

SMALL SYSTEM PROBLEMS

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ABSTRACT

In a small system, the problems encountered are many, but all could fall into three categories. These being (1) equipment, (2) personnel, and (3) management.

Equipment problems could be the most common, but also the most difficult to deal with. Another problem is the lack of adequate test- and maintenance equipment.

Personnel can be the number one problem if experienced and trained people are not employed. This could be the downfall of many systems whether large or small.

The third most common small system problem is management.

All of the above mentioned problems have varying ways of being solved. This paper will discuss some of these problems and their solutions.

TEXT

Equipment problems could be the most common and also the most difficult problems to deal with. In some small systems, especially if they are an older system, the equipment may be outdated by today's standards. If the system has not kept up with the modern innovations and ideas that have happened in our industry, then the service to its customers will not be the best it could be. Any system, whether it be large or small, must stay up with the modernization that is happening everyday. For example, who would have thought, three or four years ago, that an Earth Station would be available for almost any cable system in the United States.

Modernization is one thing that every system must keep at the head of its list of things to do. The amplifiers of five years ago cannot meet the specifications of amps that are produced today. With the new hybrid chips that are common today, amp spacing can be longer, with even better signal to noise ratio than was possible a few years ago.

Our industry is changing so fast with new and improved equipment being sold everyday. We must stay up with it to give our customers the best service we can.

Also, in small systems, the repair of defective equipment has to be accomplished by sending it to an outside company. This being the case, you would have three sets of equipment. The one

you are using, the one on the way to the repair center and the one returning from the center. If a person could be employed that could repair the systems equipment, the savings would be tremendous. Also, this employee would be a better trouble shooter if he knew what malfunctions within the equipment caused certain problems. By repairing the systems amps, he could see from looking at the pictures on his longest trunk run and determine from that if all the amps are working correctly.

Another problem could be the lack of adequate testing and maintenance equipment. The most common is the field strength meter. The field strength meter, to us, is like a stethoscope to a doctor. With an adequate field strength meter, almost any problem within our system can be detected. To us, the field strength meter is our right hand man. Each system must have at least one, if not more, that is correctly calibrated for that systems operation. No system can operate without a good field strength meter. In our system, we keep a 7270 field strength in our head-end. This meter does not leave our head-end except for proof-of-performance measurements. This meter is the calibration standard for all of our other meters, and if any questions about accuracy occur, then this is the one that is considered to be right. If you use a different meter to set your line amps, and another one to set your head-end, than these should be calibrated at the same time to assure accuracy. We at Enterprise Cable Television calibrate all of our field strength meters every month. We make notations of any errors found, the date this was performed and the readings found. At the same time that we calibrate our head-end or trunk-amp meters, we also calibrate our installers meters. This is something that must be checked. The installers meters must be kept in the same operating condition as your line and head-end meter. I also believe that every truck within the system should have its own field strength meter and that this meter should stay with that truck at all times. At one time, we did not have a meter on each truck, but after a year of trying to share a 727 between two technicians, we soon solved that problem. At one time, we did not have installers meters, but we found that by giving each installers truck a meter, we soon saved the cost of the meter in drop cable that was needlessly replaced. Don't get into the habit if you have a trouble call, whether it be cross-mod or snow, of replacing the drop.

By training our installers to use their meters, the times that a technician has to be called has been reduced tremendously. The first thing that our installers do when they call for help on a trouble call is to tell us what the meter reading is. Not only the reading in the house but at the distribution cable as well. Our installers save us much time by not only knowing what the readings should be but why they should be a certain value. One very important point about meter readings and signal level is that to get a correct output, you must have a correct input. That is one thing that we at Enterprise Cable Television have learned through experience. No amplifier of any make can work like it's supposed to unless the input is right.

To a small system, another piece of equipment that may seem to be a luxury, is some form of radiation detection. Although radiation detection may seem like a waste of time and money, it can save on three important things: (1) trouble calls, (2) "might-be" customers, (3) keep you out of trouble with the FCC and FAA. If you have radiation within your system, it can cause problems to your paying customers, such as ghosts, intermittent good-to-snowy pictures and other kinds of picture degradation. Radiation is the leaking from your system the information being carried by your cable. If a person could pick up this leakage for free, why should he pay for it? Radiation detection may be a luxury, but it will pay for itself.

Personnel can be the number one problem if experienced and trained people are not employed. This one problem could be the downfall of many systems, including large and small. The person employed by a small CATV system needs to be a jack-of-all-trades. From an installer to main line trouble shooter. But how can a small CATV system afford to employ a top-notch technician or engineer? This is something that only the local manager or owner could answer. Here's a suggestion. At the NCTA National Convention in New Orleans last year, there was a session on CATV employees: Buy them, steal them, or grow your own. The consensus of opinion at that meeting was to grow your own. Who would know better what condition your system is in, or the inputs and outputs of each amplifier than the local tech who has grown up in that system. A good place to secure a technician is at the local Jr. College if they have an electronics program. This person would have all the book learning he would need, but he would have no practical experience. This could be an advantage because he or she could be trained in the way you would want your technician trained.

A good technician is only as good as the installers and trouble-shooters under him. A good installer may not be as hard to find as a technician, but he will have to be completely trained. As far as I know, there are no schools for installers. At this point, I would like to say that I feel that we, in our industry, need to start having some seminars for the local installer, even if we have to start by saying, "This is an F fitting."

We, at Enterprise Cable Television, have

what we call rainy day classrooms. If we have a rainy day or an installer catches up with his work, he can always go to the head-end and pre-setting amplifiers and reading a field strength meter. Thank goodness that all of our installers can read a field strength meter and set any amplifier in our system. We accomplished this by setting up a test amplifier set-up in our head-end. This set-up includes a power supply like they may see out on the line, a main line or high level amp and a line extender. With this we can simulate any real situation within our system.

Employees need to be good public relations people for their respective companies. Each employee, from office personnel to chief technician must treat each customer with courteous and efficient service. Good public relations is one criteria that all cable systems must meet. One bad employee in a system can cause more harm than a two to three hour outage during a football game. There is an old saying that I remember that goes something like this, "The customer is always right." Up to a certain point, I believe that this should be a motto in our industry. We are unique in our field that we provide a service to our customers right in their homes. Our pictures, so to speak, are the proof of our work. If we provide a good quality signal with fast, dependable service, then the customer has received his moneys worth. On the other hand, if our picture quality is poor with service calls being handled very slowly, if at all, then we don't give the customer what he is paying for.

If a customer requests a service or trouble call, then that should be handled as expeditiously as possible. A good goal to set is to try as much as humanly possible, to go to that persons house during that same working day. We at Enterprise Cable Television give trouble calls number one priority. When a customer asks for service to them, the problem they are having is extremely important. Although sometimes it may be no more than a fine tuning problem, to that customer it is a major problem. It is especially important that all trouble calls be handled with good public relations. When your service man goes out to handle a trouble call, no matter how unimportant it may seem, he must listen intently to the problem and try to give a correct solution. We, in this industry, are human and we will make mistakes. If a problem is ours, I think we should admit it. But if the problem is not ours, then inform and show the customer why it is not our fault.

Another important point is not to try and snow our customers. If you don't know what the problem is, say so. But don't leave it there, assure the customer that you will consult with your system technician or engineer or that you will call someone within our industry for help. All of the suppliers of amplifiers that I know of always have someone at their office that you can talk to about technical problems. A customer who really wants to have good service will work with you and will wait a reasonable amount of time for a solution. A customer whose trouble was handled professionally and in a quick manner

is a satisfied customer. Also, if he happens to tell a neighbor about the way you treated him, then this will be more good advertising for your company than a full page newspaper ad. Conversely, if he is not handled professionally, rest assured he will tell his neighbors.

Public relations is something that every cable system must keep up. A good working relationship with your customers will keep the amount of service calls down and give you the joy of knowing that your system is one of the best.

The third most common small system problem is management. Management could be a problem, but most times not. Usually the manager is also the owner. Therefore, he will be doing his best to make the system as good as possible. The person who is the manager needs not only to be a leader of his personnel, but sometimes a Dear Abby, too. At one time or another, an employee may have a problem that does not come within the scope of his job. He may need to do nothing more than just talk to someone about it. This is where the manager can set up a relationship with his employees that will benefit everyone within the company. A person cannot do a job better than the way he feels that day.

A manager must keep up with the problems that an employee encounters on and off the job. I don't mean to say meddle in his employee's private lives, but if his advice and consultation are asked for, he should have some knowledge of the situation. I think that the manager should feel that the employee is doing him a favor by working for him, instead of the manager feeling he is doing the favor. I feel a good manager is one of the prerequisites for a good system.

All of the above mentioned problems have varying ways of being solved. One of the best ways would be to have a continuing program of education for system personnel. From this, equipment can be up-dated, repaired and maintained. Personnel can be trained and advanced within the company. Management can stay ahead of system problems and solutions.

Continuing education is something that I think we will be hearing more of in the future. Our industry is a fast changing one with new and innovative ideas happening everyday. We must stay up with these changes to give our customer the best service possible. I applaud the Society of Cable Television Engineers in their efforts to have technical meetings throughout the nation. Not only does SCTE bring together the best speakers that can be obtained, but also it gives us, the technical and management personnel, a chance to come together to discuss our problems with each other. Also, the NCTA has done a marvelous job in this respect at the convention last year in New Orleans. They presented discussions in every phase of cable communications.

I believe fully that all system problems can be solved by conscientious people doing their best as if they, themselves, were the customers.