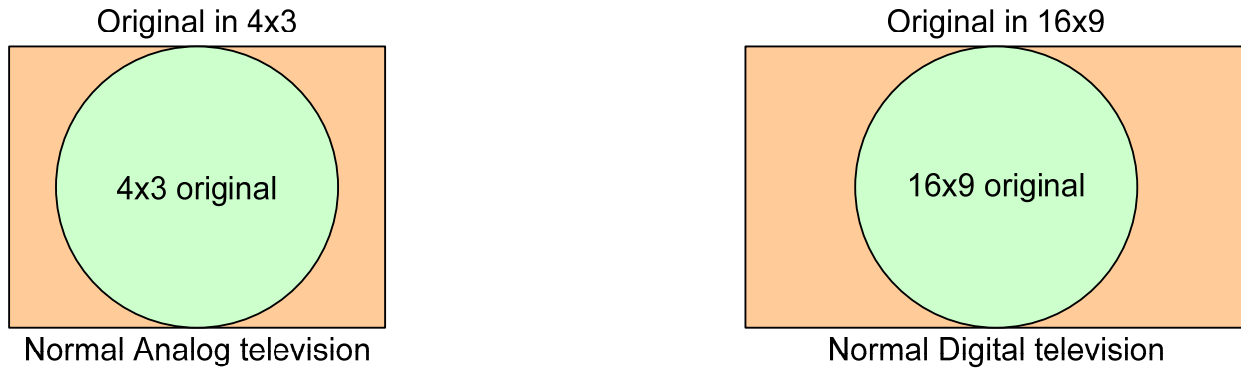


# KCTS 9 Aspect Ratio Discussion

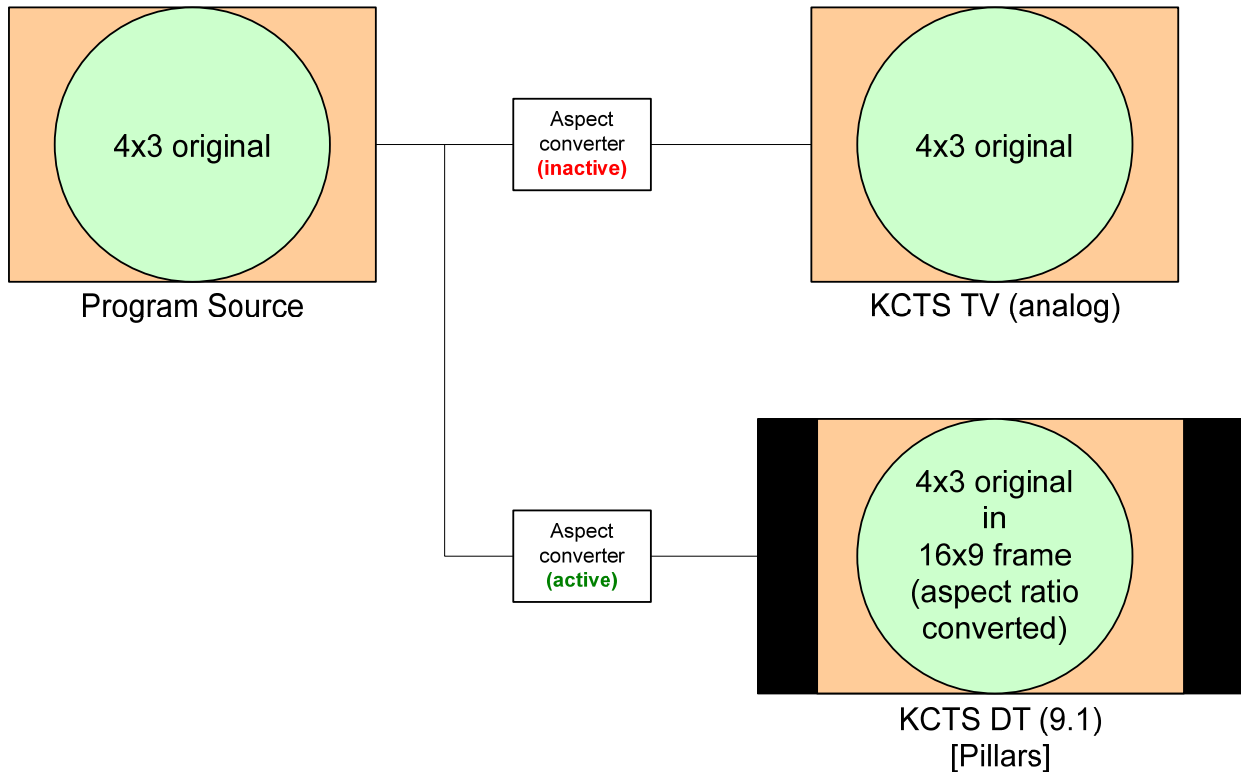
By Jabran Soubeih – KCTS 9

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KCTS 9 transmits its programming in both analog (9) and digital (9.1) modes. The programming on 9 and 9.1 is the same but the aspect ratios are different. Analog television was designed for sets with a 4x3 screen and digital television was designed for sets with a 16x9 screen.

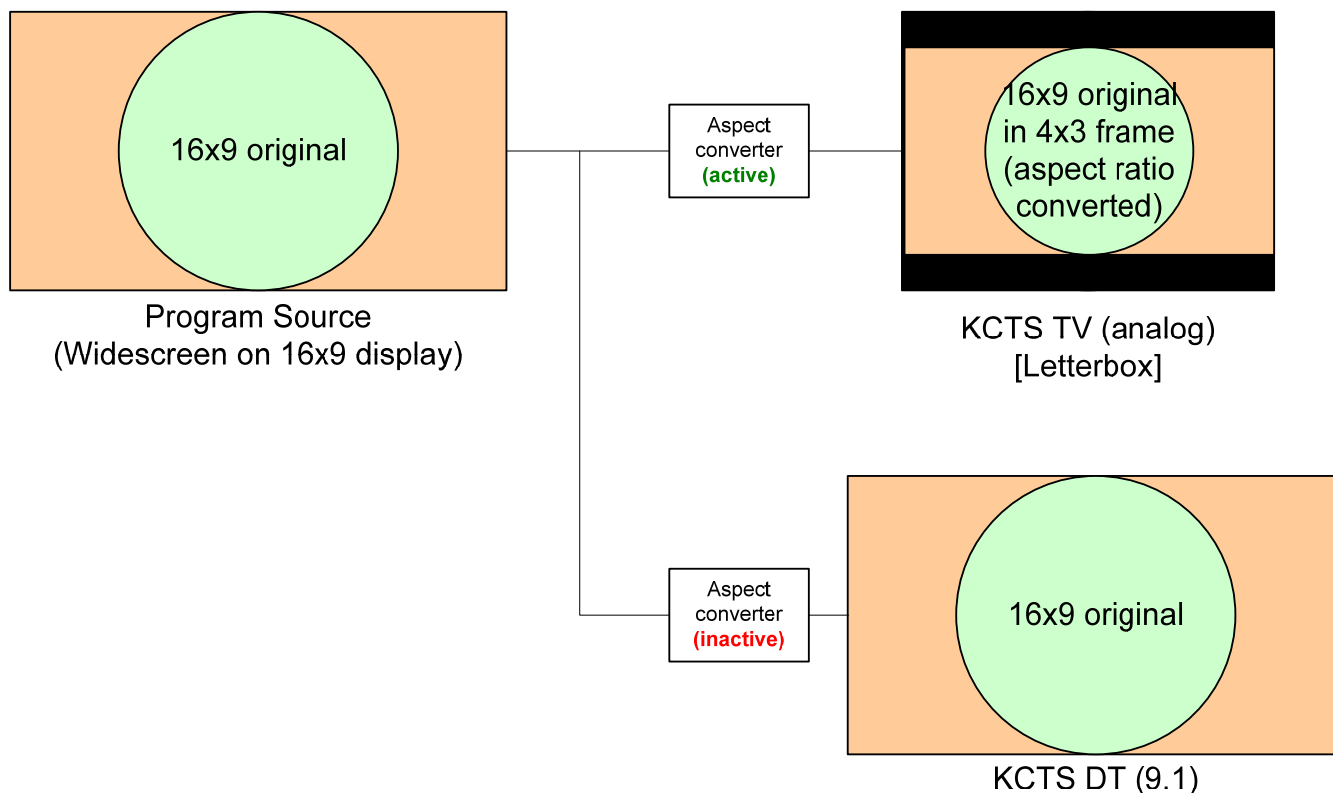


Since our programming is the same for both the analog and digital transmissions, KCTS 9 must modify the picture depending on its original aspect ratio. There are two modes of operation.



**Fig. 1 – Mode 1**

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**Fig. 2 – Mode 2**

Cable companies receive the KCTS 9 HD digital signal and place it on their system as channel 9 or another lower tier channel, replacing the analog signal. This is done because the quality of the digital signal is superior to the analog signal (less noise, ghost free).

The aspect ratio of the program material the viewer sees depends on the customer equipment used and whether they are watching the analog or HD channel. The Cable company modifies the aspect ratio for placement on an analog channel that is accessed by viewers without a cable HD digital set top box or a Digital TV. The picture is cropped and fills the screen top to bottom and left to right and maintains the proper aspect ratio. This is done in order to fill the screen on a 4x3 set; if this were not done, all programs would be letterboxed even original 4x3 programs. When KCTS is broadcasting a 16x9 program, the picture will fill the screen and a small portion of the picture will be lost on the sides of the screen. Please see Figure 3.

A good portion of KCTS 9 programming has an aspect ratio of 4x3 and Cable companies treat this programming the same as the 16x9 programs. The difference is all program material will be visible when KCTS is broadcasting a 4x3 program. Please see Figure 4. When viewed on a 16x9 set (without a cable HD set top box) the picture may be stretched left to right depending on the TV setting.

When a cable HD set top box or a Digital TV with a QAM tuner is used the customer can view the HD digital channel, they will receive KCTS HD digital and their system can be configured to show the proper format. See Figures 3 & 4.

There are occasions when KCTS receives programs in letterbox, these programs will look okay on the analog channel but will have black/gray bars on all sides when viewed using a cable HD set top box or off-air digital receiver. This occurs when PBS does not deliver a widescreen program to KCTS.

Digital television has created many options for the viewing of programs and it is difficult to list all possibilities; I have covered the most common issues.

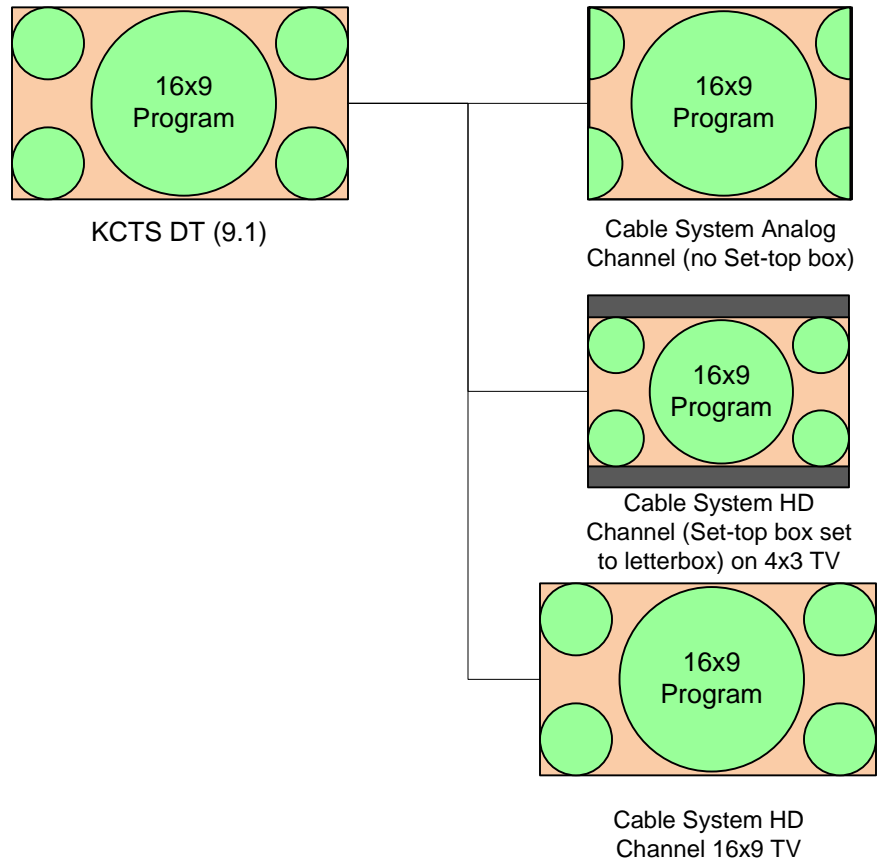


Fig. 3

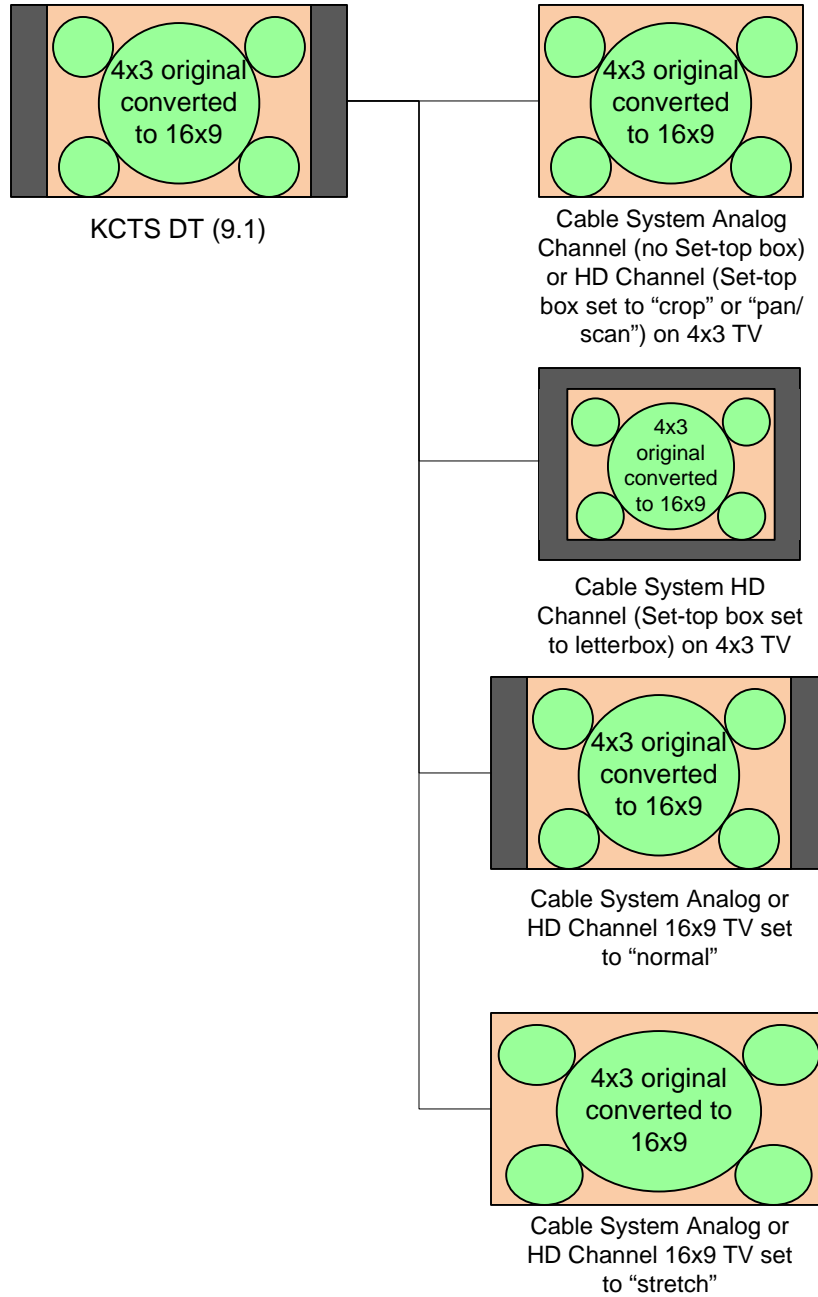


Fig. 4