



Instrument Rental Considerations

Rentals can solve many problems in manufacturing and even in service work, but must be used with discretion.

By **John Frye**

THE pre-Christmas rush of children's record players, transistor radios, stereos, and TV sets had already begun; and Mac and Barney had been slaving away since early morning. If their customers didn't hear the sounds of Christmas, it wouldn't be the fault of Mac's Service Shop!

But now they had paused for a breather and the cup of coffee Matilda had brewed for them. Before she could pour it, however, a truck stopped at the back door and the expressman brought in a bulky package and collected the transportation charges from Mac.

"Hey, you been buying something new?" Barney demanded as the truck drove away.

"No, I'm renting an oscilloscope to use while ours goes back to the factory for a complete overhaul and recalibration," Mac replied, stirring his steaming coffee.

"I wondered how we were going to get through the Christmas rush with our scope on the blink," Barney said. "It has been going downhill for several weeks, but the intermittent in the vertical amplifier that showed up just recently makes it almost useless for trace-voltage measurements."

"Uh-huh, I know. The bad part is that we do not have proper equipment to do a decent job of recalibrating it even if we did change all the tubes and locate the cause of the fluctuating gain. We need an accurately calibrated fast-rise-time pulse generator to do that. I'd have to shell out five-hundred dollars up for such a generator, and we'd probably not use it more than two or three times a year. For most of our needs, our square-wave generator, even with its comparatively slow rise and fall time, is good enough.

"On the other hand, we simply cannot get along without a good calibrated scope. We've been using one too long for that. But I fully expect the instrument to be away for a month, considering the holidays get involved in the act. I have a friend who is just starting a small electronics manufacturing business and he suggested I rent a scope for a month while ours is away."

"Where did you get it?"

"From *Rental Electronics Incorporated*, a *Pepsico* service leasing company, whose main offices are in Gaithersburg, Maryland. Actually the instrument came from Rosemont, Illinois, the nearest of six local inventory centers spread across the United States."

"How does this renting thing work?"

"Quite simply. They send you an Instrument Rental Catalogue in which are listed twenty-one categories of electronics equipment, such as signal generators, recorders, analyzers, scope cameras, amplifiers, etc. Under each category you are given a wide choice of manufacturer, sophistication, and rental price. Each listing contains a short description of basic specifications together with a price-per-month charge for periods of one, three, and six months. Cost-per-month declines as renting time increases. If you live within 30 miles of an inventory center, delivery and pickup of the instrument is free; otherwise you pay the cost of transportation to you *via* means you specify, and *REI* pays the return

transportation *via* means they specify. Eighty percent of the transportation of these rental items is by Air Express or Air Freight. The customer usually wants the instrument in a hurry and the company has another place for it when he is through with it."

"What kind of scope is in that box?"

"A *Tektronix* 515A d.c.-coupled general-purpose scope. It was the nearest in specifications to the one we've been accustomed to using, having a bandwidth of d.c. to 15 MHz, a rise time of 23 ns, deflection factor of 50 mV/cm, and a time base of 0.5 μ s/cm to 0.5 s/cm. A 5X magnifier extends the time base to 40 ns/cm."

"How much did it set you back for a month?"

"\$94.50. If I wanted it for three months, this would drop to \$84 a month and for six months, it would be \$73.50 a month."

Barney emitted a low whistle. "That's pretty salty," he said. "I can see where you're going to be cracking the whip over me all this month so you get your money's worth out of that instrument."

"You better believe it!" Mac nodded. "The rent is going to be ticking away all this month whether we're using that scope or not; so let's really keep it in use."

"Aye, aye, sir! I'll even use it to check the line voltage."

"Now let's not get carried away! Actually the charge is not as bad as it seems at first blush, nor is it arbitrarily set. On instruments costing more than \$500, the one-month rate is 9% of the list price; the three-month rate is 8%; and the six-month rate is 7%. When I'm writing out my check for the rent on the instrument, I'll console myself with these thoughts: (1) by paying my monthly bill within fifteen days of the billing date—it is billed when sent—I'll get a discount of 2%; (2) while I am paying rent equal to 9% of the cost price, the other 91% will still be in my bank drawing interest; (3) if the instrument fails during normal usage, *REI* will send another *my pronto* and fix this one at their expense, thus sparing us both maintenance cost and down time; (4) we'll not be paying taxes on the scope; and (5) we don't need to be fretting about its becoming obsolete—as happens to all electronics instruments these days.

"Spoken like a true Scotsman! But could you have rented it for less than a full month if you had wanted to?"

"Yes, I can rent an instrument for as short a period as a week. The cost for periods less than a month is one-third the monthly cost per week or fraction thereof. In this case it would have cost me \$31.50 for seven days or \$63.00 for ten days."

"Does the rental period start when the instrument is delivered and end when you turn it over to the carrier for return to the company?"

"Not exactly. The rent period actually begins when the instrument is shipped and ends when the instrument is received back at the *REI* inventory center. However, on 'out of the area' shipments, two days' travel time each way is subtracted from this time span to arrive at the charge period. You can see this favors use of a fast means of transportation."

"I assume that if you damage the instrument while it is in your possession, that's a horse on you."

"You assume right. Repairs, replacements, and/or recalibration necessitated by equipment operator misuse (such as improper application, overload, burnout, burnt CRT faces, broken components, etc.) are chargeable to the lessee. Every instrument is checked carefully to be sure it meets manufacturer's specifications prior to shipment. You have three days after receipt in which to report any defect or malfunction. If none is reported, it is assumed the instrument arrived in good condition. The equipment is insured for \$1000 or actual cash value, whichever is less, while in transit. If loss or extensive damage occurs while in the lessee's possession, he is obligated to replace the instrument or remit the full fair market price to the company; and rental fees continue until this is done. Incidentally, REI assumes the equipment will be used by the lessee under 'normal conditions and times,' and they define 'normal time' as not more than 40 operational hours per week or 180 hours per month."

Is it Really Practical?

"Do you think instrument rental is really practical for the average service shop?"

"Not on a long-term basis, but I do think it is financially defensible in a couple of situations. One is an emergency situation such as our present one. Having the use of the scope during this rush season will result in income that will more than offset the rental. Let's take another situation: suppose the shop owner is wondering if buying a new higher-quality scope will speed up and improve his servicing enough to warrant the cost. Renting such an instrument for a week will give him the answer at a reasonable cost.

"But rental, for the service technician, is not ordinarily a substitute for purchase. Service instruments tend to stay in use much longer than lab instruments. This is because they are usually not so specialized and do not have to maintain such rigid performance standards. Their cost can therefore be spread over several years. And the relationship between the service technician and his instruments is a much closer one, based on longer association than is the case in the laboratory. Watching a fine technician troubleshooting a TV set with his scope is like watching an intimate dialogue. The technician propounds a question; his hands almost automatically manipulate the instrument controls; and the scope gives him the answer and possibly a hint as to the next question he should ask. This man/instrument rapport

takes time to establish, and it cannot be transferred immediately from one instrument to another.

"Instrument rental companies, therefore, would starve to death if they had to depend on service technicians. Their major customers are manufacturers who maintain electronic testing laboratories, R&D labs, defense contractors, etc. REI has put out an Instrument Rental Handbook that is designed to establish basic guidelines to help engineers, engineering supervisors, and procurement and corporate management to make sound rent-or-buy decisions regarding electronic instrumentation.

To Rent or Purchase

"This book defines *rental* as covering a period up to a maximum of a year; anything beyond a year is considered a lease. How long an instrument will be needed largely determines whether it will be less expensive to rent or purchase. *Almost invariably* it can be shown rental is less expensive when the need is for four months; it is *usually* less expensive when the need is for four to eight months; it is *sometimes* less expensive when the need is for eight months to a year.

"Many situations call for renting," Mac said, ticking them off on his fingers: "Covering short peak-load requirements; temporary replacement of equipment that has failed; determining if a specific instrument will accomplish the desired task; when in-house or external calibration/repair costs get out of hand or when down time of the instruments is extensive; when there is an urgent need for new instruments that cannot be obtained immediately from the manufacturer; when a temporary conservation of capital is indicated by budget limitations or for other reasons; when the contract makes it easier to recover rental costs than outright purchase costs; or when demonstration or field location needs cannot be met without crippling the laboratory operation."

"Is REI the only company renting instruments?"

"Oh no. My friend reeled off several other renting companies including *Beckman Instruments, General Electric, Simpson Electric, Electro Rents, Rentronix, Continental Rental, and Leasametric*. He said he thought their operations were basically similar to those of REI."

"Well, this is all new to me," Barney admitted, as he started opening the carton resting on the floor. "I intend to tuck away in a corner of my mind the fact that if the need is great enough, a person can have access to almost any kind of electronic equipment for a limited time by laying out only a small fraction of the list price." ▲