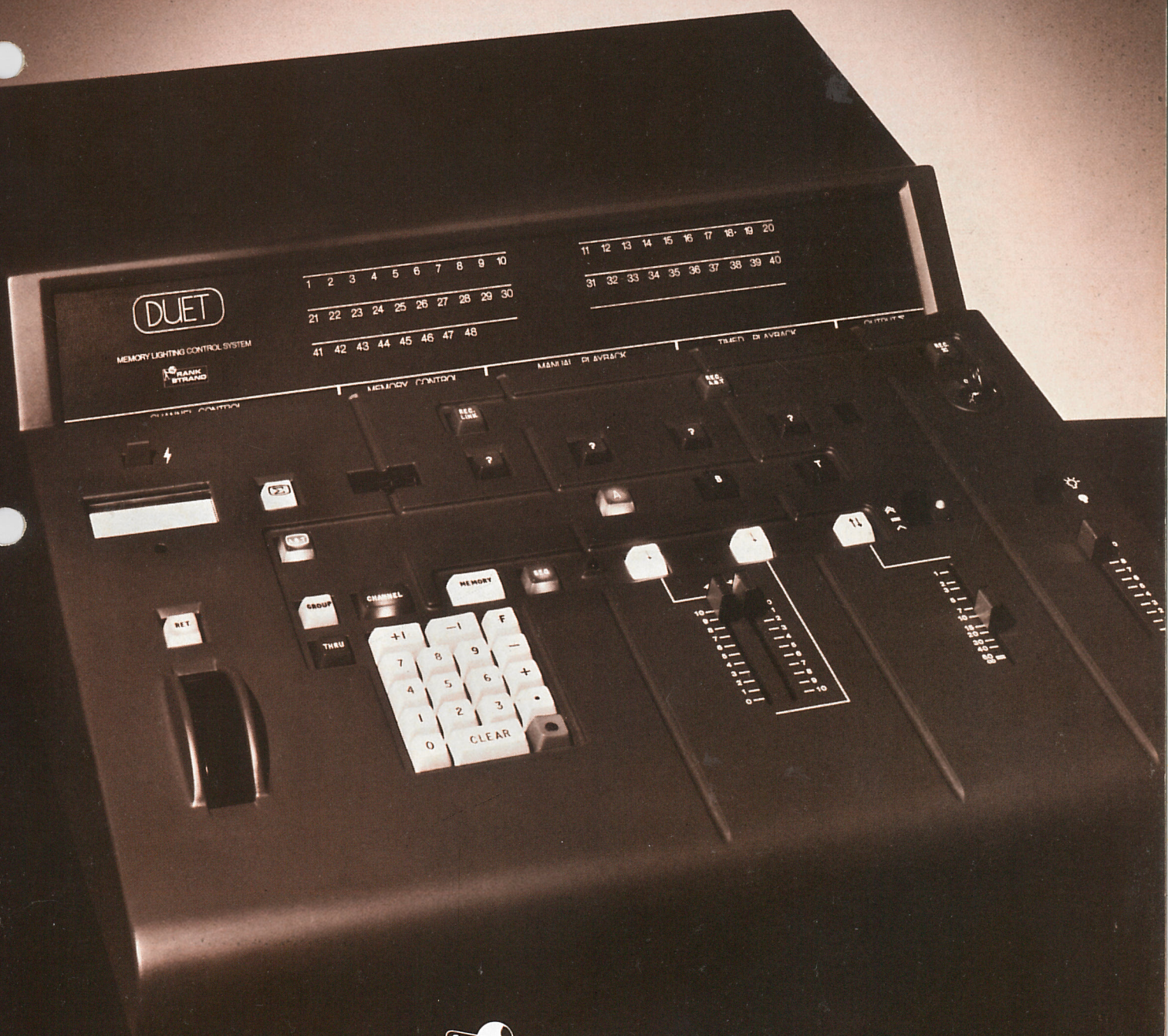


INTRODUCING DUET

RANK STRAND'S NEW, PACKAGED
MEMORY LIGHTING CONTROL SYSTEM



A PLAYBACK STORE SELECT PUSHES A B T

These select which one of the three playback stores is to be controlled by the Channel Control facilities, both for initial composition and for any subsequent modifications necessary to suit the needs of the moment. Providing the A B T display select push adjacent to the meter is lit, the optional LED mimic or VDU mimic will display the content of the selected store. Any store can be selected at any time without changing the lighting in any way.

All intensity levels are achieved by combining the outputs from one or more of the A, B or T playback stores. A and B are either end of a manually operated crossfader, the output of which is further combined on a highest-takes-precedence basis with the output from the Timed playback.

It is the intensity levels present in any of these playback stores which is eventually recorded and when a Memory number is recalled the intensity level content is subsequently transferred to any one of these stores.

When the Console is first switched-on a logical starting state is automatically set-up – Channel mode and the A playback store selected. The twin-lever crossfader should be set to top, A, position, the master fader at the extreme right hand side should also be set to full (10 on the scale) and the master blackout switch mounted immediately above the fader, should be in the top position.

B CHANNEL/MEMORY

These mode switches determine whether the keyboard is to select Channel numbers or Memory numbers, and also changes the numeric display to show the last-selected Channel or Memory number.

Pressing Memory cancels Channel mode, and vice-versa, but the last-selected number, whether Channel or Memory, remains selected and available for use.

C GROUP

When Channel mode is selected, and then Group, the keyboard can select any Memory number and all channels that are above zero in that particular Memory will be selected, as a group, for Channel control.

D KEYBOARD 0-9 CLEAR +1 -1 + -

The keyboard selects the Channel number when in the Channel mode, and the Memory number when the Memory mode is selected. The digits keyed appear in the numerical display above for verification. If a non-valid Channel or Memory number is selected, beyond the fitted capacity, the numerical display changes to flashing decimal points.

When CLEAR is pressed the selection is cancelled but this is also automatically invoked when a new number selection is entered, provided the previous number has been used.

+1 and -1 increment or decrement the selected Channel/Memory number by 1, but + or - used prior to entering a new number will clear the numerical display only, and substitute a + or - sign. The number selected subsequently will be added to, or subtracted from, the previously selected number(s) for simultaneous control or routing.

E THRU (alternative to Set Level)

In Channel mode a consecutive sequence of channel numbers can be selected for control simultaneously by entering the lowest number, pressing THRU, then entering the highest number of the sequence.

F FADER WHEEL

This increases or decreases, the existing intensity level(s) of selected channel(s), or Groups of channels, according to the amount, the rate, and the direction of movement applied. One full quadrant movement of the wheel will change the level from zero to full. Movement beyond full, or below zero, is ignored, but immediate control is regained when the fader wheel is reversed. If more than one Channel is controlled, then the relative balance of the Channels is maintained as they are raised or lowered, until one or more reach full or zero.

G KEYBOARD @ · F + -

When the @ (at) key is pressed this changes the response of the keyboard so that the next digit, or F, entered sets the intensity of the selected channel(s) to 0 to 90%, or Full. More precise levels are available by subsequently pressing · (decimal point) and then another digit. If the second number is not preceded by · then this will be interpreted as the start of another channel number selection.

While @ (at) is invoked the + and - keys used, prior to a digit key, increase or decrease the existing intensity of selected channels by a keyed-in percentage.

H FLASH

This sprung-centre switch changes selected channels to full light when pressed upwards, or to zero downwards.

I METER (Σ ABT)

The meter displays the intensity level of the last-selected channel. If the Σ push is illuminated the level shown is that of the output of the system, but if the alternate ABT push is lit then the level is that of the selected A, B or T Playback store.

Simultaneously these two pushes determine the source of the optional above-zero LED mimic, or the more detailed mimic of the optional Visual Display Unit.

J RETURN

This push lights as soon as the intensity levels of one or more Channels are changed from the levels they were at when they were selected. If the fader wheel is reversed until the push is extinguished, starting levels are restored. Whenever the push is pressed starting levels are restored immediately.

K SET LEVEL (alternative to Thru)

When first pressed this push switch-changes the selected channel to a common reference level (initially 70%) and the push is illuminated. If the push is then pressed again the channel switches to zero and the push is extinguished. If the channel level is changed whilst the push is illuminated that then becomes the future common reference level.

L A AND B ↕ PUSHES

Either of these transfer the intensity level content of the selected Memory number (whether displayed or not in the numerical indicator) to the A or the B playback stores. The selected Memory replaces the existing content unless the Memory number has been prefixed with a + or - on the keyboard. To obtain an empty store (wipe) the transfer push is pressed after CLEAR has been selected, in Memory mode, on the keyboard.

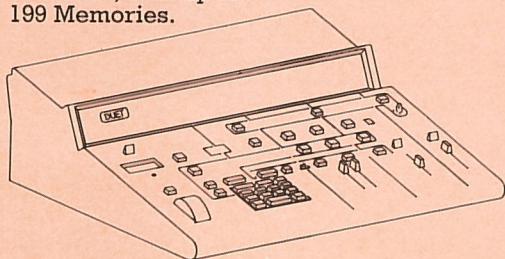
M SEQUENCE

While illuminated this facility automatically advances the Memory number to the next, each time a Memory number has been transferred to

THE DUET SYSTEM

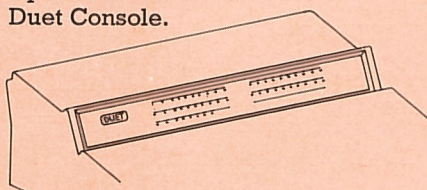
DUET Console

The heart of the system, from 48 up to 120 Channels, with up to 199 Memories.



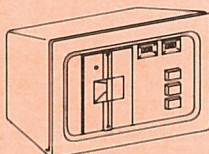
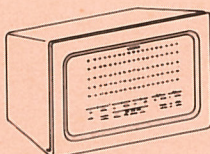
LED Mimic

Optional addition to the Duet Console.



VDU Mimic Unit

Free-standing option for detailed, alpha-numeric mimic display.

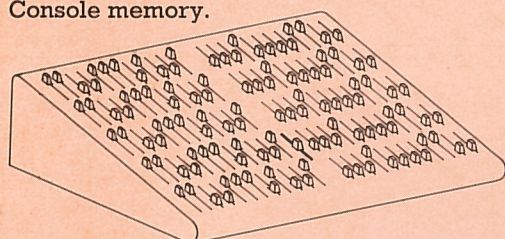


FLOPPY DISC Unit

Free-standing option for bulk storage of Memories.

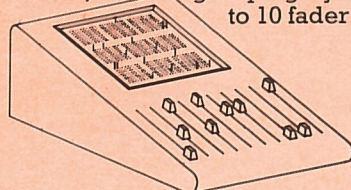
2-PRESET Desk

Optional unit for direct 2-preset fader lever control, output can be recorded on the Duet Console memory.



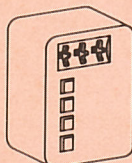
10-GROUP PIN PATCH Desk

Optional desk providing flexible pile-on, or inhibit, grouping by a pin patch matrix to 10 fader levers.



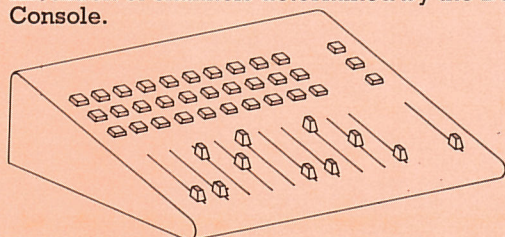
RIGGER'S Control

Optional on/off, raise/dim, hand-held, remote control of any control channel.



10-SUBMASTER GROUP Desk

Optional unit with 10 sub-masters with the allocation of channels determined by the Duet Console.



INTRODUCING DUET

DUET is quite different to all previous memory controls – apart from its much lower price range and its good looks, there are far fewer pushes and knobs, but those there are in the contoured desk, provide generous fundamental facilities and, as soon as needed, some very advanced ones indeed. That's another difference – DUET can be operated on at least two different planes, or even as simply as pressing one and the same push, on cue, for each pre-recorded lighting change. But Rank Strand know, from their wide experience, that after five or so productions when the convenience, time-saving and novelty of instant plotting and recall has been assimilated, the imagination and demands of the lighting designer will be extended and that then the more sophisticated facilities, already built-in, will prove invaluable.

DUET is a complete system with a wide variety of matching peripheral units to meet the particular needs, preferences, and the means, of different users. The heart of all of the many possible system formats is the table-top, DUET Console which, by itself, is a complete and self-contained memory lighting control. The add-in options and peripheral units extend, not alter, the fundamental layout, philosophy and facilities of the DUET Console. For example a mimic display is optional, because on a small scale installation the operator can assimilate the contribution of each control channel to the whole by direct view.



However, as an alternative to even a simple above-zero LED mimic, there is a free-standing Visual Display Unit providing alpha-numeric mimic of the percentage intensity of every control channel and the content and state of all master functions.

The number of channels controlled can be varied in multiples of 12, up to a maximum of 120, similarly the number of fast-access memories built-in, is also variable up to 199. Both the number of channels and the number of memories can be extended, on-site, by simply plugging-in extra printed circuit cards. For bulk memory storage and recall during a performance, or for library storage for repertoire, a free-standing Floppy Disc Unit can be added.

For those who prefer fader lever control of every channel, a matching 2-preset desk with a dipless crossfader is offered; the output of this can be recorded and reproduced on the DUET Console. Another option is a pin-patch matrix for pile-on, or inhibit, grouping to ten fader levers. Where sub-mastering is required a desk with 10-submasters is available using the memory of the DUET Console to allocate channels to sub-masters. There's even a hand-held remote control for basic on/off, raise/dim, control for rigging and setting luminaires.

In fact advanced electronics and micro-processor techniques, plus the essential lighting know-how in Rank Strand, combine to make DUET the definitive memory control for all small to medium size stage and studio lighting needs.



Playback A, B or T by the appropriate ∇ push. SEquence also automatically transfers the next required Memory number to the inactive Playback on completion of a manual crossfade.

N MANUAL CROSSFADER

This twin-lever crossfader effects a dipless crossfade between the intensity level content of Playback A and that in Playback B, and vice-versa. As the left-hand fader lever controls only those channels *increasing* in intensity, and the other those *decreasing* in intensity, crossfades can be easily profiled.

O \updownarrow PUSH

In effect this push transfers (but does not immediately replace) the content of the selected Memory number to the T Playback *and* also starts a time crossfade from the current intensity levels in the T Playback to the levels in the new Memory number. If, before completion of the crossfade, the push is pressed again a new fade will start from that point to the content of the latest Memory number.

P TIMED FADE CONTROLS

The fader calibrated 1 to 60 and infinity (∞), and the switch above to choose seconds or minutes, determine the time taken to complete the crossfade. The progress towards completion is shown on a numerical display which counts from 0 (start) to 9 and then blanks on completion. The fade can always be overridden, or stopped by moving the time fader to the bottom. When the Recorded Fade Time option is fitted a centre position of the switch = ensures that the timing is that recorded with the Memory number.

Q RECORD PUSHES

These are inoperative unless a valid Memory number has been selected and unless the key is inserted in the keyswitch and turned to the I position. Memories can be recalled from the fast, random-access memory without inserting the key. The REC A.B.T. push records the intensity level content of the selected A, B or T store. All intensity levels from zero to full light are recorded for each valid Channel number.

The REC Σ push records the total output of the Console which may be a combination of the Manual Playback in mid-crossfade, and the Timed Playback.

Recording is permanent for at least one month without any power input.

The recording process also includes the sequence link number and the time of the fade when these options are fitted.

R MEMORY A B T ? VIEW PUSHES

While any of these View Pushes is pressed the numerical display will change to show the last Memory number viewed or transferred into the A, B or T Playback. At the same time the optional LED mimic will change to show the above-zero content of that Memory or Playback, or the optional VDU mimic will change to show the content in precise detail.

S MASTER FADER

This provides proportional mastering of all Channels. Proportionally-reduced output can be recorded by the RECord Σ push.

T BLACKOUT SWITCH

When moved to the bottom position this switch blacks-out all Channels.

DUET LED MIMIC

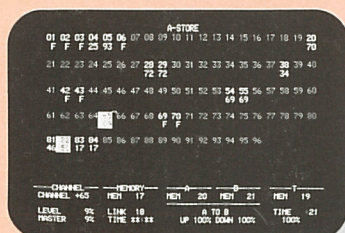
This option can be built-in to the DUET Console and consists of a legend for every Channel with a red LED indicator below, which lights if the Channel is above-zero intensity in the selected Output, A, B or T Playback store. Channel numbers selected and under channel control will blink.

DUET VDU MIMIC

This optional Visual Display Unit is free-standing and requires only a single co-axial cable connection to the DUET Console, which needs to be fitted with an extra plug-in, printed circuit card for the driving electronics.

The top line of the screen describes the source of the Channel mimic information - Output, A, B or T Playback stores. Below, each row contains 20 Channel numbers. All valid Channel numbers are displayed at half brilliance except when the intensity level of any Channel is above zero when the number changes to full brilliance and the percentage level (01-97, F) is shown at full brilliance immediately below. Channels selected and under channel control are displayed as a reversed black on white image.

The lower part of the screen is partitioned similar to the layout of the Duet Console.



The Channel section shows the last-selected Channel number, its intensity level, and a display of Master movement showing percentage change.

The Memory section shows the selected Memory number, and if the options are fitted, the recorded Sequence Link number and the recorded Time in minutes or seconds. The Manual Playback section displays the latest Memory numbers transferred to both the A and B Playback stores, the direction of the crossfade, A to B or B to A, and the percentage positions of the twin-lever crossfader. The Timed Playback section shows the latest Memory number transferred, the time setting of the fade in minutes/seconds, and the percentage progress of the fade. Any non-valid Channel or Memory numbers flash.

DUET FLOPPY DISC STORE

This optional, free-standing unit matches the size and style of the VDU Mimic and connects to the Duet Console by a small cable to an extra rear connector panel and internal printed circuit board.

The Floppy Disc Store provides a means of storing the contents of the Duet Console memory onto a small, flexible magnetic disc thus allowing the fast-access CMOS memory of the Duet Console to be used for new recordings. Discs can be used to re-program the Duet Console memory whenever, and as often as required.



DUET TECHNICAL SPECIFICATION

Power Input

110-120v/220-240v, 50/60 Hz

Dimmer Output

-10v via 10K ohm & Silicon diode = Full
0v via 10K ohm & Silicon diode = Off
Connection via RTG 18/26 (per 24 channels)
to DIN 41618

Control Channels

In increments of 12, from 48 to 120 maximum

Environment

Operating 0°C to 35°C 10% to 90% maximum relative humidity (non-condensing)

Processor

M6800, 8-bit data, 16-bit address

Cycle Time

Less than 35 milliseconds

Fade Processing Accuracy

8-bit (256 step)

Recording Accuracy

6-bit (64 step), 8-bit to special order

Memory

CMOS semi-conductor, battery maintained for minimum of a month, maximum recharge time 12 hours

Memory Capacity

1 to 6 increments of 4096 stored channels (Channel x Memories), with maximum of 199. Optional Recorded Fade Time and Sequence are equivalent to four stored channels

Size

280mm high x 560mm wide x 710mm depth.

VDU Mimic Output (optional)

1v positive composite video 625/525 line, 50/60 Hz field. Connection via 75 ohm BNC socket

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The Company reserve the right to make any variation in design or construction to the equipment specified.

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