

# TV SIGNAL OPTIONS

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# SUMMARY

You can watch television with either a real television set or with a virtual television that resides inside your Windows, Mac, or Linux computer. Your real or virtual television set can get television signals from either a cable television provider or over-to-air with an indoor antenna.

# TOPICS

- Television Signal Options
- Reception Options
- Past and Future Timeline
- A Television Tuner For Your Computer

# TELEVISION SIGNAL OPTIONS

- "ATSC" Over-The-Air
- Formerly, we had "NTSC" Over-The-Air
- "Clear QAM" from cable provider
- "Encrypted QAM" from cable provider

# TELEVISION SIGNAL OPTIONS

## (continued)

- ATSC Over-The-Air  
("ATSC" = "Advanced Television Systems Committee")
- Formerly "NTSC" Over-The-Air  
("NTSC"="National Television System Committee")
- "Clear QAM" from cable provider  
("QAM"="Quadrature Amplitude Modulation")
- "Encrypted QAM" from cable provider

# RECEPTION OPTIONS

- ATSC and/or NTSC Over-The-Air into a television set
- ATSC and/or NTSC Over-The-Air into a computer that has a television tuner
- Clear QAM directly into a television set or a computer
- Encrypted QAM into a set-top box
- A/B switches for switching between ATSC, NTSC, clear QAM, and encrypted QAM

OVER-THE-AIR  
RECEPTION WITH  
A REAL TV SET:

ATSC  
over-the-air  
signals from  
an antenna

RG 6 coaxial cable



OVER-THE-AIR  
RECEPTION WITH A  
VIRTUAL TV SET INSIDE  
A COMPUTER:

ATSC  
over-the air  
signals  
from an  
antenna

RG 6 coaxial cable

TV Tuner  
for PC or Mac

USB 2 cable  
or  
USB 3 cable  
or  
PCIe slot





RECEPTION OF SOME  
CABLE TV  
PROVIDER'S CLEAR  
QAM SIGNALS  
WITH A REAL TV SET:

"Clear QAM"  
channel  
signals from  
some cable  
TV providers



RG 6 coaxial cable



# RECEPTION OF CABLE TV PROVIDER'S ENCRYPTED QAM SIGNALS WITH A REAL TV SET

"Encrypted QAM"  
channel signals  
from cable TV  
provider

"Set-Top Box"  
or  
"DTA"  
from cable TV  
provider

RG 6 coaxial cable



RG-6 coaxial cable  
or  
RGB cable



RECEPTION OF CABLE  
TV PROVIDER'S  
ENCRYPTED QAM  
SIGNALS  
WITH A VIRTUAL TV  
SET INSIDE A  
COMPUTER:

"Encrypted QAM"  
channel signals  
from cable TV  
provider

RG 6 coaxial cable



"Set-Top Box"  
or  
"DTA" from cable  
TV provider

USB 2 cable  
or  
USB 3 cable  
or  
PCIe slot

# TELEVISION SIGNAL OPTIONS

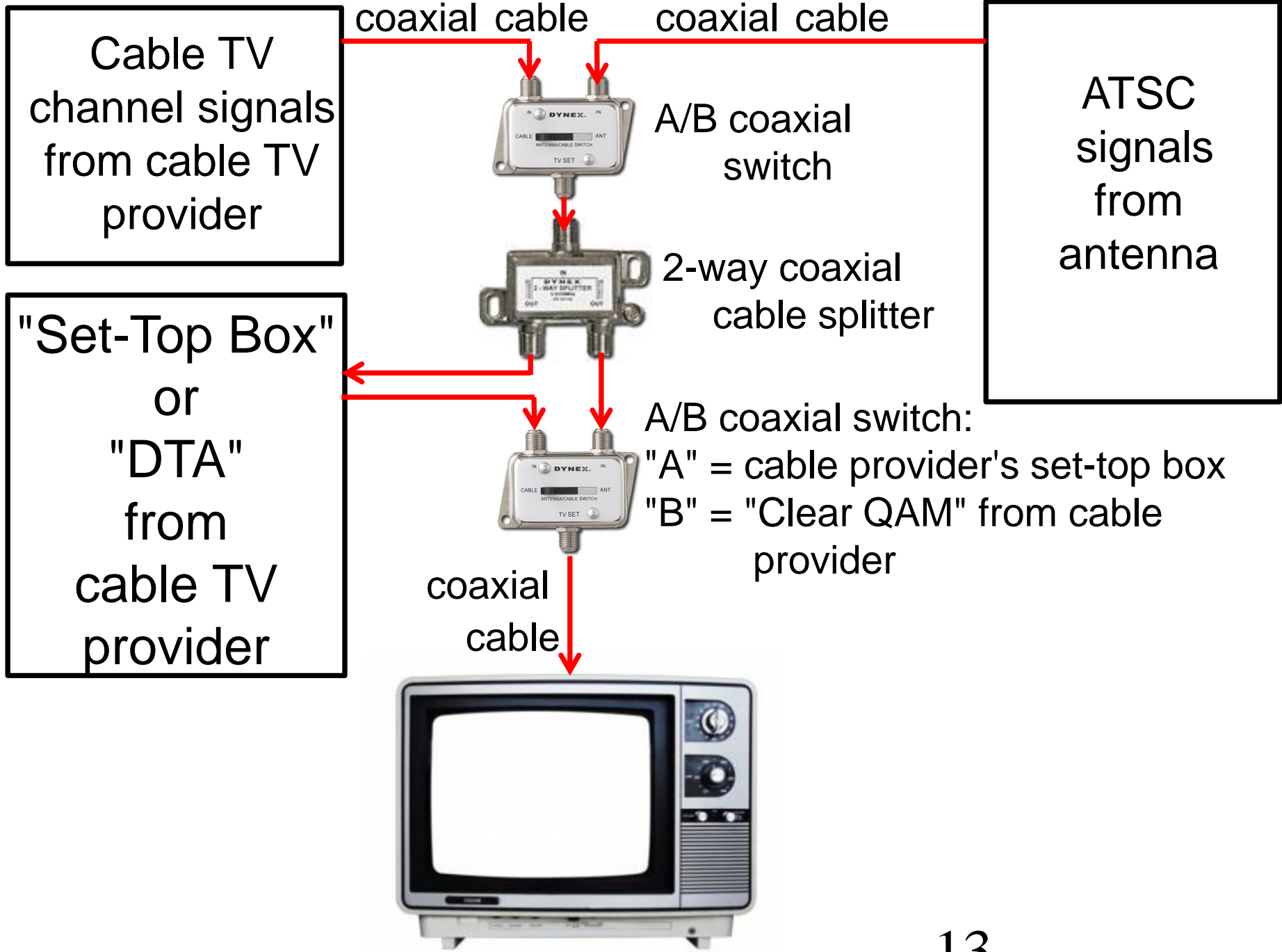
## (continued)

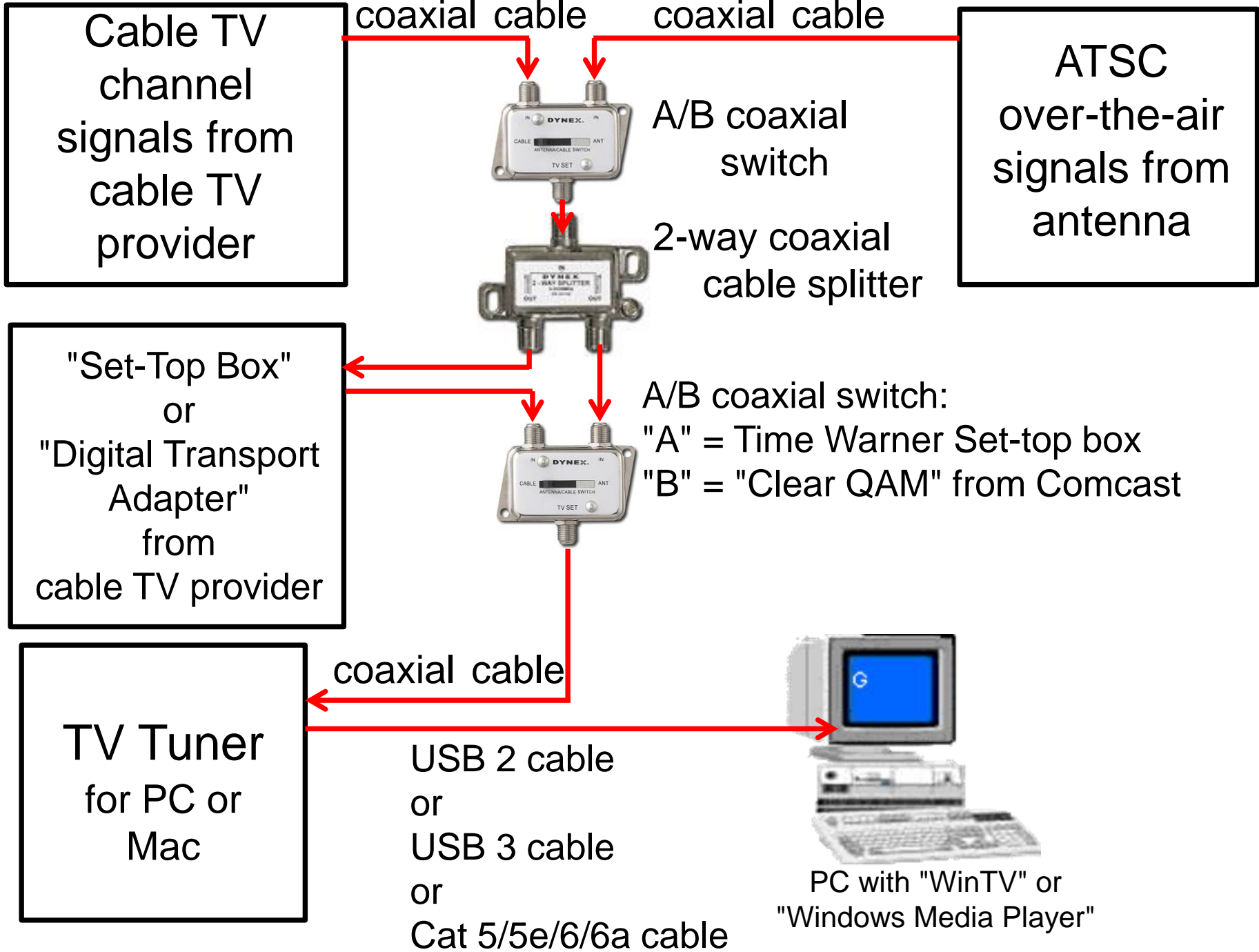
- Using two A/B coaxial switches and a 2-way coaxial cable splitter, you can switch between the following three signal options:

ATSC and NTSC Over-The-Air  
and

Encrypted QAM signals from the cable provider's "Set-Top Box"  
and

Clear QAM signals from the cable provider (if they provide them) <sup>12</sup>





# PAST AND FUTURE TIMELINE

- 1941

Black-and-white over-the-air  
NTSC television

- 1949

Black-and-white cable NTSC  
television

- 1953

Color NTSC over-the-air  
television

# PAST AND FUTURE TIMELINE

- 2009-06-12  
NTSC to ATSC transition for most NTSC television stations, with an exception for "low-powered", "translator", and "Class A" stations which were allowed to continue broadcasting with NTSC signals.



# PAST AND FUTURE TIMELINE

- 2015-09-01  
NTSC to ATSC transition for all NTSC "low-powered", "translators", and "Class A" television stations. See <http://www.fcc.gov/guides/dtv-transition-and-lptv-class-translator-stations>

# A TELEVISION TUNER FOR YOUR COMPUTER

- "ATSC" means "can receive (digital) ATSC over-the-air television channels".
- "NTSC" means "can receive (analog) NTSC over-the-air television channels".

# A TELEVISION TUNER FOR YOUR COMPUTER (continued)

- "Hybrid" means "can receive both ATSC and NTSC over-the-air television channels".
- "QAM" means "can receive unencrypted QAM television channels over a direct connection to a cable company's cable".

# REFERENCES

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- [http://en.wikipedia.org/wiki/North\\_American\\_broadcast\\_television\\_frequencies](http://en.wikipedia.org/wiki/North_American_broadcast_television_frequencies)
- [http://en.wikipedia.org/wiki/Virtual\\_channel](http://en.wikipedia.org/wiki/Virtual_channel)
- [http://en.wikipedia.org/wiki/Program\\_and\\_System\\_Information\\_Protocol](http://en.wikipedia.org/wiki/Program_and_System_Information_Protocol)