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SCROLLING COLOUR FROM THE ROCKY MOUNTAINS

John Offord visits Wybron Inc at Colorado Springs



Wybron HQ in Colorado Springs with a Rocky Mountain backdrop and Pike's Peak (14,109 ft).

Keny Whitright, president of Wybron, will have his name put down in the entertainment technology history books of the future as the person who introduced the scrolling gel colour changer to our industry. A man of deliberate gait and ready smile, determined intention but easy manner, he would, however, be the last person to emphasise the point.

Keny would also be the first to admit that there's never anything much in theatre that's really, really new. Putting a colour medium in front of a light source is almost as old as the use of light itself, and what the Chinese hadn't done centuries ago those marvellous and dangerous-living Victorian technical impresarios certainly did on the stages of London's huge theatrical emporiums - right through to the ultimate effect of catastrophic fires that extinguished the buildings themselves. A quick research through my books on Victorian theatrical activity makes me shiver at the thought of so much flammable material being hoisted in front of ranges of open gas jets or circulated around oil-lit cylinders.

But back to our age. In 1980 Keny Whitright brought out a product, eventually called ColorMax, that put semaphore colour changers



ColorMax: a world first.

almost clean out of any future reckoning, at the same time ushering in a niche product that has burgeoned over the past few years into a standard piece in the lighting equipment repertoire.

Keny's background was in sound with

Showco of Dallas where he spent eight formative years in the business. He left to do a mix of industry odd jobs and ended up working in a club. "It was a Las Vegas style lounge act place, and they'd hired me to do the lights," he explained. "But the only reason they had hired me to do the lights was because they knew I'd fix the sound system. To this day I still know very little about lights!"

Every night during the four hour run of the show he set to thinking about how things could be better organised on the technical side. "At Showco we'd worked on a number of ideas for colour changers and so I knew about a bunch of things that didn't work. I came up with the idea that everything seemed to revolve around a gel frame, so I figured that this was the problem part of the equation. What was clearly needed was something to support the gel and to make it move. My first idea was a continuous band of gel around the lantern but it obviously wasn't feasible and it eventually came down to a scrolling colour changer as a front-end attachment.

"I was surprised when I went to do a patent search that back in the twenties there had been a similar device that had been tried on



Keny Whitright with prototypes at LDI Orlando in 1990: ColorMax (left) and Coloram.



November 1991: Keny and Coloram (left) with Bob Gordón holding the original inner workings of the first-ever ColorMax.

fluorescent street lighting units. However, that was the germ of the idea and the opportunity to do it came when I formed a company with partner Mike Brown to manufacture outdoor stages and during the winters I had time to develop the unit."

The first six units were sold to Obie Lighting of California who used them for a show and then put them into their production stock. Soon after, Keny and Mike each went their own way. "Mike didn't want to go into this kind of business whereas I thought it might be kind of exciting," continued Keny. "I kept the name Wybron (from Whitright and Brown) and then I showed the units to Joe Tawil of The Great American Market. Joe came up with the name ColorMax and GAM started to market them. In those days Great American Market was a sort of 'boutique' lighting shop where you could buy unusual and unique equipment - certainly at that time the colour changer was also an unusual piece of equipment."

ColorMax developed over the next six years across three models and various improvements and around 1,800 units were sold over the period. "Joe Tawil then wanted to see a breakthrough in price because of competition," said Keny, "and I went back to work and came up with a much simpler idea which became ColorWiz. About four thousand of these were manufactured over the next three or four years. What really opened my eyes was that by cutting the price in half we did more than double the business. It was a valuable lesson."

The business had by now moved to Colorado Springs from Dallas (1988) and the link with Great American Market was concluded. For a year or so Keny used a manufacturer's representative network to sell his products. "Sales were OK, but not great," he admitted.

Bob Gordon, now vice-president of sales, soon came onto the scene and dramatic developments started to take shape. Formerly of Great American Market and prior to that having spent many years in on-the-road production, Bob had stacks of experience and knowledge to back up his formidable energy, and he took off selling the latest Wybron product, the now-famous Scroller, which had its debut in 1988. The sales target for the first year was achieved within just seven months and things haven't looked back since. The company is housed in a modern double unit space that is



Price breakthrough: Keny Whitright with the ColorWiz.



Showing the Scroller range at LDI 91, Reno, Nevada.

tucked dramatically into the foothills of the Rocky Mountains. An ideal setting for high-tech activity.

So, before going on to look at Wybron's current and future products and prospects, how has the basic scroller developed over the years? "ColorMax started out as a micro-processor controlled colour changer with a stepper motor engine," explained Keny. "It had the advantage of being programmable for frame size and so on. Unfortunately it operated on what's called 'open loop' - there was no feed-back to tell you if the gel was in the right place - and the early versions got 'lost' rather easily. We then introduced an optical sensor with tags on each frame. The original design was an indexing unit so it would go from one frame to the next. The speed was variable, but it would always 'frame-up'."

"The breakthrough in price with ColorWiz

came from throwing the microprocessor away and making it a very simple analogue servo, which didn't require any tags and it didn't have to be initialised when you powered it up. There was a lot of advantage to that. ColorWiz proved to be a successful product largely because it was simple, with no bells and whistles. Also, because it was an analogue system the motion was continuous and you could put the frames wherever you liked. So you could split them, have three-quarters of a frame, and so on. Also, the speed control was related to the speed of change from the lighting control board. If you used a timed crossfade you could set the speed yourself. It gave a lot more flexibility to the lighting designer.

"Scroller was an improvement over ColorWiz in that DMX input was included and certain mechanical features such as the front-end door became standard. It also generated a lot more

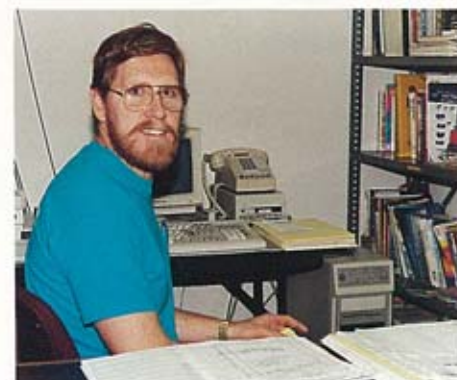
Wybron Profiles



Scott Penner: assembly manager.



Kenneth Fasen: electronics engineer.



Rich Metcalfe: operations manager.



Doug Christensen: drafting and design.



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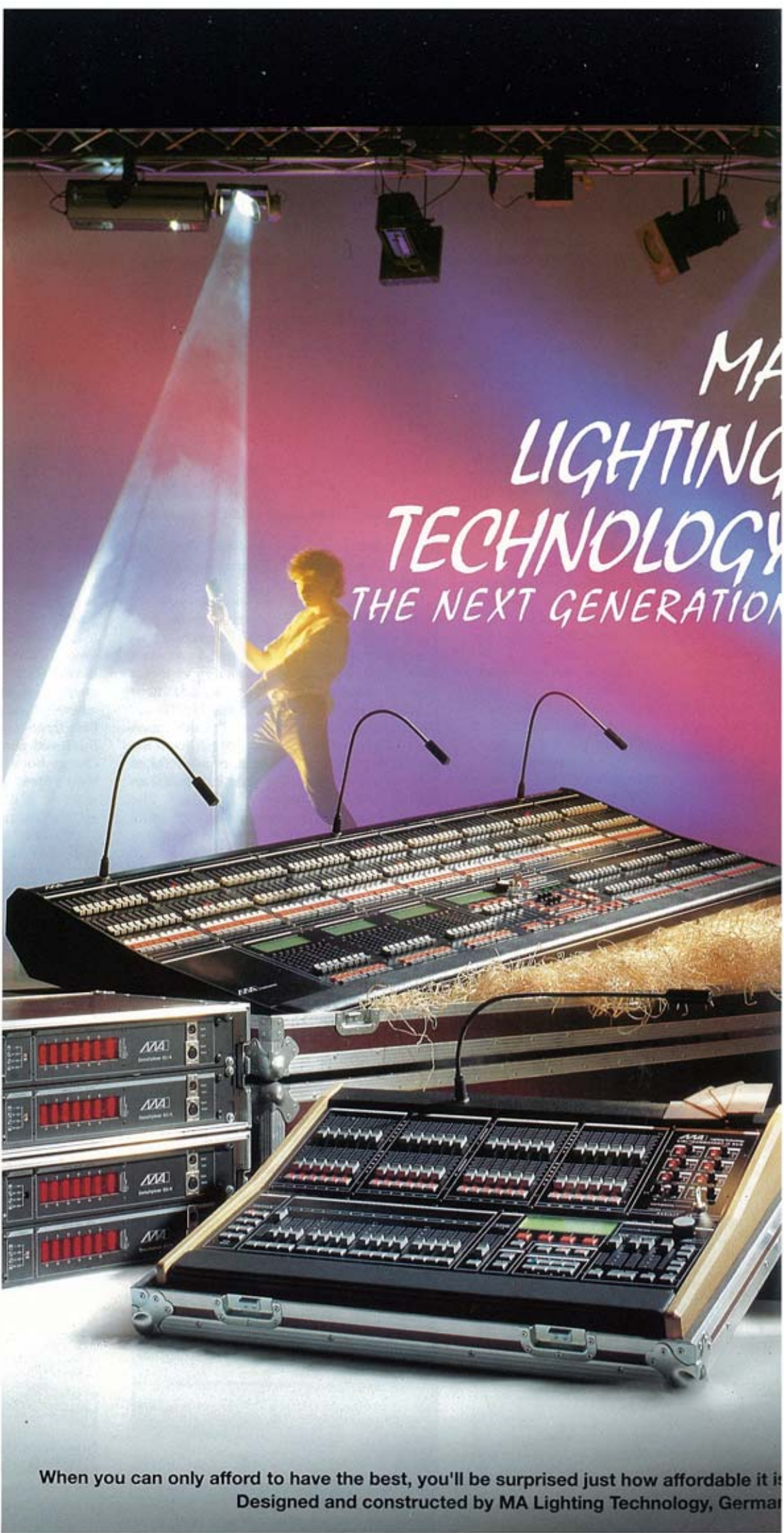
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The Scroller 7" universal colour changer: 11 colours end to end and accommodating any analogue (0-10V DC) or digital DMX512 input control signal.

models. Coloram, amazingly, goes back almost to the beginning in that we're using a microprocessor and a motor control chip and instead of a servo motor a DC motor, once again with no gears. This gives a complete lack of noise, apart from the movement of the gel itself.

"It's interesting that people have been growing up with scrolling changers just as we have. First of all they wanted them to work, and then to be faster. Now they're complaining about the noise and we're attacking that problem. I feel the Coloram unit is a good answer. It's still early days to talk about how many models there will be but I feel there'll be quite a few. There are some difficulties to overcome in scaling up this technology to larger models." Scroller and Coloram are set to boost Wybron's business massively over the next few years. "Scroller is the lower cost unit with a wider market base whereas Coloram is set up to be marketed to the professionals who command high performance and low noise all at the same time," continued Keny.

All Wybron products go through the sort of standard test procedures any self-respecting modern manufacturing facility employs. All sub-assemblies are tested before they go into a finished unit and these are then tested for performance and 'burned in' for 24 hours before a re-test, cleaning, packing and serial numbering. "The last thing we want is any infant mortality in the electronics area," commented Keny.

With thousands of changers now in the field, Keny Whitright and Bob Gordon are working hard to keep in close contact with the customer



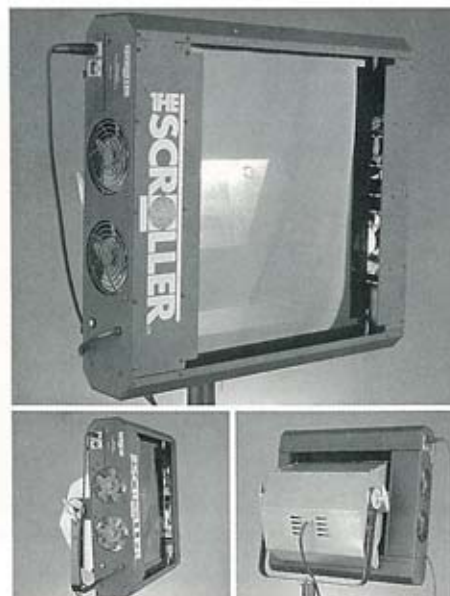
The Coloram: quiet and fast, it has a variable gel string potential of 2-32 colours of differing lengths.

and user. It's obviously useful for future sales, but there's another reason, and it's just as important. "There are some failures that occur that we can't explain but have to be looked at in terms of system problems rather than just a localised product fault," explained Keny.

"We're subject to the whims of lots of peoples' controllers and cabling and one of the topics I talked about with Steve Terry of Production Arts at the recent LDI show in Reno was that we seem to have a lot of people out in the world who are treating DMX as audio and many of our customers are susceptible to getting things wrong. It's no longer a simple matter of running one wire from your board to your dimmer rack. Hopefully there will soon be some sort of application note from USITT on the subject. If that fails then I'm going to have to write it, or get the experts to write it for me and publish it ourselves. We probably sell more DMX receivers/transmitters than anyone else in the world, just because of the nature of our individual products.

"However, right now I'm happy with the results our customers are having, but we have a commitment to making things better all the time, and if anyone calls us and asks 'why does it do this' we can treat the enquiry as a genuine learning and assistance task."

I asked Keny how this closer contact with the customer and user affected relationships with Wybron's network of dealers. "Our dealers are obviously important to us, and they are also our customers," continued Keny. "You must remember in this industry that a lot of products go direct to rental and production houses who



The Scroller 'Far Cyc' variant: a wide body colour changer with 18" x 15" aperture.

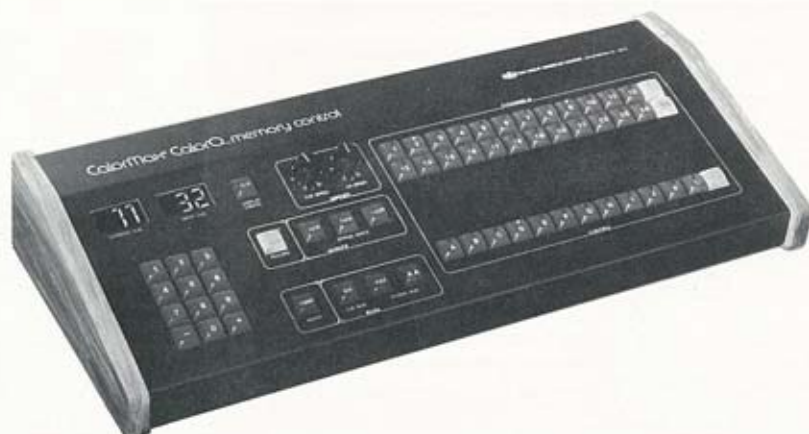
are in effect the end user. It's something strange about the lighting business in that few products are ever sold at list price. You must remember in this industry that a lot of products go direct to rental and production houses who are, in effect, the end user. We cannot physically talk to everyone so we will continue to depend on our dealer network for sales and service to their customers. Right now, outside the States, our only distribution outlets are in Canada and Asia. In Europe we can do business on a dealer basis but I think that in due course we'll have a warehouse there and have Wybron products in stock to deliver off the shelf and overnight."

Sales growth at Wybron has been enormous over the past year, with the 1991 figures topping those of 1990 by over 80 percent, and the 1992 sales figures due to double those for 1991 at the very least. Bob Gordon takes up the story: "It's scary to think you can sustain this growth rate for a long period of time, and it might in fact be unhealthy if we aren't careful with controls. However, like it or not, we've already increased our sales for 1992 over 1991 with solid orders we already hold! And all this doesn't take into account the growth we're looking for in some other market areas.

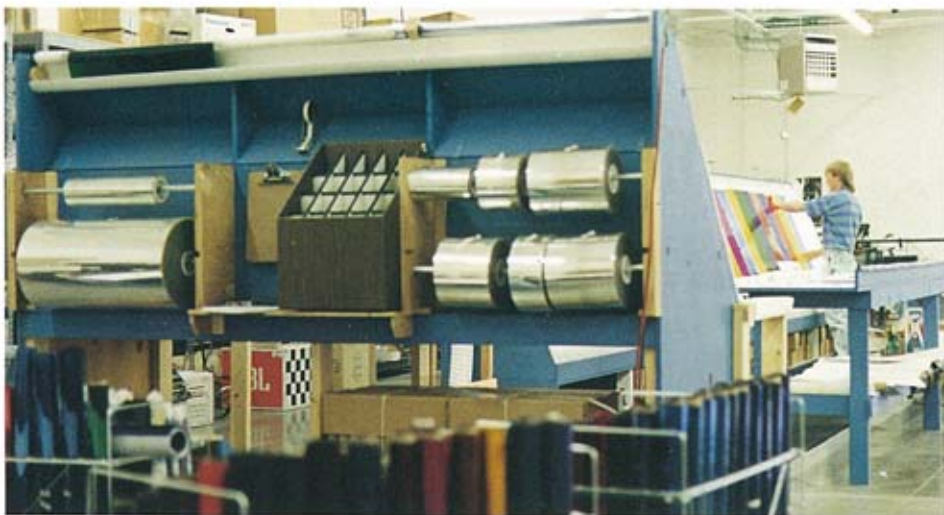
"One of our targets is to widen the application of the products and look at horizontal growth, finding other areas to sell the products into," continued Bob Gordon. "We feel that there is a broader application for colour changers - into the architectural field, interior design, shopping malls, etc. - and so far most of our enquiries into these areas make us feel confident that this is the case. In Japan, for instance, we're already involved with a product specifically designed for Karaoke bars - a small, inexpensive unit, except the sales could be 8,000 to 10,000 pieces a year. Our customer undertakes 2,000 installations every year in the field and the opportunities in this and other areas, beside the strictly theatrical, are excellent.

"We know in the theatrical area alone there is a growth pattern because the colour changer is starting to become a common tool. Once upon a time they were strictly the domain of the well-to-do rock and roll companies. That's not the case any more. Now it's within the domain of smaller theatres, high schools, and so on. All areas look like growth areas and the fact that we've doubled our business during one of the most severe recessions of our time indicates that the sky could be the limit."

Wybron have also seen a growing interest



Into history: ColorMax ColorQ memory control board.



Sneak preview: the ColorExpress gelstring assembly area.



Chae Knotts: Wybron's office manager.

from the world of film and television. Bob Gordon again: "With the Coloram's high-end application, remote-controlled television studios, for instance, are now paying increased attention to the use of scrolling colour changers. But we mustn't forget the less expensive products. We like to think we can bracket up the right product for the right market."

"The bottom line is being flexible enough. Let's face it, in this business we're all small manufacturers, and small companies tend to be able to make decisions and take action much quicker than larger ones. We therefore feel we can be very flexible and meet a broad range of needs."

With all this activity, Keny Whitright has had to take a few caps off his own head and regularly strengthen his senior team at Colorado Springs. Rich Metcalfe is operations manager and he has

the ever-expanding task of ensuring all the bits and pieces are in the right place at the right time for increased manufacture to happen on schedule. Doug Christensen looks after drafting and design and newly-appointed Kenneth Fasen is electronics engineer with Harry George as electronics technician. Out in the manufacturing area, Scott Penner is assembly manager and Dave Mayne assembly team leader. Chae Knotts is office manager.

And there's no stopping there. Another little business is growing within the walls of Wybron: ColorExpress, which is managed by Brandon James. Offering a gel-string manufacturing service, overnight if required, a special assembly unit has been custom-designed to cope with rapid output of colour strings for any type of scrolling colour changer. "We stock all the colours of the spectrum from the leading gel

manufacturers and we can furnish them for any style of colour changer, in any sequence and any length," said Keny Whitright. "It was originally only offered as a service to our own users and it helps us to stay in contact with them, but as it turned out business has expanded and we now build strings for all the different machines on the market."

Keny Whitright told me that when he first started he considered that if he could sell 10,000 colour changers then that would be about as many as the world could hold. "Eighteen months ago I did an informal census and I reckon that there were about 20,000 in use. Since then we alone have built another 4,000 or so, and based on what I know is coming up in Asia, I can't tell you how many there are going to be. However, I certainly feel an awful lot of them are going to come from Wybron!"

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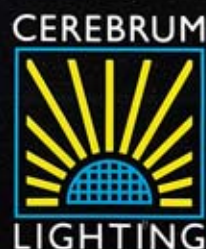
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