

## A RADICAL SOFTWARE STATE-OF-THE-ART REPORT

#### TIVICON: LOW-LIGHT VIDICON TUBE

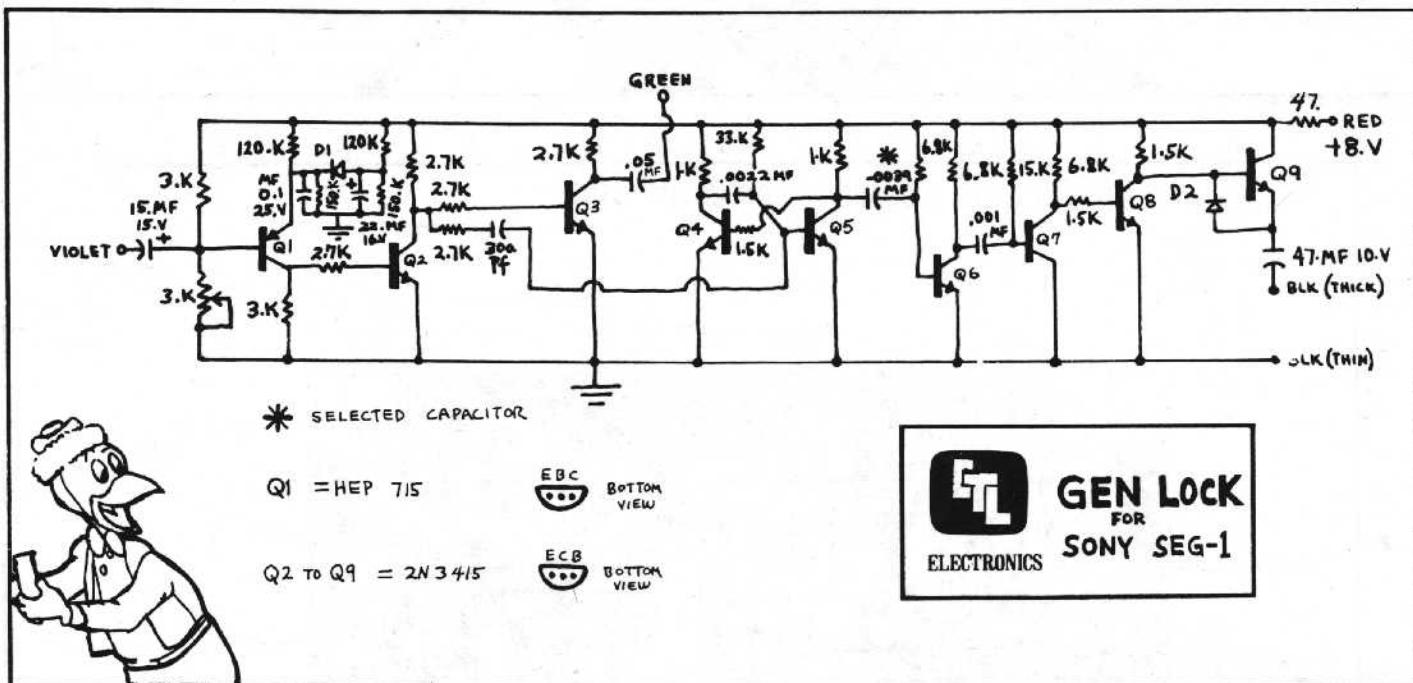
Finally, it's possible to adapt a hand-held video camera so that almost any illumination becomes available light enough for taping. Ordinarily, in a dimly-lit room (e.g. a couple of table lamps) the standard video camera grays out. But with a Tivison tube the spectrum of light intensity begins to approach that of the human eye and in the red spectrum even surpasses it. The Tivicon is red sensitive so that, for example, intimate spaces washed in red light translate into bright daylight tones. Finally, a Tivicon won't burn. You can point it directly at a bright light, the sun included, and at worst it overloads into a blob of white tones, but no permanent damage is done.

Tivicon is the Texas Instruments company's name for what is actually a 2/3d's inch silicon dioxide vidicon tube. When they first became available last summer video dealers in New York where charging outrageous prices for installation. The tube itself lists from \$680 to \$450 depending upon the quantity purchased. Installation is relatively simple, about 20 minutes work, if you know what you're doing. Nonetheless the price in New York was \$900 installed (that's in addition to the purchase price of the Porta-Pak). There's a shop in Philadelphia called Impossible Electronics which still charges \$1,250 and tries to claim that it's a very difficult job. While the tube is relatively expensive, it's worth it, and here's how you can avert being overcharged.

GBC, a big video supplier in New York City (74 Fifth Avenue, New York, N.Y. 10003) buys Tivicons in quantity and will re-sell to any "professional user" for \$495. That means simply that they won't sell to individuals at that price, but all you have to do is have your own dealer order it or purchase it through an institutional front.

Another way to avoid the \$680 single unit price of a Tivison is to contact Texas Instruments directly. They have some factory rejects which they'll mail on consignment (i.e. no money up front). Generally the defect is a blemish on the face of the tube which manifests itself as a pin spot of light or dark. If it's not in the center then it can be pretty much unnoticeable. Moreover, the company includes an inspection sheet with their reject tubes indicating what the fault is. The price will be less than \$495. The person to contact is: Frank Skaggs, Texas Instruments, Inc., Mail Station 945, Post Office Box 5012, Dallas, Texas 75222.

Now, after you've gotten a tube for \$495 or less you shouldn't pay more for installation than the rate for an hour of a technician's time (generally about \$15 an hour). So your dealer won't try to claim it's a difficult task we've published complete installation instructions on the following page. That's all you need to install a Tivicon. No bullshit. No super-expertise. No outrageous price. We can't stress enough the added flexibility that a Tivicon camera gives to portable video equipment.



A GEN LOCK added to your Sony SEG-1 will allow you to perform wipes and fades between signals from a VTR playback and 1 to 3 live cameras. The GEN LOCK separates the sync signal from the video input and generates horizontal and vertical camera drive signals.

In operation, the GEN LOCK

modification board takes its power from the power supply of the SEG-1. The video connected to input 1 or the SEG is applied to the base of Q-1. The composite sync is separated by Q-1 and amplified by Q-2. Transistor Q-3 is the output amplifier for the vertical signal. Q-4 and Q-5 form a "one shot" monostable multivibrator triggered at the base

of Q-5 by sync pulses from the collector of Q-2. The horizontal signal is amplified and shaped by Q-6, Q-7, Q-8, and Q-9.

The coupling capacitor between the collector of Q-5 and the base of Q-6 is selected for the best horizontal phase. A .005 capacitor may be added between the collector of Q-7 and

ground to improve horizontal stability. If desired, C.T.L. Electronics can modify your Sony SEG-1 in their service facility at 86 West Broadway, N.Y.C (212) 233-0754. C.T.L. will also be publishing a catalog of equipment, accessories and modifications which can be obtained by writing and requesting a copy of "Video Tools."