# IMAGINE .....

Rank Strand

... artistic freedom
... instant response to commands
... informative panel displays
... an uncluttered control panel
... logical, simple operation
... sophisticated channel access
... colour enhanced VDU displays
... twin dedicated keypads
... twin independent playbacks
... automatic processional fades
... decimal point memory assignment
... hard cased disc library storage
... eight additive and inhibiting submasters
... ten pages of eight groups of electronic backup
... total compatibility with standard equipment
... printed cue sheets
... remote controls
... multiplexed dimmer output
... easy transportation
... 180 channels proportionally patched to 384 dimmers ....

**Imagine Unlimited Designer-Created, Computer Synthesised, Dynamic Special Effects**

*Imagine no longer ...*

# GEMINI

## THE IMAGE OF FUTURE CONTROL

Of the many elements which meet in the creation of entertainment, one predominates: whether the aim is to prepare a script, create a setting, paint with light, direct the action, or captivate the audience with the performance of a lifetime, the common factor is imagination.

For a new generation of professional entertainment lighting controls our imagination was fuelled by the preferences of past and present users, and by the needs of the future. Constant worldwide contact with the industry we serve gave our designers the concept – Gemini is the image.

Behind Gemini's well planned control panel is a software operating philosophy developed and refined from over 20 man-years of specialised programming experience: beneath Gemini's removable front panel is a vision of future lighting control.

The design of Gemini's compact, transportable console is based on sound **ergonomic** principles. Professional standard control keys are positioned logically on the main operating surface – there are no large clusters of multi-function keys to confuse in the midst of the action. The rich new panel colour becomes a neutral background under typical control room lighting, visually contrasting with the descriptive legends. And experience has proved that prime information is best displayed on the operating surface for rapid decision making – not buried in a dense VDU screen. So there are LED displays for active memory numbers, channels, and fade progress, colour coded for immediate recognition.

**Two keypads,** one dedicated to the control of channels, the other to memories, continue the theme of operational ease and flexibility. A single, dual purpose keypad may have engineering advantages, but

why be limited to one operation at a time when the needs of the moment can demand simultaneous control of memories and adjustment of channel levels? After all, Gemini's advanced latest-takes-precedence control of channels means that, even in the midst of the most exacting automatic multipart fade using both playbacks, any channels under scrutiny can be captured and controlled manually by the wheel.

Red and Green colours distinguished the identical **twin playbacks.** Each is capable of recalling memories with recorded times, fade types and wait times, producing the most flexibile arrangement to accommodate all lighting changes from manual cross-fades to automatic, cycling, processional multipart fades. Each playback can operate with a separate sequence of memories, so as the green playback is set to loop through its cue sequence, the red playback is used to inject another sequence of timed or manual lighting changes.

An 'intelligent' managed memory makes the most economic use of the available capacity. **Decimal point memory numbers** facilitate last minute additions between any two numbers in a recorded sequence of memories. Any number from 0.1 to 999.9 is accessible.

The sophisticated user-programmable software links any of the 384 dimmers to Gemini's 180 control channels. This **proportional patch** also records the relative intensity of each dimmer output controlled by a channel.

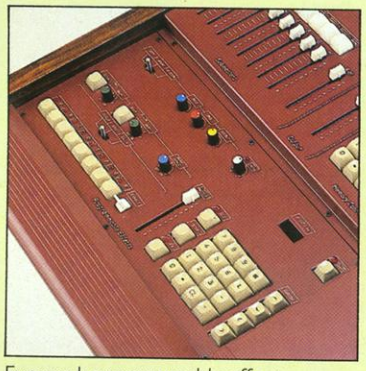
**Submasters** – eight plus a master – are integrated in the system for manual control of channels or memories and for blind recording. Any submaster can be selected to 'inhibit', thus mastering those channels under its control. Memories are transferred individually to each submaster or gang loaded to a group of submaster faders at the touch of a single button.

The computer industry's new standard **3½ inch hard cased floppy disc** is incorporated in the main control panel, and library copies of Gemini's memory are simply actioned from the memory keypad at any time, without stopping the show.

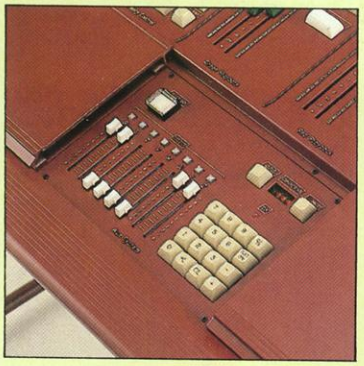
Gemini's advanced multiplexing technique incorporates the facility to **record from a manual fader desk** connected to the system.

The **full colour VDU** displays all channels simultaneously with percentage intensity including more detailed information about the memories and channels under control; progress of fades and contents of the submasters. Various colours are employed to improve the clarity of the information. Optional screens can be interrogated at any time for details of memory contents, dimmer to channel patches and submaster grouping.

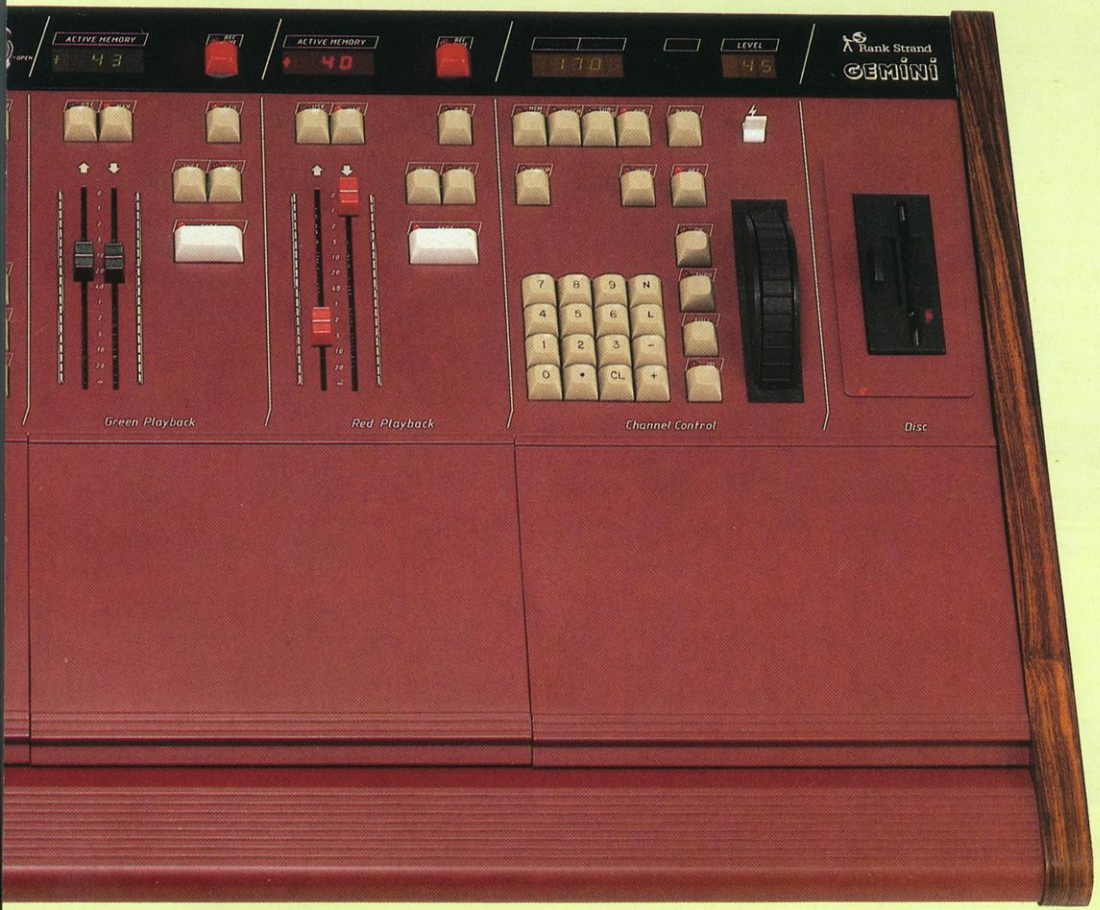
A unique **designer created effects** system is the programming breakthrough so eagerly awaited. No longer are programmable effects limited to chases and flashes, however ingenious. The only limiting factor is the designer's imagination. Define the memory of which the effect is to be part ... programme the effect to start automatically on cue, or wait for a manual command ... decide on the type of effect .... which channels and memories are to take part ... the duration of each part of the effect – will it stop automatically or continue until a manual command halts the cycle? The opportunities are endless. The rapid set-up procedure using a friendly, prompting VDU display and simple data entry keypad provides professional designers in every area of entertainment lighting with new found creative freedom.



Exposed: programmable effects . . . .



. . . . and electronic backup.




The separately powered, integral **electronic backup system** is always ready for use beneath Gemini's removable shelf. Eight groups of dimmers are under control of separate faders, and ten presets of dimmer groups can be programmed via an auxiliary keypad, or transferred from Gemini's output, for instant transfer to the faders when required.

Included in Gemini's system design are the **peripheral interfaces** to riggers controls, wire-link or infra-red designers controls and readily available hard-copy printers.

# GEMINI Technical Specification

**Installation:**
Gemini may be used on a table top, recessed into a flat desk surface or fitted to its optional tubular frame which incorporates a VDU support arm to form a complete free-standing console.

**Mains supply:**
220–240V or optionally 100–120V 50–60Hz. Electronic backup may be separately powered or connected to Gemini's auxiliary mains output.

**Channel Size:**
384 dimmers proportionally patched to 180 channels.

**Output:**
Multiplexed analogue signal with composite clock to Rank Strand Standard D54.

**Multiplex Compatability:**
Other products using the D54 standard are Tempus M24 and M24FX memory controls, M24 demultiplex units and the multiplexed versions of Permus and ACT 6 dimmers. Demultiplex interfaces are available to special order for most modern dimmers, with control voltages of OV (off) to −15V or +15V (full) via resistor and diode, and a max. current of 3mA.

Optionally, Gemini is compatible with Strand Century Inc. CD 80 multiplex standard.

**VDU:**
Colour RGB output, sync on green, 1 Volt composite video, using BNC 75 ohm output connectors.

**Printer:**
RS232 9600 Baud.

**Remote Controls:**
The Riggers' Control provides channel selection with up and down control via a wire link.

The Designers' Control is a comprehensive infra red or wire link hand held control for balancing channel levels, recording, recalling and fading memories.

Customised remote control is optionally available for AV presentations with remote control of the green playback fade action and the effects 'go' or 'stop' keys.

**Processors:**
Motorola 68B09(3), Texas TMS 320(1).

**Fade Processing:**
16 bit resolved to 8 bits.

**Memory:**
8 bit level recording using 32K CMOS static ram, battery maintained for at least one month without power. Memory management software ensures the optimum use is made of the available capacity.

**Library storage:**
Using integral 3½" micro floppy disc, single density, soft sectored, rigid case. The disc may be read or written at anytime without affecting the system performance.

**Special Controls:**
Gemini includes a spare blank panel within the covered auxiliary control panel area for the addition of customised controls.

**Operating Environment:**
0°C to 35°C, 10% to 90% maximum relative humidity (non-condensing) Office level cleanliness.


All dimensions are in millimetres.

Printed in England RS10M76884

# GEMINI Operational Specification

**Channel Control**
The intensities of any combination of individual channels, groups of channels and memories are controlled either continuously by the fader wheel, or to within 1% of full by the keypad. Channel control may be directed to the output or to any of the submaster stores. Panel indicators display the channel and memory number used, along with its percentage intensity. Two separate buttons set any channels selected to either full, or to a reference level. Mistaken modifications are quickly rectified by the 'Return' button, and lamps can be instantly identified using the flash facility.

The latest-action-takes-precedence channel control feature ensures that the operator can instantly capture any channel under control of a playback fade without referring to the active playback.

**Patching**
Gemini is capable of patching any of the maximum of 384 dimmers to its 180 control channels, with dimmers at various relative levels patched to the same channel.

**Playbacks**
Two identical sets of playback controls are provided. Any memory selected is transferred to the output either manually or automatically when the large, heavy-pressure 'Fade' button is pressed. Automatic fade time is set on the faders – from 0.5 sec. to twenty minutes – which can be recorded with the memory. Any fade can be instantly halted, reversed or manually overriden.

Each playback can perform different sequences of memories, and the type of fade – either crossfade, movefade or dimfade – may be recorded to enable the rapid reproduction of up to 24 simultaneous fades. With the addition of recorded wait times, automatic, multipart, processional fades are easily accomplished.
An LED column, inset beside each playback fader, displays the progress of a fade in the colour identified with the playback.

**Memory Control**
Any memory number can be used in the range 0.1 to 999.9. The memory capacity is defined by the amount of information recorded, and so the percentage of memory used is constantly available on the VDU display. Any memory information may be previewed before use. Disc transfers and printer operations are directed by the memory control and can be selected at any time without affecting the main operation of Gemini.

**Output Master**
The output of Gemini is controlled by a master fader and blackout switch, and a push button is provided to transfer any memory, directly to the output. The main record push forms part of the output master, and if recording is attempted using a previously used number, a warning alarm will sound unless the button is pressed twice, or a new number is used.

**Submasters**
Eight Submasters, and an overall master fader, are provided to control memories and channels for the manual performance of cues, or as 'building blocks' to balance acting areas or cyclorama colours prior to recording, or for modifying memories blind. The highest level of any common channel present in a collection of active submasters has control of the dimmers concerned.

Memories may be transferred to individual submasters, and a sequential group of memories can be distributed across all submasters at the press of a single button.

Any Submaster can be used as an inhibit fader to take overall control of any number of channels.

**Backup**
An independently powered electronic patch system records ten presets of eight groups of dimmers as a backup provision. The presets record the dimmer numbers allocated to each of the eight group faders, which set the output levels of all dimmers under control.

**VDU**
A full colour VDU screen shows the output levels, the contents of any selected submaster, the dimmer to channel patch and list of memories recorded and is also used to display the contents of any selected memory. If the programmable effects unit is installed, the VDU assists in the setting up and recording of all effect events.

**Effects**
Fully programmable effects are provided. The effects may be linked to the start of a fade, and all parameters of the event can be defined including start and stop conditions, type of effect, and the memories and channels which take part in each step of the effect.

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