Cutting the Cord

Options to Cable/Satellite TV

May 3, 2016

JIM FOSS
GARY NYE
DAVE CROWDEN
Agenda

- Overview
- Over the Air TV
  - Antenna Set-ups
  - Channel Master DVR+
  - Tablo
- Streaming Options
  - Content
  - Devices
- Case Study
  - Antenna + Apple TV
- Music & News on the Internet
- A Few Phone Options
- Questions?
Typical Home Setup with Cable/Satellite

Cable Provider
- Charter
- AT&T U-Verse
- TDS DSL

Satellite TV
- Dish, Directv

Broadcast Channels
- ABC, NBC, CBS, Fox
- QVC, HSN, PBS, MeTV, Laff
- Independents

Cable Channels
- CNN, Fox News, ESPN (1-3)
- Golf, TBS, TNT, QVC, SciFi, Disney,
- Fox Sports, CBS Sports, and hundreds of other channels
Cutting the Cable/Satellite Cord

**Why Cord Cutting?**
- Save money
- Too many channels that we don’t want
- Seldom used TV’s that you don’t want to pay for cable connection box

**Broadcast Channels**
- ABC, NBC, CBS, Fox
- QVC, HSN, PBS, MeTV, Laff
- Independents

**Cable Channels**
- CNN, Fox News, ESPN (1-3)
- Golf, TBS, TNT, SciFi, Disney, CBS Sports, and hundreds of other channels

**Cable Provider**
- Charter,
- AT&T U-Verse
- TDS DSL

**Satellite TV**
- Dish, Directv

**Satellite TV vs. Cable Provider**
The Alternative to Cable/Satellite TV

Over the Air
- ABC, NBC, CBS, Fox
- QVC, HSN, PBS, MeTV, Laff
- Independents

Internet Streamers
- Netflix, Sling, Hulu, iTunes, Vudu
- Amazon Prime, YouTube

Websites
- ABC, CBS, NBC, Fox, ESPN, iTunes, CNN, ESPN, Golf, TBS, TNT, QVC, HSN, SciFi, Disney, Fox Sports, CBS Sports, Food Network, and hundreds of other websites that have streaming content

Roku
Chromecast
Apple TV
Amazon Fire TV
Video consoles
Ch. Master
DVR+
DVD Players

Tellico Village Computer Users Club
Over the Air TV Reception – Gary Nye

How I got started
Watching TV Over the Air

To receive “Over the Air” TV you will need:

- An antenna
- 110 volt power
- A TV that will receive digital signals
- Or a converter box to convert the antenna’s digital signals to analog (older TV’s)

Over the Air
ABC, NBC, CBS, Fox
QVC, HSN, PBS, MeTV, Laff
Independents

Internet Streamers
Netflix, Sling, Hulu, iTunes Vudu, Amazon Prime, You Tube

Websites
ABC, CBS, NBC, Fox, ESPN, iTunes, CNN, ESPN, Golf, TBS, TNT, QVC, SciFi, Disney, Fox Sports, CBS Sports, Food Network, and hundreds of other websites that have streaming content
Antenna Types

Antenna considerations

- Gain
- Connections
- Flexibility
- Size
- Mounting Location
Antenna & Mounting Options

Factors to Consider
- Mounting location
- Antenna Orientation
- Reception Obstacles
- Availability of 110 volt power
- Routing cable to your TV(s)
- Access to your convergence box
Making Sure There is a Good Signal

Recommended Tools
- Small TV with Signal Strength Readout
- Cable Identifier
# Broadcast Channels Available with Antenna

<table>
<thead>
<tr>
<th>Network</th>
<th>Call Letters</th>
<th>Channel</th>
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<tbody>
<tr>
<td>ETPBS</td>
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<td>Create</td>
<td>WETP 3</td>
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<td>ABC</td>
<td>WATE</td>
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<td>GetTV</td>
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<tr>
<td>My TV</td>
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<td>NBC</td>
<td>WBIR</td>
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<td>MeTV</td>
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<tr>
<td>Justice</td>
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<td>ANT-TV</td>
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<tr>
<td>PBS</td>
<td>WKOP</td>
<td>15.1</td>
</tr>
<tr>
<td>PBS</td>
<td>WKOP</td>
<td>15.2</td>
</tr>
<tr>
<td>PBS</td>
<td>WKOP</td>
<td>15.3</td>
</tr>
<tr>
<td>CW</td>
<td>WBXX</td>
<td>20.1</td>
</tr>
<tr>
<td>TV</td>
<td>WBXX</td>
<td>20.2</td>
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<td>FOX</td>
<td>WEMT</td>
<td>39.1</td>
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<tr>
<td>FOX</td>
<td>WTNZ</td>
<td>43.1</td>
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<tr>
<td>FOX</td>
<td>WTNZ</td>
<td>43.2</td>
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<tr>
<td>FOX</td>
<td>WTNZ</td>
<td>43.3</td>
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<table>
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<th>Network</th>
<th>Call Letters</th>
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<tr>
<td>Religious</td>
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<td>HSN</td>
<td>W45D</td>
<td>45.1</td>
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<td>CTN</td>
<td>WVLR</td>
<td>48.1</td>
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<td>ION</td>
<td>WPXK</td>
<td>54.1</td>
</tr>
<tr>
<td>qubo</td>
<td>WPXK</td>
<td>54.2</td>
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<td>ION Life</td>
<td>WPXK</td>
<td>54.3</td>
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<td>ION</td>
<td>WPXK</td>
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<td>QVC</td>
<td>WPXK</td>
<td>54.5</td>
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<tr>
<td>HSN</td>
<td>WPXK</td>
<td>54.6</td>
</tr>
</tbody>
</table>

Depending on your location and antenna setup, you may not be able to get all these channels.

[http://tvlistings.aol.com/listings/tn/knoxville/over-the-air/37909](http://tvlistings.aol.com/listings/tn/knoxville/over-the-air/37909)
[http://Titantv.com](http://Titantv.com)
Cabling Options
Over the Air Recording – Channel Master DVR+

**Channel Master TV Channels**
- Bloomberg Business
- ABC Newclips Online
- Newsy TV
- WGN, Chicago
- Foody TV
- Outdoor Cooking Channel
- DRTV
- WeatherNation TV

**Features**
- Slim Design- Easy to use
- Connects via HDMI to single TV
- Internal Recording
  - 2 hours internal or
  - 1 TB Hard Drive – 300 hrs
- Easy View/Record Guide/Menu
- Streaming (requires a $39 adaptor)
  - VUDU, Pandora, You Tube
  - Sling TV
- 2 Tuners or 4 optional
Channel Master DVR+ Rear View
Channel Master DVR + Recording is Easy
Channel Master DVR+ Has Some Apps

The TV screen shows a menu with applications such as VUDU (HD Movies), PANDORA, YouTube, and Sling TV.
Other Recording OTA Programming Options

Tablo
- 2 tuner - $220
- 4 tuner - $300
- Also must purchase remote hard drive - $70-80
- Optional TV guide $5/month

TiVo Roamio
- 4 tuner - $84 must also pay monthly fee - $15/mo
- Also includes some streaming channels
Tablo

- Can be set to record all new (or all) episodes of shows
- Skip forward or back available
  - Works with Roku remote
  - Best if recording is finished
- Can watch programming anywhere
  - No need to connect to antenna
  - Via Chromecast through cell phone or tablet
  - With Cell Phone can watch anywhere
- Records only OTA broadcasts
- To watch on TV also need
  - Roku 3
  - Apple TV
  - Amazon Fire TV
  - Chromecast
Tablo Ecosystem
Watch Programs Over The Internet

Over the Air
ABC, NBC, CBS, Fox
QVC, HSN, PBS, MeTV, Laff Independents

Internet Streamers
Netflix, Sling, Hulu, iTunes Vudu, Amazon Prime, YouTube

Websites
ABC, CBS, NBC, Fox, ESPN, iTunes, CNN, ESPN, Golf, TBS, TNT, QVC, SciFi, Disney, Fox Sports, CBS Sports, Food Network, and hundreds of other websites that have streaming content

Roku
Chromecast
Apple TV
Amazon Fire TV
Video consoles
Ch. Master
DVR+
DVD Players

Tellico Village Computer Users Club
Streaming Internet TV

Requirements

- Internet connection
  - Wired, or wireless
  - Minimum speed requirements
- Device to connect internet content provider to your display
  - Smart TV
  - Computer/laptop
  - Console box
  - Streaming device

Typical Bandwidth Requirements

**Netflix**
- 1 Mbps for viewing on a laptop computer
- 2 Mbps for SD video on a TV
- 4 Mbps for 720p HD video
- 5 Mbps for "the best video and audio experience"

**Hulu Plus**
- 1 Mbps for SD video
- 2 Mbps for 720p video
- Over 3.2 Mbps for best quality HD video and audio

**Vudu**
- 1.0 - 2.3 Mbps for SD video
- 2.3 - 4.5 Mbps for 720p video
- 4.5 - 9.0 Mbps for HDX 1080p video
- Over 9 Mbps for 3D HD movies

Note: Charter Internet is 60Mbps
AT&T DSL is 768Kbps to 6Mbps
The Big 3 of Internet Streaming Providers

**Amazon Prime**
Price: $8.99 a month.
Benefits: Downloads for offline viewing; free use on JetBlue flights.
Exclusive shows: Transparent; Mozart in the Jungle; The Man in the High Castle.

**Netflix**
Benefits: Viewing on multiple screens at same time; global access to some shows.
Exclusive shows: House of Cards; Orange Is the New Black; Unbreakable Kimmy Schmidt.

**Hulu**
Benefits: Many current network TV shows available within days of broadcast.
Exclusive shows: Casual; The Mindy Project; Seinfeld.

## More Internet Streaming Providers

<table>
<thead>
<tr>
<th></th>
<th>Movies</th>
<th>TV Series</th>
<th>Original Programs</th>
<th>Live TV</th>
<th>Cost</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>iTunes</td>
<td>Y</td>
<td>Y</td>
<td>N</td>
<td></td>
<td>Per show</td>
<td></td>
</tr>
<tr>
<td>Vudu</td>
<td>Y</td>
<td>Y</td>
<td>N</td>
<td></td>
<td>Per show</td>
<td></td>
</tr>
<tr>
<td>CBS All Access</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td>$5.99/mo</td>
<td>Current CBS shows</td>
</tr>
<tr>
<td>HBO Now</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td>$15.00</td>
<td>Can add to Hulu or Amazon Prime</td>
</tr>
<tr>
<td>Showtime</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td>8.99</td>
<td></td>
</tr>
<tr>
<td>Sling TV</td>
<td>Y</td>
<td>Y</td>
<td>N</td>
<td>Y</td>
<td>$20.00++</td>
<td>20 Channels in base, others available</td>
</tr>
</tbody>
</table>

The landscape for content streaming over the internet is changing rapidly with traditional distribution systems being challenged.

- Many if not all channels have older shows available on the web. Some are free, some are pay per view, or episode/season purchase.
- Dish and Directv are rumored to have streaming only options coming soon.
- Carriage agreements may affect a channel’s ability to launch independent streaming service until they expire or re-negotiate.
Sling TV

Sling TV is a live TV service that allows subscribers to watch a collection of cable TV channels on their TVs, computers or mobile devices. These are live TV channels, just like those offered by a cable or satellite TV service, except they're delivered over the Internet. Although Sling TV is a subsidiary of Dish Network, the satellite provider, it's operated as an entirely separate service. You do not need a Dish subscription to get Sling TV.

www.slingtv.com
### Basic Sling TV Packages

#### BEST OF LIVE TV PACKAGE

*Price: $19.99/month*

*Channels: 25*

- ESPN
- ESPN2
- AMC
- CNN
- HGTV
- Cartoon Network/Adult Swim
- History
- Disney Channel
- TNT
- Food Network
- TBS
- Freeform
- IFC
- A&E
- El Rey Network
- Viceland
- Lifetime
- Travel Channel
- Newsy
- Bloomberg Television
- Local Now
- Polaris+
- Maker
- Flama
- Galavision

#### BEST OF LIVE TV PACKAGE – BETA MULTI-STREAM

*Price: $19.99/month*

*Channels: 29*

- FOX on Demand
- FX
- FS1
- CNN
- TBS
- FOX Regional Sports Networks
- Cartoon Network / Adult Swim
- HGTV
- History
- TNT
- Food Network
- IFC
- El Rey Network
- A&E
- Viceland
- Tru TV
- Lifetime
- Travel Channel
- National Geographic Channel
- Newsy
- AMC
- Bloomberg Television
- Local Now
- Univision
- UniMás
- Polaris+
- Maker
- Flama
- Galavision
## Selected Sling TV Add On Packages

<table>
<thead>
<tr>
<th>Channel/Package</th>
<th>Monthly</th>
<th>Includes</th>
</tr>
</thead>
<tbody>
<tr>
<td>HBO</td>
<td>$15.00</td>
<td></td>
</tr>
<tr>
<td>Cinemax</td>
<td>$10.00</td>
<td></td>
</tr>
<tr>
<td>Kids Extra</td>
<td>$5.00</td>
<td>Disney Jr. Disney XD, Boomerang, Baby TV, Duck TV</td>
</tr>
<tr>
<td>Hollywood Extra</td>
<td>$5.00</td>
<td>Epix, Epix2, Epix Hits, Epix Drive-in, Sundance, TCM</td>
</tr>
<tr>
<td>World News Extra</td>
<td>$5.00</td>
<td>HLN, Fusion, NDTV 24x7, Euronews, France 24, RT</td>
</tr>
<tr>
<td>Lifestyle Extra</td>
<td>$5.00</td>
<td>Cooking Channel, DIY Network, Tru TV, FYI, Wetv LMN</td>
</tr>
<tr>
<td>Broadcast Extra</td>
<td>$5.00</td>
<td>ABC, Univision, UniMas</td>
</tr>
</tbody>
</table>
Smart TV’s have embedded computer chips that run apps and are similar to a smart phone or tablet with a much larger screen. Requires an internet connection.
You can view streaming content with any computer with a good internet connection.

You can always “cast” the video to a TV with a device such as Chromecast with a Wi-Fi connection to both devices.
Smart Phone/Tablet

You can view streaming content with any smartphone with a good internet connection (4G or Wi-Fi)

You can “cast” the video to an internet connected TV with a device such as Chromecast using a Wi-Fi connection to both devices
Internet Streaming Media Device Overview

Over the Air
- ABC, NBC, CBS, Fox
- QVC, HSN, PBS, MeTV, Laff
- Independents

Internet Streamers
- Netflix, Sling, Hulu, iTunes Vudu, Amazon Prime, YouTube

Websites
- ABC, CBS, NBC, Fox, ESPN, iTunes, CNN, ESPN, Golf, TBS, TNT, QVC, SciFi, Disney, Fox Sports, CBS Sports, Food Network, and hundreds of other websites that have streaming content

Roku
Chromecast
Apple TV
Amazon Fire TV
Video consoles
Ch. Master
DVR+
DVD Players

Tellico Village Computer Users Club
Streaming Media Devices -- Chromecast

Projects your device screen (computer, phone, tablet) using the Chrome browser or 100’s of Chromecast enabled apps

Google Chromecast
$35.00 - $39.99
Streaming Media Devices – Roku

Roku Console: $69.99 to $129.99
Roku Stick: $49.99

https://www.roku.com/products/compare
Roku Stick and Chromecast in Action
Streaming Media Devices – Amazon Fire TV

Amazon Fire Stick
$39.99

Amazon Fire TV
$99.99
Video Game Consoles

- Microsoft xBox One
- Sony Playstation 4
- Nintendo Wii U
Case Study: Antenna + Apple TV

- Disappointed with DirecTV (SD and MN)

- Unhappy with Charter Cable

- Bundled Costs – advertisements can be misleading
  - $29.95 each for TV, Internet, and Phone

- Total $89.87 Really???
Case Study: Antenna + Apple TV

Charter TV Select -----$29.99

- Basic TV Service
  - Add 2 Digital Receivers (cable boxes for $13.98 (6.99 each)—no DVR service
  - Taxes & Fees --$9.96
    - Including Broadcast TV surcharge ($5.25)

Total to Charter as new subscriber

$113.91
Case Study: Antenna + Apple TV

1 year later--$136.71 for same service
  ▪ Introductory bundle deal ended

Planned to “cut cable” in new house
  ▪ Charter services now
    – Internet --$53.99
    – Voice (land line) --$19.99
    – Taxes & Fees -- $6.65
  ▪ Current Cost for Charter -- $80.63
Streaming Media Devices – Apple TV

Gen 4 Apple TV
32 GB $149.99 @ Best Buy
64 GB $199.99 @ Best Buy
Apple TV is a Streaming Media Device
Generation 3 Apple TV
The Apple TV is Small
Back of the Apple TV Device
Apple TV Hook-Up
Case Study: Antenna + Apple TV

Hardware Purchased
- Antenna - $35
- Apple TV - $59

Subscriptions
- Sling TV -- $20 per month
- Hulu Plus -- @ $12 per month
- CBS All Access -- $6 per month
- Amazon Prime -- $99/yr
- Considering adding Netflix
  - $7.99 to $11.99 depending on plan
    o Basic / Standard / Premium

All this is available on your mobile devices and is good when travelling
Case Study: Antenna + Apple TV

**Where to buy hardware/equipment??**

**Cost of equipment?**
- Discounts available
- Items on sale

**Local**
- Best Buy, HH Gregg, Conn’s
- Office Max, Staples
- Office Depot, Target, Walmart
- And many more
Case Study: Antenna + Apple TV

On-Line

- Amazon (Prime??)
- eBay
- Micro Center – Online or 2 stores in Atlanta area (25 nation-wide)
- Electronic Express (Cleveland, TN)
- NewEgg
- Apple—direct from Apple,
  - (consider Refurbished item - saves $$)
- Military/Government affiliated / retired?
  - Shop “The Exchange”
    - (Discounted price + no shipping costs + no tax on sale)

And hundreds more places to shop online
Internet Music and News

- iHEART Radio
- Pandora
- Apple Music
- Spotify
- Slacker
- Tuneln
- InternetRadio
- Sirius-XM

Many over the air radio stations also stream their programs on the web.

Examples: WJR Detroit, WIBC Indianapolis, WSM Nashville
WBZ Boston, WLS Chicago, Q100 Knoxville
and hundreds more!
Magazine Articles on Cutting the cord

<table>
<thead>
<tr>
<th>Name</th>
<th>Website Address</th>
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<tbody>
<tr>
<td>Time</td>
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<td>Cut the cable today</td>
<td><a href="http://www.cutcabletoday.com/what-is-sling-tv/">http://www.cutcabletoday.com/what-is-sling-tv/</a></td>
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</table>

And many more…… Search for “cutting the cord”
# Informational Websites

<table>
<thead>
<tr>
<th>Company</th>
<th>Web URL’s</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><a href="http://www.channelmaster.com/Antenna-Selection-a/134.htm">http://www.channelmaster.com/Antenna-Selection-a/134.htm</a></td>
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<td><a href="https://www.sling.com/devices">https://www.sling.com/devices</a></td>
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<td>Special Sling offers</td>
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</tr>
<tr>
<td></td>
<td>Special Offer for Roku <a href="https://www.sling.com/devices/roku">https://www.sling.com/devices/roku</a></td>
</tr>
<tr>
<td></td>
<td>Other Offers from Sling TV <a href="https://www.sling.com/devices/offers">https://www.sling.com/devices/offers</a></td>
</tr>
</tbody>
</table>

A very small sample of what information and deals can be found by searching the internet. Doing some homework can save big money.
Some Voice Call Options

Make calls with your computer or mobile device

**Skype** – App to make free calls over the internet to other internet connected devices. Unlimited calling to landline/cell phones $2.99/month. Overseas calling at low minute rate. There are Skype phones that look just like a regular handset. [www.skype.com](http://www.skype.com)

**magicJack** - The magicJack device uses Voice Over Internet Protocol (“VoIP”) to allow you to make local and long-distance calls to the U.S. and Canada using an existing internet connection. You can make and receive calls using your computer or regular telephone. No additional telephone service is required. Can use computer, mobile phone or a regular phone handset Cost is $35/year. Low overseas calling rates available.
[www.majicjack.com](http://www.majicjack.com)
Some More Voice Call Options

There are many other VOIP service providers including your Charter phone.

- **Vonage** – An internet VOIP phone that uses regular handsets.
  Has many features and is similar to Charter’s VOIP phone service.
  Cost is about $25/month after the first year.
  [www.vonage.com](http://www.vonage.com)

- **Ooma** – Popular VOIP phone service that requires a one time charge.
  No other charges for use, except taxes
  [www.ooma.com](http://www.ooma.com)

Or........Just use your cell phone
Ooma

- VoIP - Voice over Internet Protocol
- Ooma
  - System purchase - $100
  - Porting existing telephone number - $40
  - Only continuing cost is state taxes - $5/month
    - Required on any system
  - Premium service available at $10/month
    - Good features if land line is used frequently
- May need to purchase multi handset phone
- Other systems require monthly fee
Cutting the Cord -- Summary

- About $600-700 up front investment (with DVR)
  - Antenna + installation $135
  - Roku $35 - $99
  - Chromecast $35/TV
  - Streaming box $100 - $300
  - DVR $250 - $350

- Some programming lost
  - Examples: Golf Channel, Fox Sports 2, NBC Sports, CNBC, CBS Sports, and many others.

- Not as convenient as cable or satellite

- Save about $100/month
Questions?