12G/3G/HD/SD Frame Rate Converter

FRC-9100

Enhanced operation and expandability at affordable pricing
Capable of 4K support using optional software

- 3G/HD/SD multi-format support
- SD to 3G/HD up conversion
- Conversion with motion compensation processing
- Interface-to-Progressive conversion
- Timecode (LTC/VITC) conversion
- 4K (UHD, SQD/2SI) and 12G-SDI support (Optional)
- Up/down/cross frame rate conversions between 4K and HD (Optional)
- Simultaneous conversion of 2-channel video inputs (Optional: when using 3G/HD-SDI)

4K/HD multi-format supported.
Simultaneous conversion of 2-channel video inputs also available with option.

- 1-ch HD IN distributed to 4 HD OUT
- Simultaneous conversion of 2 HD channels (Optional)
- 4K SQD support (Optional)

Various frame rate conversion

<table>
<thead>
<tr>
<th>Input Signal</th>
<th>Output Signal</th>
</tr>
</thead>
<tbody>
<tr>
<td>2160p (59.94, 50) 30, 29.97, 25, 24, 23.98</td>
<td>2160p (59.94, 50) 30, 29.97, 25, 24, 23.98</td>
</tr>
<tr>
<td>1080p (60, 59.94, 50)</td>
<td>1080p (60, /59.94, /50)</td>
</tr>
<tr>
<td>1080i (60, 59.94, 50)</td>
<td>1080i (60, /59.94, /50)</td>
</tr>
<tr>
<td>1080p (60, /59.94, /50)</td>
<td>1080p (60, /59.94, /50)</td>
</tr>
<tr>
<td>1080i (60, /59.94, /50)</td>
<td>1080i (60, /59.94, /50)</td>
</tr>
<tr>
<td>720p (60, /59.94, /50)</td>
<td>720p (60, /59.94, /50)</td>
</tr>
<tr>
<td>525/60, 625/50</td>
<td>525/60, 625/50</td>
</tr>
</tbody>
</table>

- 16-channel AES/EBU I/O (48kHz,24-bit : Optional)
- FRC-90DA (Optional): AES/EBU digital audio
- FRC-90DM* (Optional): Dolby E 2-channel encoder/decoder

*required FRC-90DA mounted
### Specifications

**Video format**
- HD: 1080p/60, 59.94, 50 (Level-A/B)
- SD: 525/60/59.94

**Video format (FRC-904K)**
- 4K: 2160p/59.94, 50 (12G-SDI Level-A, 2SID / quad link 3G-SDI, Level-A/B, SQD/2SID)

**Frame rate conversion**
- 1080p, 1080i, 720p/59.94, 59.24, 25, 24, 23.98

**Frame rate conversion (FRC-904K)**
- 2160p/59.94, 50, 30, 25, 24, 23.98

**Video Inputs**
- 12G-SDI: 12 Gbps 75Ω BNC x 1 (can be used with FRC-904K option)
- 3G/HD/SD-SDI: 3 Gbps/1.5 Gbps/700 Mbps 75Ω BNC x 4

**Video Output**
- 12G-SDI: 12 Gbps 75Ω BNC x 2 (can be used with FRC-904K option)
- 3G/HD/SD-SDI: 3 Gbps/1.5 Gbps 75Ω BNC x 4

**I/O delay**
- +5 to ±1000 ms (depending on input/output formats) (Ex: I/O delay when converting from 1080/59.94i to 1080/50i: Approx. 105 ms)

**Dolby** is a registered trademark of Dolby Laboratories.

### External Dimensions

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Unit: mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Height</td>
<td>430</td>
</tr>
<tr>
<td>Width</td>
<td>480</td>
</tr>
<tr>
<td>Depth</td>
<td>537</td>
</tr>
</tbody>
</table>

### Rear Panel

#### Audio Input
- AES/EBU: 1.0 Vp-p unbalanced 16 stereo pairs, 32/44.1/48 kHz, 16-bit to 24-bit, 75Ω, BNC x 16
- Metadatas input: 9-pin D-sub (female) x 2

#### Audio Output
- AES/EBU: 1.0 Vp-p unbalanced 16 stereo pairs, 48 kHz, 16-/20-/24-bit, synchronous/asynchronous
- Audio delay adjustment: +5 to ±1000 ms (±1 ms step) for each channel

#### Ancillary Data
- Audio data, Audio metadata embedding/de-embedding

#### Temperature/Humidity
- 0°C to 40°C/30% to 85% (no condensation)

#### Power Consumption
- 548 VA (542 W) at 100 V, 566 VA (504 W) at 240 V

#### OPTIONS
- FRC-904DA: AES/EBU digital audio, FRC-904DM: Dolby E 2-channel encoder/decoder, FRC-902C: 3G/HD-SDI 2ch option, FRC-904K: 4K option

### Accessories
- Rack mount brackets, AC cord x 2, CD-ROM (operation manual)

### Specifications Sheet

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