

**MULTIPLE MODE TRELLIS DECODER FOR A DIGITAL SIGNAL
PROCESSING SYSTEM**

Abstract

An adaptive trellis decoder (40) seamlessly switches between multiple operational modes. The decoder switches
5 between multiple modes and accommodates data type transitions using a single state transition trellis with a predetermined number of states. The system decodes trellis encoded video data encoded in different formats respectively containing different numbers of levels associated with different modes. The decoder
10 system adaptively operates in response to a configuration signal distinguishing between the modes, and employs a state transition trellis with the same number of trellis decoding states for decoding encoded data of different formats. The state transition decoding trellis may also be reset to a predetermined state in
15 response to a synchronization signal (10) generated as a result of a transition from one type of data to another or in response to a mode change.

Figure 1