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A tale of two digital-video converters

SOFTWARE VERSUS HARDWARE COMPRESSION DEFINES THE DIFFERENCE.

These digital-video converters offer similar functions; the less expensive unit even offers a TV tuner absent from its pricier peer. Plector's ConvertX PX-TV100U cost \$8.99 after rebate, \$38.99 before rebate, and \$99 original MSRP (manufacturer's suggested retail price); the PX-M402U was \$29.99 after rebate, \$99.99 before rebate, and \$159 original MSRP. The big difference? A software- versus hardware-compression emphasis.

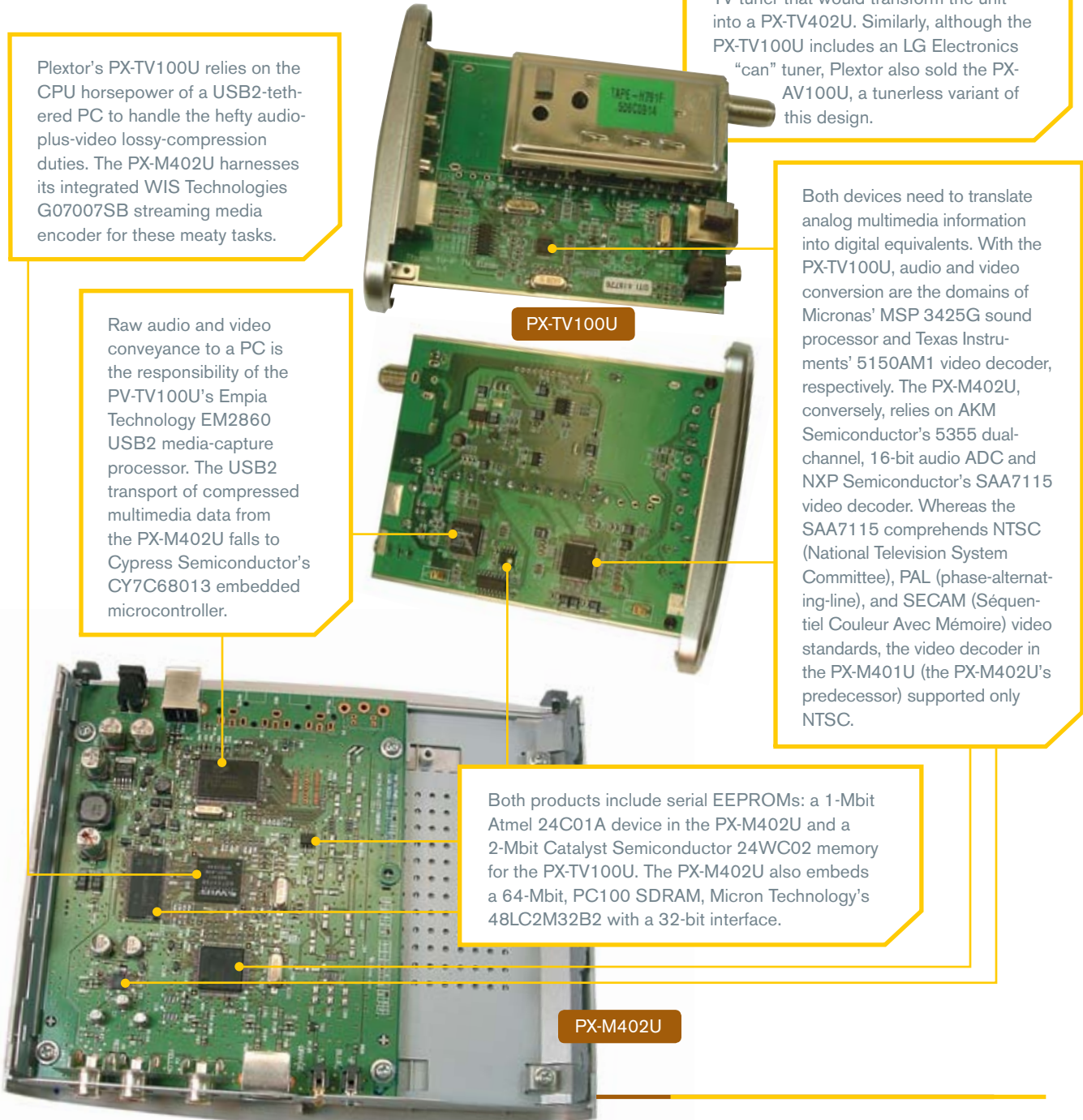
Plector's PX-TV100U relies on the CPU horsepower of a USB2-tethered PC to handle the hefty audio-plus-video lossy-compression duties. The PX-M402U harnesses its integrated WIS Technologies G07007SB streaming media encoder for these meaty tasks.

Raw audio and video conveyance to a PC is the responsibility of the PV-TV100U's Empia Technology EM2860 USB2 media-capture processor. The USB2 transport of compressed multimedia data from the PX-M402U falls to Cypress Semiconductor's CY7C68013 embedded microcontroller.

The PX-M402U design offers flexibility in both primary PCB (printed-circuit-board) unpopulated sites and sufficient enclosure space for a supplemental PCB-based TV tuner that would transform the unit into a PX-TV402U. Similarly, although the PX-TV100U includes an LG Electronics "can" tuner, Plector also sold the PX-AV100U, a tunerless variant of this design.

Both devices need to translate analog multimedia information into digital equivalents. With the PX-TV100U, audio and video conversion are the domains of Micronas' MSP 3425G sound processor and Texas Instruments' 5150AM1 video decoder, respectively. The PX-M402U, conversely, relies on AKM Semiconductor's 5355 dual-channel, 16-bit audio ADC and NXP Semiconductor's SAA7115 video decoder. Whereas the SAA7115 comprehends NTSC (National Television System Committee), PAL (phase-alternating-line), and SECAM (Séquentiel Couleur Avec Mémoire) video standards, the video decoder in the PX-M401U (the PX-M402U's predecessor) supported only NTSC.

Both products include serial EEPROMs: a 1-Mbit Atmel 24C01A device in the PX-M402U and a 2-Mbit Catalyst Semiconductor 24WC02 memory for the PX-TV100U. The PX-M402U also embeds a 64-Mbit, PC100 SDRAM, Micron Technology's 48LC2M32B2 with a 32-bit interface.



PX-TV100U

PX-M402U