode and thus cancel running the production.

Memory Playback with Timecode

Productions in the QUATRIX's memory can be played back in perfect synchronization with a multitrack or other playback medium (eg., CD, DAT).

To do so, be sure that the following items are set in IMAGIX before the production is loaded into the QUATRIX:

- Set the Timecode Tolerance (Menu „Options“) to the desired value. This defines the length of time that the QUATRIX will tolerate a timecode dropout.
- The IMAGIX Clock must be set to „ext“ so that the QUATRIX will look for an external clock (i.e., incoming timecode) when the production is started. **Note:** The IMAGIX Clock setting cannot be changed when it is stored in the QUATRIX; it must be set before the production is loaded.

Analog Memory Playback with timecode. The timecode track of a multitrack deck is connected to the SIG IN socket; follow the instructions in „Playback with timecode (analog)“ above.

Digital Memory Playback with timecode. When timecode is encoded in the digital signal, connect the signal to the SIG IN or OPT IN sockets; follow the instructions in „Playback with timecode (digital)“ above.

Memory Playback Loop (Endless Playback)

The QUATRIX can play a production in an endless loop. This can be particularly interesting with installations in museums and at trade shows.

To do so, be sure that the following items are set in IMAGIX before the production is loaded into the QUATRIX:

- The IMAGIX Clock must be set to „int“ so that the QUATRIX will generate its own clock when the production is started. **Note:** The IMAGIX Clock setting cannot be changed when it is stored in the QUATRIX; it must be set before the production is loaded.
- At the end of the IMAGIX production, set a TRAY 0 (zero) command to send the tray back to their home positions.
- Program a HOME command just after the interval of time necessary for the trays to return.

When the production being played back with the QUATRIX reaches the end, the QUATRIX will send the trays back as programmed, „home“ itself (as programmed with IMAGIX) and run the production from the top.

Cancel endless operation using the procedure under „Cancelling Memory Playback“ above.

Live Playback

QUATRIX is ideal for use in Speaker Support situations. IMAGIX productions programmed for live presentations can be loaded and run with the QUATRIX using a remote-control device, allowing you to trigger single events/slides as well as complete sequences. Anything which can be programmed with IMAGIX can be played back using the QUATRIX.

See the chapter „Live Presentations (Speaker Support)“.

External Control Pad

A custom-made control pad with up to four buttons can be connected to the V-24 OUT socket. (See the Technical Appendix for details.) This allows for special solutions to meet any need, for instance, for use in interactive installations.

The various functions can be grouped into two categories:

1) Standard Functions

When using a Kodak Ektapro cable remote control via the REMOTE socket:

Button 1	Dissolve forward; issue tray transport on darkened projector.
Button 2	Step back with hard dissolve.
Buttons 3 + 4	Focus the lit projector (Ektapro only)

2) Memory Functions

When using a QUATRIX with the Timecode Upgrade and stored productions:

Button 1, 2, 3, 4	RUN MEMORY 1, 2, 3, 4
-------------------	-----------------------

The settings configured under „EXT INPUT MODE“ in the „ADVANCED FUNCTIONS“ menu are used for setting the command which each button on external control pad should trigger. These include:

„STANDARD FCT.“ uses the standard four-button control functions described above.

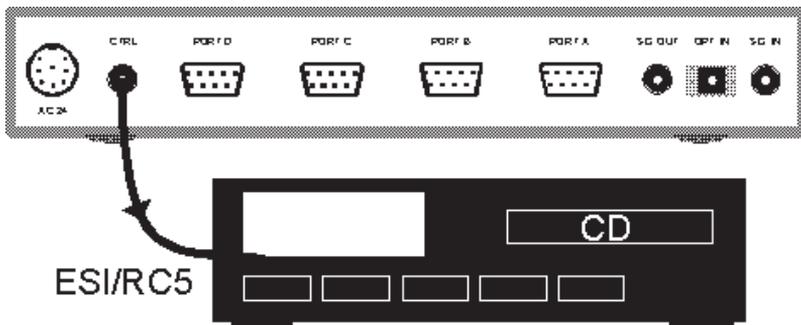
„Mx IMMEDIATELY“ forces the QUATRIX to start playing back the production stored in memory position „x“ when the button is pressed.

„Mx IF NO CUELED“ has the QUATRIX load the production stored at „Mx“ once there is no control signal (i.e., once the „CUE“ LED extinguishes) and then commences playing back the production stored in memory position „x“ corresponding to the button pressed.

Remote Control via ESI/RC5

ESI/RC5 is a standardized remote control protocol developed by Philips. Connection sockets can be found on a wide variety of HiFi and video components made by Philips and other manufacturers.

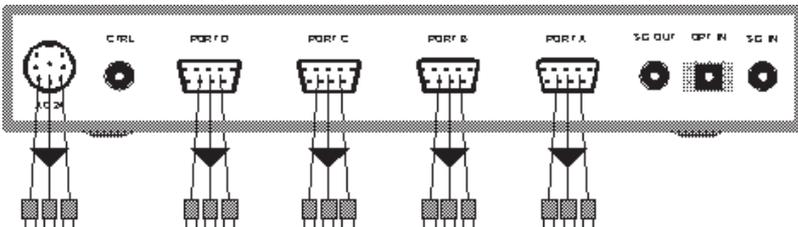
The QUATRIX makes it possible to control these devices via the CTRL command programmed into the PlusTrac signal using the Bässgen IMAGIX programming software; see the IMAGIX handbook for details. The device is connected to the CTRL socket on the rear panel of the QUATRIX.



AUX-Relays

The QUATRIX can control up to fifteen auxiliary relays: three each for its Ports A-D and three additional relays via the AC24 socket. These relays can carry a load of maximum 24V/100mA. (Cf. Technical Appendix.)

The relays are programmed using the REL command in the Bässgen IMAGIX programming software and are coded into the PlusTrac signal using the first three positions of each PlusTrac bank (ABC, EFG, IJK, MNO).



Important: Be sure that the auxiliary relays have been properly configured in ADDRESS SELECT.

Additional control can be found in the ADVANCED FUNCTIONS section for setting when and how a relay will be handled once the control signal has ceased:

„NOCUE → AUXOFF“

Selected relay groups can be released automatically after a time interval specified in

„AUX HOLD TIME“ expires while the other relays remain unchanged.

„AUX HOLD TIME“

Release selected relay groups after this time interval. The possible time intervals range from one second to 10 minutes.

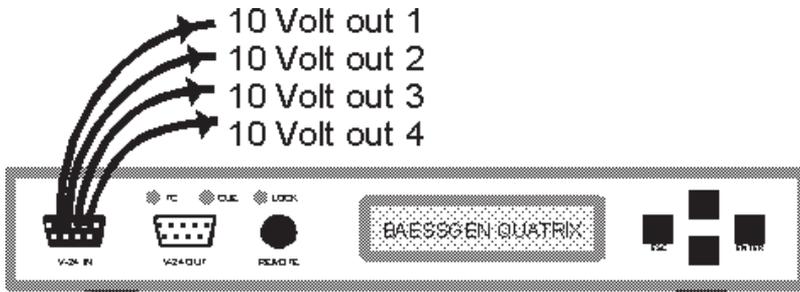
10-Volt Interfaces

Controlling hall lighting, curtains, etc. via 10-volt interfaces is standard procedure in professional work. The QUATRIX supports this standard by providing **simultaneous** control of up to four projectors and up to four 10-volt interfaces (via the V-24 IN socket). (Cf. Technical Appendix.)

The interfaces are programmed using the VOLT command in the Bässgen IMAGIX programming software and are coded into the PlusTrac signal with a precision of 99 steps (0-10V). The rate is programmed using the ALTN command. The interfaces are addressed the same as projectors (A-P).

Important: Be sure that the 10-volt interfaces have been properly configured in ADDRESS SELECT.

Additional control can be found in the ADVANCED FUNCTIONS section for setting when and how the voltage will be handled once the control signal has ceased:



„NOCUE → 0 VOLT“

Pins selected in this group can be set to zero volts automatically after a time interval specified in „10V HOLD TIME“ while the voltages to the other devices remain unchanged.

„NOCUE → 10 VOLT“

Pins selected in this group can be set to 10 volts automatically after a time interval specified in „10V HOLD TIME“ while the voltages to the other devices remain unchanged.

„10V HOLD TIME“

This determines the time interval to be used in the „NOCUE – > 0 VOLT“ and „NOCUE → 10 VOLT“ sections described above. The possible time intervals range from one second to 10 minutes.

Live Presentations („Speaker Support“)

The QUATRIX's Timecode and Memory Upgrade opens a multitude of possibilities for live presentations. Any succession of single steps or entire sequences can be programmed with IMAGIX into a single production. A remote control (infrared or cable) can be used to trigger each portion of the production including the use of a CD player or compatible device. The numerous playback scenarios are listed in the chapter „Playback with QUATRIX“.

Programming a live presentation

Bässgen's AV programming software IMAGIX is used for programming live and interactive productions. The key to calling up single steps or entire sequences from within a single production is the use of IMAGIX's „X“ feature: any command line in an IMAGIX production can be marked with an „X“ which causes the QUATRIX to halt at that line while running the production. With the „X“ it is possible therefore to break a production up into several sections of varying lengths; each time the QUATRIX reaches an „X“, it halts playback the production. Running the production can be resumed via remote control. It is clear that this simple yet powerful feature can find a wide variety of uses. Programming details can be found in the IMAGIX Handbook.

Before loading a production into the QUATRIX,

- Set the timecode tolerance in IMAGIX („Options“ menu) to the desired value.
- Set IMAGIX's clock to „int“.

Productions are loaded using IMAGIX's „F10 – Memory-Fkt.“ command. They are called up via the QUATRIX's „MEMORY FUNCTIONS“ menu.

Triggering sequences

A remote control can be used for triggering single steps or entire sequences from within a single IMAGIX production. See the chapter „Total Control“ for details. The commands possible with a remote control include:

Forward button	Start running the production from the current position.
Reverse button	Stop running the production; further clicks step the production back a line at a time.
Focus button	Focus the lit projector (Ektapro only).

Using the buttons on the QUATRIX it is possible to shuffle back and forth through the production. This is especially useful after the lights go off.

Recovering from a power outage: When the lights come on again

A power outage can spell doom for a live presentation. Not so with the QUATRIX! When the power is restored, the QUATRIX will automatically reset itself. If the projectors do not reset themselves automatically, reset the trays by hand.

With all devices in their „home“ positions,

- Press simultaneously the ESC button and the lower Scroll button on the QUATRIX.

The QUATRIX will fast forward through the production at a rate of ten steps per second. The actual position can be read in the QUATRIX's display. The projectors, of course, will automatically follow your actions. Conversely, pressing the ESC button and the upper Scroll button will set the QUATRIX back to the beginning of the production.

Planning a live presentation

There is no single method for planning a live presentation. An efficient method, though, can be shown. Let us assume that you are planning a live presentation involving 2-16 projectors, music, sequencing from tape or CD, and live spoken texts. In addition, let us assume that short passages of the presentation must be triggered at the touch of a button.

IMAGIX and QUATRIX

To accomplish this, let us use features found in IMAGIX and QUATRIX:

1. IMAGIX's „X“ feature allows you to mark specific command lines in the production. When the program reaches a line marked with an „X“, it will halt if no external timecode is being fed into the system. The QUATRIX will resume running the production when it receives a trigger from the forward button on the remote control.

2. Timecode entering the system will override the QUATRIX's internal clock. As soon as the external timecode stops, the QUATRIX's internal clock will continue with the next frame from that timecode. When external timecode reappears, the QUATRIX will follow it; when the external timecode ceases, the QUATRIX's internal clock will continue with the next frame, and so on.

3. With this in mind, there are then two possibilities for resuming playback when an „X“ is encountered: via the forward button on the remote control and by reintroducing an external timecode into the system.

4. The time readout in IMAGIX can be switched from hours:minutes:seconds to seconds-only display („Options“ menu, „Time Display Format“). This unusual format has the advantage of allowing time units of up to 24 hours to be programmed (don't worry: we're not pushing eight-hour productions).

Program Structure

Program the show using IMAGIX. Mark the lines where the production should halt with an „X“.

For passages where music is to be synchronized via timecode, use this trick: Assuming you have ten such passages which begin with music from tape or CD, format the first passage with timecode starting at 0000.0 (using the seconds-only display in IMAGIX; see above), format the second passage starting at 2000.0, the next at 4000.0, and so on. Next, program the sections using these unusual start times (0000.0, 2000.0, 4000.0, 6000.0,...); be sure to allow a number of seconds of timecode to elapse before the first command is executed so that the QUATRIX has sufficient time to lock into the timecode. After the end of each music segment, program an „X“ and then continue programming the live portion of your presentation. Continue this procedure for the other sections.

When the timecode for the first section enters the system, the QUATRIX will start playing that segment synchronized to the music. When the music is finished and the timecode drops off, the QUATRIX will continue with the internal clock until the „X“ marking the next live section is encountered. You can simply erase any remaining timecode from the tape.

Run the live portion as usual, triggering each segment using the forward button on the remote control unit. Start the next music section from tape. The QUATRIX, receiving the new timecode, will jump to the corresponding segment in the show and run it in perfect synchronization to the music. When the music is finished and the timecode drops off, the QUATRIX will continue until the „X“ marking the next live section is encountered.

Of course, the 2000 seconds (ca. 33 minutes) in our example is just a value which allows plenty of „breathing room“ in programming the production; any other value could have been used. The idea is to show that timecode can be used creatively in planning a live presentation. Just be sure that the timecode drops out (i.e., is erased) between music sections so that it can retrigger the QUATRIX later. This way you can make use of the advantages of both internal and external clocks.

With IMAGIX you can check each section while programming. In this case, use the Return button on the computer keyboard as a temporary substitute for the forward button of the remote control unit you will later use.

Before loading the production into the QUATRIX, be sure that IMAGIX's clock is set to „int“. (We want the show to run on the internal clock; the external timecode will then automatically override the internal clock when we need it.)

Going live

At the presentation, call up the appropriate production from the QUATRIX's memory (RUN MEMORY 1/2/3/4), start your tape or CD, and away you go. If everything is set up correctly, the timecode will enter the SIG IN or OPT IN socket and call up the appropriate sequences. When the timecode drops out, the QUATRIX's internal clock will take over. After the live portion, simply start the tape or CD playback again. This way you can make a live presentation using any playback device with perfectly synchronized music. The QUATRIX will handle the rest with you triggering it with the remote control.

Timecode and Memory Upgrade

The built-in Timecode Upgrade (available via keycodes) opens you to the multi-faceted world of timecode programming using Bässgen's state-of-the-bit IMAGIX software. This feature allows you to load your productions into the QUATRIX and leave your computer at home. Upgrading is a snap with QUATRIX: simply send us your QUATRIX's serial number with your order. To find the serial number, see „ID Number“ under „DIAGNOSTICS“ in the chapter „Menu Architecture“.

With the Timecode Upgrade, the QUATRIX becomes a state-of-the-art timecode interface for reading and, in conjunction with the Bässgen IMAGIX programming software, writing timecode. With the Memory Upgrade (included with the Timecode Upgrade), you can store up to four IMAGIX productions in your QUATRIX and play them back without need of a computer. This can be particularly useful for live presentations („Speaker Support“), for installations, and for interactive media.

When IMAGIX is controlling the QUATRIX via the „sYnc“ feature in IMAGIX, only the up and down Scroll buttons are functional on the QUATRIX. The QUATRIX's display shows the current timecode reading.

Formating timecode

Formating timecode is accomplished by connecting IMAGIX to the QUATRIX via the V 24 IN socket and the QUATRIX to track 3 of your multitrack deck via the SIG OUT socket.

- Connect your gear according to the following schematic:
- Record-enable your multitrack deck for recording timecode (usually track 3 on 4-tracks).
- Set IMAGIX into „sYnc“ mode.
- Start formating timecode with IMAGIX.
- Set your multitrack into record mode (record the timecode at +/- 0 db).
- Stop IMAGIX with the ESC button when finished.

Playing back with timecode

Playing back with timecode is accomplished in a number of ways. See the following heading in the chapter „Playback with QUATRIX“:

PT-based Playback

 Analog Playback with PT

 Digital Playback with PT

Memory-based Playback

 Memory Playback with Timecode

 Analog Memory Playback with timecode

 Digital Memory Playback with timecode

Recording PlusTrac

Recording PlusTrac allows you to play your IMAGIX productions from a multitrack deck without need of the computer or of memory content. With the QUATRIX and the Timecode and Memory Upgrade, you need not record the PlusTrac signal onto the multitrack at all: simply load the production into the QUATRIX's memory and run it from there. The QUATRIX can store up to four productions in its internal memory. Should you need to present more than four productions in one session, then using a multitrack deck is a viable alternative.

- Connect your gear according to the following schematic with the QUATRIX's SIG OUT socket connected to track 4 of your multitrack:
- Record-enable your multitrack deck for recording PlusTrac (usually track 4 on 4-tracks).
- Set IMAGIX into „sYnc“ mode.
- Set your multitrack into record mode (record PlusTrac at +/- 0 db).
- Stop your multitrack when finished.

Internal Memory

The internal memory included in the Timecode and Memory Update allows you to store four complete IMAGIX productions in your QUATRIX. Each production can have up to 2000 IMAGIX programming steps. Each of the memory locations can be used over again simply by overwriting a production with another production.

To **load** productions into the QUATRIX, use IMAGIX's „F10 – Memory-Fkt.“ command. They are called up via the QUATRIX's „MEMORY FUNCTIONS“ menu.

To **play** a production from the QUATRIX's memory, Scroll through the Main Menu until „MEMORY FUNCTIONS“ appears. If you start from the Status Display, then just press the upper Scroll button once.

Press ENTER to access the Memory Function area.

Scroll through until you locate the desired memory number (RUN MEMORY 1/2/3/4).

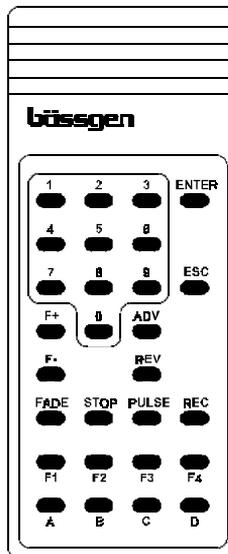
Press ENTER to start running the production.

To cancel Memory Playback,

- Press the upper Scroll button once; „MEMORY FUNCTIONS“ appears.
- Press ENTER to access the Memory Function area.
- Scroll through until „STANDARD MODE“ appears.
- Press ENTER to enter Standard Mode and thus cancel running the production.

Of course, productions can be played back in perfect synchronization with a multitrack or other playback medium (eg., CD, DAT) using both the QUATRIX's memory and its timecode capability. See the chapter „Playback with QUATRIX“ for details.

Information on the infrared functions Quatrix/Triplex



The main operating mode of the IR-remote control is chosen in the new menu 'INFRARED REMOTE' which is available since the operation software q110.exe. This menu is in the main menu. There are 6 settings:

IR STANDARD

Basis function - the buttons have the following functions:

0...9

Direct dissolve with one of the ten dissolve rates: 0, 1, 2, 3, 4, 6, 8, 12, 16, 20 sec.

ENTER

Direct dissolve with the standard dissolve rate (1 sec.) that is adjusted in the timer function menu.

ESC

Dissolve is reversed.

F+, F-

Focus, as far as only one projector is bright (only Ektapro and Simda serial).

A...D

The selected (dark) projector lights up, or darkens respectively.

F1...F4

See own menu.

ADV + A...D

Transports the tray of the selected projector one step forward.

REV + A...D

Transports the tray of the selected projector one step back. Pressing the REV button three times (home issue) sets the projector back into initial position.

REC

This command turns on the plus trac production (real time recording). The following three buttons work only in the RECORD mode (plus trac production).

STOP

Freezing of all brightness levels.

PULSE

Pressing PULSE and then a button A...D the selected projector will start blinking at a rate of 0,3 sec. Using the sequence PULSE, 0...9, A...D the selected projector will start blinking at a rate of 0,05 to 0,9 sec. Issuing the 'PULSE' command anew stops the blinking.

FADE

Pressing FADE and then a button A...D the selected projector will be faded to a brightness of 50%. Using the sequence FADE, 0...9, A...D the selected projector will be faded to a brightness of 10...100% (0=100%).

RANDOM ACCESS

Operating mode for a direct access of slides.

REC, FADE, STOP, PULSE

No function.

F+, F-

Focus of the bright projector (only Ektapro and Simda serial)

0...9

Input of numerals (maximum 3-figure number) is read by Quatrix/Trip-lex and used with the next command.

A...D

The input of the number and the selection of a projector sets the tray of the selected projector to the position defined by the number. The lamp of the projector is faded to 100%, all other projectors stay dark.

ADV, REV

Transports the tray of the bright projector one step forward or one step backward.

ENTER

The number 0...320 put in last is used to select a projector and project the corresponding picture. Pictures 1 to 80 are in projector A, 81 to 160 in B etc. If all projectors are dark, the one used last will fade in again.

ESC

All projectors will darken. Pressing ESC again sets all projectors into the home position.

PARALLEL ACCESS

Operating mode for a direct access of slides. The projectors project next to each other, the lamps can be triggered independently.

REC, FADE, STOP, PULSE

No function.

F+, F-

Focus, if there is only one bright projector (only Ektapro and Simda serial).

0...9

Input of numerals (maximum 2-figure number) is read by Quatrix/Trip-lex and used for the next command.

A...D

The input of the number and the selection of a projector sets the tray of the selected projector to the position defined by the number. The brightness level of all lamps stays unchanged. Issuing A...D without a preceding input of numerals fades the lamps of the selected projector in or out.

ENTER, ADV

The trays of all bright projectors advance simultaneously one position. If all projectors are dark, the status before pressing ESC will be reestablished.

REV

The trays of all bright projectors are transported simultaneously one step backward.

ESC

All projectors darken. Issuing ESC again sets all projectors into the home position. Therefore all kinds of parallel accesses are practically possible.

SPEAKER SUPPORT

In this mode only the following buttons can be used: ENTER, ESC, F+, F-, 0...9. Those buttons have the same functions as they have in STANDARD MODE. (This makes a live presentation a lot easier.) If under ADVANCED FUNC. the item 'Remote Proj. Count' has less projectors than there actually are, then the upper projectors can be faded in and out, as well as stepped forward or backward separately by the buttons A...D and ADV, REV.

Example: 2 projectors show slides in standard dissolve, titles or maps are to be faded in manually by the third projector: Parameter 'Remote Proj. Count' = 2, the button C allows the fading in and out.

IR F1...F4 ONLY

Only the 4 buttons F1 to F4 and the focus buttons are activated. F1...F4 have an own menu under ADVANCED FUNC.. A description follows.

IR DISABLED

All IR signals are ignored. This operating mode is necessary in case there are several Quatrix devices in one room, but not all of them are to be operated.

MEMORY FUNCTIONS

If the Quatrix/Triplex is in the memory mode, only the buttons ENTER, ESC, F+, F- are activated (also F1 to F4, as far as they have been activated in a seperate menu).

The functions F1 to F4

Under ADVANCED FUNC. there is a new menu line IR FUNCTION KEYS. Here there are 4 more menus that allow to programm the functions F1 to F4. Four settings are possible; X means a number between 1 and 4.

FX DISABLED

The button has no function.

RUN MEMORY X

Clicking this button starts the corresponding memory. If the corresponding menue already is being activated, then this memory will be left.

MX IF NO CUELED

The corresponding memory will only be started, if the CUE-LED does not light up or blink.

TOGGLE 10V - X

The corresponding 10V exit is directly accessed.

The timer functions

A timer function puts Quatrix/Triplex into effect:

The parameters of the timer are three values found under the menu **TIMER FUNCTIONS** in the main menu.

TIMER START / TIMER STOP

This command starts/stops the timer operating mode. The timer can also be activated by the menu **MEMORY FUNCTION** or it can be configured in **ADVANCED FUNC.** under 'Power On mode' as a standard mode. (For example for window displays.)

TIME PER SLIDE

is the time the slide is shown without the dissolving phases. Possible time period: 1 - 60 sec.

SLIDE PER PROJ

is the amount of slides in each tray. After the last slide the counter sets automatically back to zero. This allows endless productions without programming. However, there will be no setting back, if the parameter is ALL (= 0).

DISSOLVE RATE

is the dissolving speed.