



OUTLINE OF POSSIBLE WAYS TO PROVE THE VALUE OF EMBEDDED SOFTWARE

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1. **“With & Without” Embedded Software Approach.**
 - a. Identify equipment that is sold both with embedded software and without embedded software (perhaps from a vendor’s pricing catalog).
 - b. Compare the price of the equipment *with* embedded software to the price of the equipment *without* embedded software. The difference is the value of the embedded software (which can be expressed as a percent of the selling price).
2. **Hardware Residual Approach #1.**
 - a. Identify equipment with distinct hardware (and BIOS) components.
 - b. Determine the total selling price new (value) of the identified equipment including the bundled software.
 - c. Obtain the value of the standalone hardware. This is best done by determining the price at which the standalone hardware components are sold, whether purchased from a third party manufacturer or self-manufactured.
 - d. If such hardware is self-manufactured, then an appropriate margin must be added to the internal cost (this could perhaps be calculated from publicly available financial statements from manufacturers of comparable hardware).
 - e. Subtract the value of the standalone hardware from the total value of the equipment. The remaining value must be attributed to the embedded software.
3. **Hardware Residual Approach #2 (also known as the Secondary Market Approach).**
 - a. Identify used hardware equipment commonly sold on a secondary market, preferably without embedded software (*i.e.*, equipment from which the embedded software has been removed or has become obsolete).
 - b. Determine the total selling price new (value) of the identified equipment including the bundled software.

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- c. Determine the price(s) of that equipment as sold on the secondary market without embedded software. This works best if there are several data points (i.e., sales of the used equipment at various ages).
- d. Using such data points from the secondary market, determine the value (or depreciation) curve applicable to the hardware equipment on its own.
- e. Using the value curve so derived, determine the price at which the hardware would have been sold when new, *without the embedded software*.
- f. Subtract the value determined above (without embedded software) from the original total selling price new of the equipment (with embedded software). The remaining value (or percent of selling price) must be attributable to embedded software.
- g. The hardware will be assumed to depreciate in accordance with the value curve determined for the hardware.

4. Transfer Pricing Information Approach.

- a. Identify the hardware and software assets that are subject to transfer pricing issues for federal income tax purposes.
- b. Obtain the value of embedded software per the taxpayer's transfer pricing under an Advance Pricing Agreement or as otherwise determined for IRS purposes.

5. Pro Rata Allocation Approach.

- a. Identify equipment for which the cost of software research and development is kept separately from the cost of hardware.
- b. Determine the proportion of total income stream (or cost of goods sold) attributable to the hardware equipment.
- c. Determine the proportion of the income stream (or cost of goods sold) attributable to the software research and development.
- d. The proportion of the equipment's total income stream that is attributable to the software research and development cost will be assumed to represent the proportion of the equipment's value that is attributable to the embedded software.
- e. This approach usually has more subjectiveness and matching issues, especially for the customer of the equipment as opposed to the manufacturer.