

# A full measure of cooperation, sweat and spirit New scope's 'recipe' no secret

By DON LEIGHTON

The designers, makers and marketers of the newly-introduced 2467 portable oscilloscope have a recipe for success. But, unlike The Colonel's, their recipe is no secret, so here it is:

## Ingredients:

- All features of Portables' 2465, Tek's best selling scope since it was introduced three years ago.
- The micro channel plate (MCP) CRT technology pioneered in Lab Instruments' 7104 that makes possible unprecedented visual writing rate (the fastest signal the user can actually see).
- More bandwidth—350 MHz at probe tip.
- More built-in computer power.
- An ambitious commitment by the CRT folks that produced a new generation MCP tube, at much lower cost.
- An extraordinary effort by the circuit board people at Forest Grove.
- A commitment to schedule that meant putting in a lot of extra hours, including working during Thanksgiving and Christmas "holidays."
- A team that from the beginning included manufacturing and engineering people from Clark County (CI) and design and marketing people in Beaverton.
- Presentations by engineering to manufacturing groups so they would understand the importance of the new product and the role that each group plays in its success.

Combine ingredients and mix with a full measure of cooperation, nervous sweat and spirited enthusiasm. Then cycle hot and cold for 24 hours, and...voila! The 2467.

At a time when digital storage is a faster growing trend in scopes, the



Rod Bristol says the 2467 portable scope—an analog instrument—will be a useful tool for designing and testing digital systems. Rod was one of the key engineers for the 2465 and is considered the prime advocate for adding microchannel plate technology to the 2465 "box"—a concept that is the basis for the 2467. The photo includes a demo kit and training package that sales engineers can share with customers.

## Customers say "unbelievable"

The 2467's main uses will be by customers in electrical engineering design and debugging, the major market for traditional oscilloscopes; scientific research in physics and energy; and field service, where visual writing performance, portability and ruggedness are needed.

Preview showings to key accounts have been "extremely positive," says Marshall Pryor (product marketing manager). "That's unbelievable," is a common reaction, Marshall said. □

2467 gives new life to traditional analog portable scopes, says Marshall Pryor (product marketing manager).

"Real time" analog scopes, such as the 2445/2465, are still most applicable in a majority of situations, Marshall said. And the 2467 offers even further advantages. "Real Time" means that the scope displays what is happening when it happens, and if you want to see it you have to be there and not blink.

The relative brightness, or visual writing speed, is what gave the 2467 the project name "Bright Eye." Its new micro channel plate CRT limits the brightness of highly repetitive signals (such as those that indicate normal operation in a circuit design or debug situation) and enhances or multiplies occasional blips so you can see them as easily as the "normal" signal. That's a very clever bit of electron manipulation.

The 2467 has extra built-in computer power for controlling the CRT and for running a new Auto Setup feature that is the second major attraction behind the brightness feature. Another new user benefit is that an operator can set up the front panel controls for a particular measurement and then, by punching a button, enter that setting

into the 2467's memory. And the 2467 can "memorize" up to 20 such settings. This makes for a much faster setup and is a real time saver in switching from one measurement to another. Or, if the user desires, the 2467 can run automatically through a pre-selected set of those memorized settings. And remember, it can do all that without an external controller or computer.

A bonus feature for customers who already own 2465's is that they can use the 2467 without additional training.

Besides giving new life to "real time" scopes, the 2467 shows a commitment to standalone, monolithic, scopes.

Marshall says they expect most 2467's to be used as standalone instruments, but they also expect the GPIB (general purpose interface bus) to be a popular option for the 2467, as it is for the 2465. Through this built-in interface option, the 2467 (as the 2465) can be connected to a controller (or some other type of computer) and other instruments to become part of a system. Some customers will like the

## 2467 takes fast lane to market

A production feature of the 2467 that will get some special attention at Tek's Engineering Forum in March is its short time to market—just 16 months from definition of product to product shipment release.

Project manager George Kolibaba credits this short time to market primarily to the involvement, commitment and cooperation from the beginning of all participating groups—engineering,

versatility offered by the GPIB.

Both the 2467 marketing folks and the editors of Electronic Design thought it would be appropriate for that magazine to make the first media announcement of the new product in its February issue. Appropriate because in 1972 the same magazine featured the introduction of the 485, Tek's fastest analog portable until the advent of the 2467.

Other articles on the 2467 are scheduled in these publications: *Electronic Design*, March '86; *Telephony*, spring '86; *Research & Development*, spring '86; and *Laser Focus*, summer '86. □

manufacturing and marketing in Portables, and the component suppliers, such as DDO (for CRT's) and Forest Grove (circuit boards). "Everybody understood the importance of the product and how they could contribute. As a result, they were all willing to put in the extra hours needed to meet the schedule."

George also cited some other elements that benefited the schedule:

- "There was no 'creeping feature set' monster." At the beginning when they defined the project, they listed some features they'd like to include, if possible. As it turned out, they were able to include all those features, but they didn't keep adding others along the way.

- Basically they were combining the technology of two very well proven products—the 2465 and 7104.

- The engineering design team for the 2467 was much the same as for the 2465, so they didn't have to reinvent the wheel. Another example of continuity is that Skip Hillman, options project manager for the 2465, is now the product marketing manager for the 2467. □

## Become a believer

"Seeing is believing" is the slogan for the 2467 portable scope introduction, and with good reason. A short demonstration will do more than any number of words to convince you that the 2467 does indeed do what it's supposed to do, that you can see signals on it that you can see on no other portable.

And because "Seeing is believing," the 2467 marketing people have a proposition for all users of oscilloscopes at Tek. After all, not only do we build oscilloscopes, but we use a lot of our own products. And they know that some of us would be able to put 2467's to good use. So what they'd like to do is provide interested employees with more information, and show you an 11 minute video tape that will make a believer out of you. It has everyone else. □

## See thing's you've been missing with your current scope.

Send your name, mail stop and phone number to:  
**Bright Eye, 47-837, and you will be invited to a free demo of the 2467.**

name \_\_\_\_\_

m/s \_\_\_\_\_

phone \_\_\_\_\_

scope application \_\_\_\_\_



**2467**  
**SEEING IS BELIEVING**

DEMO TECHNIQUES