

# *Products Planned for 2003 Release*



## **Products for the Broadcast Industry**

- ▶ **HD, SD Format Conversion**
- ▶ **Subjective Quality Monitor**
- ▶ **Time Compression**
- ▶ **Video Compression**

### **OVERVIEW**

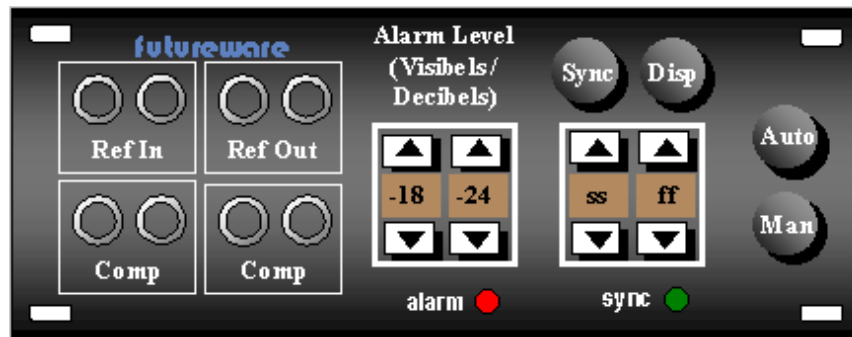
Futureware's Visibel™ Human Visual Model and its Markov-Predictive™ format conversion technology form the basis of a powerful suite of broadcast industry products targeted for release in 2003- a continuous Subjective Quality Monitor, a Format Converter, and a Time-Compressing Recorder.

The Subjective Quality Monitor implements the Visibel™ Human Visual Model into a rack-mounted device which continuously monitors the quality of broadcast studios' or compression factories' compression subsystems.

The Format Converter is capable of upconversion, downconversion, or transconversion between any two digital video formats, whether SD or HD. Markov-Predictive™ format conversion technology guarantees highest-quality conversions, outperforming systems priced many times more expensively.

The Time-Compressing Recorder uses Markov-Predictive™ format conversion technology to resample at the new (faster) frame rate, giving smoothly continuous motion. Audio is resampled and pitch-corrected, allowing syndicators to add commercial minutes without cutting content.

## SUBJECTIVE MONITORING

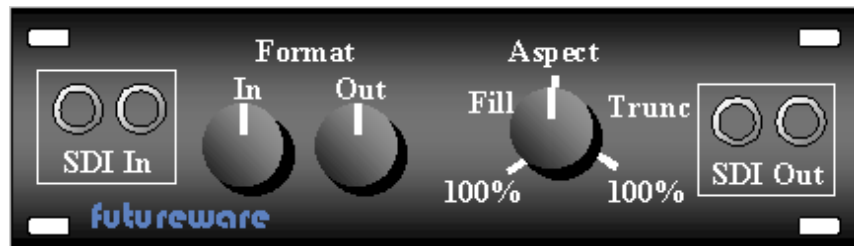


Futureware's Subjective Quality Monitor silently and uncomplainingly monitors the visual quality of a broadcast transmission (or other compressed data stream), 24X7. When objectionable artifacts occur, the Monitor notifies the engineer and presents a visual record of the offending segment. The Monitor embeds Futureware's Human Visual Model, a next-generation model that detects artifacts as a function of pixel resolution, frame rate, and viewing distance. The maximum allowable distortion may be specified in visibels™, the logarithmic measure of visible distortion, and/or decibels, the logarithmic measure of Mean Square Error.

### FEATURES:

- ◆ Supports all common ATSC television formats (SD, 720p, 1080i, 50fps, 60fps, 60/1.001fps, many others)
- ◆ Automatically synchronizes between compressed and reference inputs (manual synchronization is also supported).
- ◆ TCP/IP-based remote monitor, alarm and control.
- ◆ SDI Interface.

## FORMAT CONVERSION

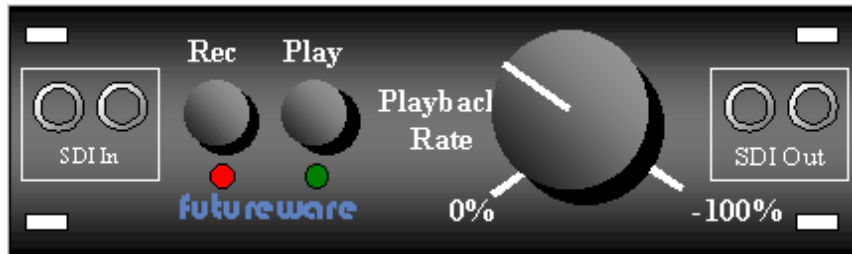


Futureware's Format Converter is a multi-protocol multi-format conversion product for professional broadcast and editing applications. The Format Conversion product is based upon Futureware's Markov-Predictive™ technology, which creates a statistical model of the video sequence then samples the model at the desired resolution, generating the theoretically optimal conversion.

### FEATURES:

- ◆ Supports all common ATSC television formats (SD, 720p, 1080i, 50fps, 60fps, 60/1.001fps, many others)
- ◆ Transcodes between any two supported formats in real time.
- ◆ Preserves aspect ratio or introduces any desired amount of horizontal or vertical stretch factor.
- ◆ Resequences timestamps and embedded audio.
- ◆ Preserves embedded captioning and other VANC/HANC data streams.
- ◆ Supports all common electrical interfaces (SDI, Composite, Component, DVI).

## TIME COMPRESSION



Futureware's Time Compressor is a multi-protocol multi-format digital SD/HD recorder primarily intended for editing applications (syndication). Content is recorded to hard disk, then played back at the desired acceleration rate. The Time Compressor is based upon Futureware's Markov-Predictive™ technology, which continuously interpolates the input frames to create smoothly continuous motion. Similar transform techniques are used to resequence and pitch-correct the audio, thereby retaining the original feel of the content while supporting injection of additional commercial segments.

### FEATURES:

- ◆ Real-time compression on playback.
- ◆ Supports all common ATSC television formats (SD, 720p, 1080i, 50fps, 60fps, 60/1.001fps, many others).
- ◆ Resequences timestamps and embedded audio.
- ◆ Preserves embedded captioning and other VANC/HANC data streams.
- ◆ Supports all common electrical interfaces (SDI, Composite, Component, DVI).



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