

The processor knows that intensity can be a LTP or HTP level, combined with other levels where necessary, then mastered, and recorded as a state. Similarly it knows that an attribute is LTP only, it is not mastered, and is recorded as a move (or tracking) cue, recording only the changes since the last change. The control of attributes is integrated within the software. Most importantly you do not consume control channels if attributes are needed; they are available in addition, to a maximum of 250 with GeniusPlus or Lightpalette 350 channel software, or 500 for GeniusPlus or Lightpalette 1500 software. Hence in the new concept, describing a console in terms of its channel capacity is an obsolete idea. It is how many intensity channels, how many attributes, and how they work together that determines the suitability of a console now.

THE HARDWARE

The Strand 430, 530 and 550 consoles are based on proprietary PC components, with a PC motherboard, power supply and hard disk at the centre of the system. The Strand 430 has a 486 DX2 processor hence the "4", and controls up to 350 dimming channels and up to 150 attributes. The "30" refers to 30 submasters. For more channels, up to 1500 and 500 attributes, the Strand 530 has a Pentium 90 processor and 30 submasters, and the Strand 550 has a Pentium 90 and 54 submasters.

A basic numbering system of identification has been adopted for the hardware in place of names; firstly because it is now the software which defines the characteristics and capabilities of the console, and secondly, being based on PC hardware, it means that we can integrate the latest components, and radically change the capabilities of the machine without introducing a new name each time. In fact, three consoles have been made obsolete even before they were put into production! However, this goes to show that the concept of separating hardware and software has another benefit - that Strand's users can keep up to date without too much complication or expense.

A brief journey inside the console will show the motherboard, in the middle of the chassis, powered by a standard PC power supply, a hard disk drive on shock mounts, standard PC interface cards for VDUs, and serial ports (with capacity for future expansion), plus the Strand designed and manufactured pcbs for control panel interfaces, displays, multiplex inputs/outputs etc.

One of the most important factors for the operator is the control surface, and here Strand has combined thirty years of experience in designing memory systems in both the UK and the USA, to produce the most flexible and ergonomic arrangement for a multi-purpose control system of the



Strand 430 Lighting Console.

1990's. The two-tier console has all the controls within easy reach for the operator, with the main channel control facilities grouped together in the lower right hand section, the playbacks in the centre, with half the total complement of submasters to the left. On the top tier, there are the remaining submasters, floppy disk drive, control and display routing switches, grand master controls, power switch (suitably shielded) and seven user-programmable buttons.

Between the two tiers, and inclined to optimise the viewing angle, are three large graphics LCD displays. These provide local mimic displays of the keyboard actions, plus they provide labels for the context-sensitive keys immediately beneath the LCDs, and labels for six of the submasters. Context-sensitive keys are push buttons with a variety of uses, depending on the current situation. For example, if you type a channel number and "@" on the keyboard, the LCD above offers some short cuts if you press the adjacent "soft" context-sensitive key; +5%, -5%, FULL, OFF and so on. Each primary action of the console may include a wide range of control options, some of which are available as labelled keys, some as "soft" keys.

The channel control section differs from many

other lighting consoles in that to the right of the channel intensity wheel are the Attribute controls. These are used in conjunction with Tracker software, when the entry of channel number not only gives access to the dimmer intensity, but the pan and tilt functions are automatically connected to the tracker wheel, the colour function appears on the top wheel of the four flat encoder wheels, and the other three wheels can be used to scroll through the remaining attributes which are relevant to that luminaire number.

THE CONCEPT

As Microsoft Word converts your PC into a word processor, GeniusPlus™ or Lightpalette® turns the Strand 430/530/550 into a

lighting console. GeniusPlus is based on Genius for GSX & LBX, but expanded to give more channels and more direct "hands-on" features, and Lightpalette is based on the world-famous Lightpalette 90 operating system.

Both Genius Plus and Lightpalette, which start at 100 channels, can be increased in 50 or 200 channel blocks to 350 channels for the Strand 430, and to 1500 channels for the Strand 530 and 550. The number of attributes available follows in scale to the channel capacity, to a maximum of 250 for 350 channels, and 500 attributes for 1500 channels. In addition, there are application programs to provide extra features.

The equivalent of Kaleidoscope, the special effects package for GSX and LBX, is built into GeniusPlus and Lightpalette. The optional Communiqué-Plus™ is the enhanced, expanded version of Communiqué for GSX/LBX, offering connectivity to other computers through the serial ports, MIDI interfaces, and remote control features. Networker™ provides the software and interface card for connecting the console to ShowNet™, Strand's Ethernet network, and Tracker™ provides the added facilities for controlling DMX colour scrollers and automated lights.

THE SETUP SCREEN

With such a comprehensive lighting console as the Strand 430 range, it defies concise description to explain each feature in depth, but you can understand some of the power of the software by looking at the console's setup screen.

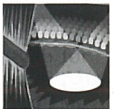
By pressing the 'setup' routing switch, you have access to the default settings and user options of

the console. This is an important feature in the philosophy of the software, which truly is designed for 'user preference'. In addition to the expected system defaults, fade times, channel levels and so on, there are two levels of preference: the system preferences, and the operator preferences. With the system preference, it is possible to switch the cue list display to show the most relevant information; playbacks only, or with submasters, or effects. Should the playback facilities have a single playback only, dual playbacks, and how should they interact? On a highest or latest takes precedence basis? The decision does not change the memory, or the recorded cues, it simply allows the operator to 'tune' the facilities for a particular show.

The customer preferences have been developed from a huge input of requests and requirements from our users all over the world. Strand stands alone in its development of operational philosophies for control systems. In Europe, the adoption of the Galaxy, which was a natural development from the Richard Pilbrow specified Lightboard consoles of the mid 1970's, created a generation of 'direct action' console operators who expected to type in channel 6 @ 5 and see channel six at half immediately. However, the Strand Lightpalette consoles in North America, and equally successful throughout the world, had developed in response to a Broadway requirement for 'command line' working, where the instruction was entered by the operator, and checked before being actioned. In that environment, channel 6 @ 5 * would be used, where * was the 'execute' instruction. For the Lightpalette operator, instructions were entered as they would be verbalised, "Record this lighting in Cue 10 with a Time of 5 seconds, execute", but this would be turned round in direct action language to a cryptic "This lighting, Cue 10, time 5 seconds, record", and when the record button is pressed, the action happens.

Thus, it is possible, through the setup procedure to decide if you want to work either in 'direct action' or 'command line' style which affects not only the way channel levels are input, but also the syntax for recording, and entering all other functional instructions.

The operator setup preferences are available in both the GeniusPlus and Lightpalette versions of operating software. Lightpalette for the Strand 430 range will offer more than a default set of GeniusPlus "command line" options, however, as it will also include additional screen formats and features specific to the Lightpalette style of working.



* Lightpalette Software will be available during 1996. Intel & Pentium are registered trademarks of Intel Corporation.



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