

**Case Study:**

# Upgrading an Existing System from MATV to SMATV

By Jerry Budge ■ *BDR Broadband*

*In August, we took a detailed look at the installation and commercial success of a 55-channel non-sports analog cable system with a DirecTV digital tier, in a new 288-unit broadband-friendly MDU located in a B+ demographic in Northwestern Dallas. In this issue, we look at an upgrade to a larger, existing system. Both cases, with down-to-the-dollar financial details, come courtesy of BDR Broadband, a joint venture of Blonder Tongue Laboratories, Priority Systems, Resident Technology Group and Telepro Communications. BDR got its start by acquiring 21 private cable TV systems, mostly in the Dallas-Ft. Worth area, from Verizon. The property that we are going to look at this month was part of the initial acquisition that created BDR. This property had a limited service offering, which produced a very low subscriber count – only 108 of 508 units passed. BDR doubled that in one year.*

*The financial information can easily be compared from case to case, allowing you to contrast the capital, complexity and return on investment for each. Data includes*

- *Property Specifics: Property Demographics, Initial Service Platform, Setting Baselines.*
- *Marketing: What was the best package for the property and why?*
- *Financial: Cost of Upgrade, Revenue Lift or Loss, Return on Investment (ROI).*
- *Operations: What does it take to operate the system properly?*
- *Lessons: What key information was learned?*

*You can view the first case study on line, at <http://www.bbpomag.com/>. Next month we will look at the benefits of upgrading existing service platforms and adding additional digital services; you will also see that marketing all of the wonderful things an upgraded system can do is equally important.*

**T**he first property was a new build with limited service offerings and limited revenue potential. This month we are going to take a look at the benefits of upgrading service platforms.

This month's case involves an existing system that was part of the initial acquisition from Verizon. The system is located in a B demographic, in southeastern Dallas, serving 508 passings. When BDR bought it, the system offered a 12-channel, Master Antenna Television (MATV) lineup and a DirecTV (DTV) digital tier.

The MATV service was only a connect or disconnect with no options for service tiers, while the digital tier was diplexed on to a new subscriber's drop. Customers who use only the off-air MATV suffered (and still suffer) from poor reception. The property had been

constructed in two phases, which created an unusual situation because the phases were wired differently.

We will look at this issue in greater detail under the operations section. The MATV system did not require any set-top boxes inside the customer's home to provide service, but the DTV package did.

BDR didn't have an opportunity to deploy a high speed data platform on the property because the owner provides data services via its own multi-mode fiber-based Ethernet system.

We quickly realized that the success of this property depended on giving the residents options. We needed to make the property "installer friendly" to reduce costs down the road, and we needed to provide programming options based upon the strength of our "non-sports lineup" for analog cable,

described in August. We'll look at these two ingredients in more detail later.

## **Marketing**

Installing a headend to carry our standard 55-channel satellite Master Antenna Television (SMATV) "non-sports lineup" accomplished three goals. First, it gave the residents choices in what services to subscribe to (Locals Only, Extended Cable, Premium Channels, DTV). Second, it improves the quality of the local channels being provided by using digital satellite reception. Third, it generates a larger revenue share for the property owner. We'll discuss that in more detail later, under the Financial section.

In the first twelve months after upgrading, we doubled the penetration (108 new net subscribers). This lift can be directly attributed to the addition

of the enhanced SMATV lineup. We had expected a gradual shift of subscribers from the DTV to the SMATV over time, which would have cut into revenue gains, but it hasn't happened; there were 96 DTV subscriptions to

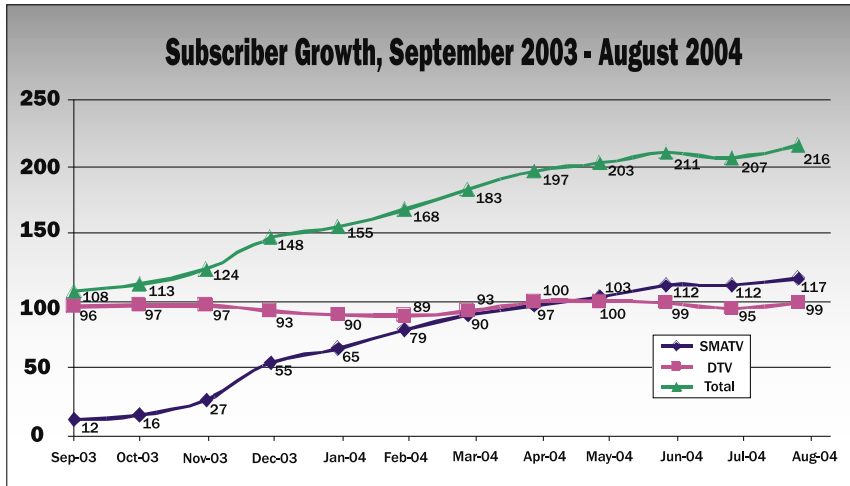
start and 99 after 12 months. The chart shows the quite normal monthly variation along with the sharp growth over the year.

Another key benefit of the SMATV addition was the improvement of the

signal quality on the property. Until this upgrade began, the only analog service that residents on the property were familiar with was an off-the-air-based product. If you have been around this business for any amount of time, you are aware that quality off-air reception is one of the most difficult facets of being an operator. At this location, there were severe ghosting problems and sub-optimal signal levels due to the location of the antenna.

As I noted in August, BDR developed the Non-Sports Lineup to catch subscribers who are not avid sports fans and are sensitive to price points. By having fewer channels in the analog tier, the majority of television viewers are given the channels they desire, without a high cable bill.

Being able to keep the financial entry point as low as possible is good for all parties. BDR Broadband has found



Subscriber Growth Chart

**BUILT TO LAST**

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Hardware	Labor	Total Cost	Projected Net Revenue Lift Per Month	Projected ROI
\$16,327	\$5,590	\$21,917	\$1,554	14 months

Table 1: Financial

	Average Bill	BDR's Revenue Share %	BDR's Revenue Share \$	Owner's Revenue Share %	Owner's Revenue Share \$
<b>BDR Locals</b>	\$11.00	100%	\$11.00	8%	\$0.88
<b>DirectTV</b>	\$44.00	15%	\$6.60	8%	\$0.53
<b>BDR SMATV</b>	\$32.00	100%	\$32.00	8%	\$2.56

Table 2: Owner's Revenue Share

that the majority of residents prefer not to pay for sports programming in the extended basic tier. The operator is more likely to gain the occasional TV viewer as a subscriber.

With sports programming, subscribers must pay more, and sports programming fees have been rising 20 to 25 percent a year from already high levels. In our customer surveys, we have found that only about 20 percent of the subscribers really desire to view the sports-only networks. Also, sports programming is included in the DirectTV package, so we do not alienate the avid fan.

**Financial**

The breakdown of the capital needed to upgrade the property is as follows: (see table 1)

The "Projected Net Revenue Lift per Month" was calculated by taking the average number of SMATV subscribers over the 12 month period listed in the chart (the average is 74) and multiplying that by \$21, the average net contribution for the average SMATV subscriber, to get \$1,554. The time to cover the cost of upgrading this property is about 14 months.

The largest cost of the SMATV upgrade was upgrading the headend, but unlike the example I discussed last August, there was significant labor cost due to the large cleanup that the distribution network required.

One of the key factors in deciding which properties BDR will perform up-

grades on is the presence of a distribution network. We believe that the costs of retrofitting an existing property with a totally new CATV network far outweigh the financial gain from the system.

The labor for the headend was about \$2,000, while the distribution system cleanup ran just over \$3,500.

Had the prewire been completed correctly when the first phase was built, the distribution labor would have been about \$500, bringing the ROI period down to about 12 months.

**Owner's Revenue Share**

How services are billed greatly affects how much the property owner gets paid in a revenue share. (see table 2). The current revenue sharing model has BDR paying the owner a percentage of the monthly recurring revenue that BDR receives from DTV. For example, if the average DTV subscriber bill is \$44, our revenue share might be 15%, or \$6.60.

BDR then pays the property owner a revenue share of say 8 percent, \$0.53, plus \$0.88 for the BDR Locals, or only 2.5% of the total being billed to the resident.

When BDR provides the SMATV signals, our average billing to the customer is \$32 for the average analog package, thus providing the owner with a \$2.56 per subscriber revenue share instead of \$1.41, for an increase of over 180%. The same principles apply to the gross revenue on the property.

By billing for the SMATV lineup, we have managed to more than triple the monthly gross revenue from \$2,300 to \$8,500!

**Operations**

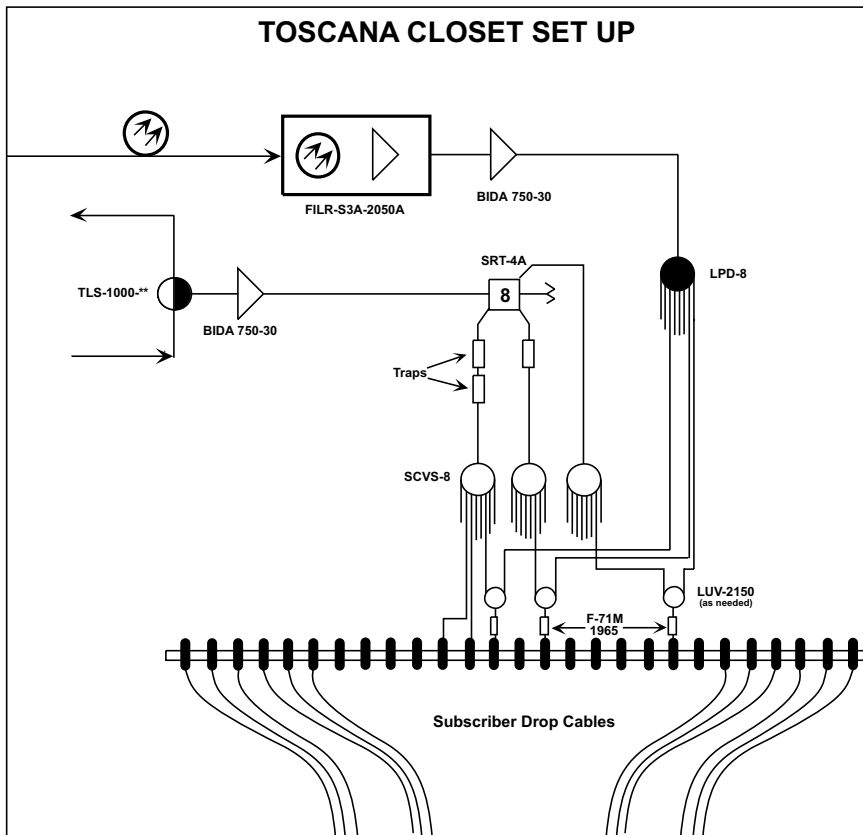
This property was constructed in two phases by two different contractors. The first phase had every drop in each apartment unit run back to the wiring closet at the end of the building. For a two-bedroom apartment, you could have either three or four coaxial lines in the main wiring closet on the ground floor.

In the average building in phase one, you could expect to find anywhere between 48 and 64 unmarked cables in the closet.

This makes installs an absolute nightmare because of the signal splitting required to cover the multiple drops to each apartment, and the additional time spent making sure that you actually have the right drops in the first place. It is our hope that the contractor who designed and installed the system in phase one has taken up a career that better matches its wiring aptitude, such as lawn care or taxidermy.

The result was that first we had to clean up the mess that we inherited. We did this by toning (tracing the cables by generating a tone in each apartment) and labeling the cables in phase one.

We also replaced the cheap and incorrectly installed coax fittings. Once we cleaned up the network and corrected the design flaws, the system became



*Getting service to the customer.*

easier to manage and of course provides better subscriber service.

As a part of the cleanup, we decided to build an installer-friendly system. Since all tier changes are trap dependant (that is, not programmed into the set-top box), an installer is still required for all upgrade, downgrade, install and uninstall work.

The current routing has a technician on site three times a week to handle all DirecTV and analog cable work.

The traditional trap system is one where each subscriber has a series of traps on his or her individual drop in order to provide the proper services. At a 92 percent occupancy, 65 percent analog cable penetration, 20 percent premium penetration and a 23 percent basic-only penetration, this would equate to approximately 340 traps at about \$9.50 each or \$3,230 to build a traditional trap system.

The installer-friendly architecture uses high-level tap outputs going through a trap to feed a splitter, thus

providing multiple ports at the desired trapping level.

When the installers need to install or change the service level, they just move the drop from one pre-tiered splitter to another. This architecture eliminates the need to carry an inventory of traps on the truck, speeds future auditing, and saves traps, or \$1,919 on the initial build.

### Lessons

There is really no reason to stay with off-air antennas for the local channels. Any money spent on optimizing the antennas is better spent on the construction of the DTV-based local channel lineup. Our subscribers immediately recognized the improvement to reception of the local channels and actually called in to comment.

Residents are more likely to subscribe to a service that they feel is of the highest quality, rather than subscribe because they feel forced to by the service provider of last resort.

Giving them multiple service offerings really pays off. Even though we have already doubled the number of subscribers on the property, we expect that we will continue to experience substantial subscriber growth over the next year as well; the bottom line is that increase in revenue of 350 percent.

What is the best way to deal with multiple security camera feeds? When the system only had a limited off-air-only channel lineup, we had lots of channels to spare.

This was not the case after we upgraded the headend to add 45 channels of programming, a channel guide system, and a community bulletin board channel. We still needed to preserve the property's four security camera feeds. We condensed all four feeds onto the same channel by using a device common in the security industry called a sequencer, which sequentially switches between the four camera inputs to one output.

This video output is then given to a modulator in the headend so the residents can view the camera feeds as a CATV channel. This \$100 sequencer saved the cost of three modulators, and helped us to keep our channel lineup the same as for our other properties.

### Next month

The next property that we are going to examine started out as a traditional SMATV with no ancillary services, and has undergone several platform upgrades.

We will start to address the issue of personal satellite dishes in the MDU environment, and take a look at the addition of high-speed data to the property. ♦

### About the Author

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