



Multichannel Playout MPEG Encoder / TS Multiplexer

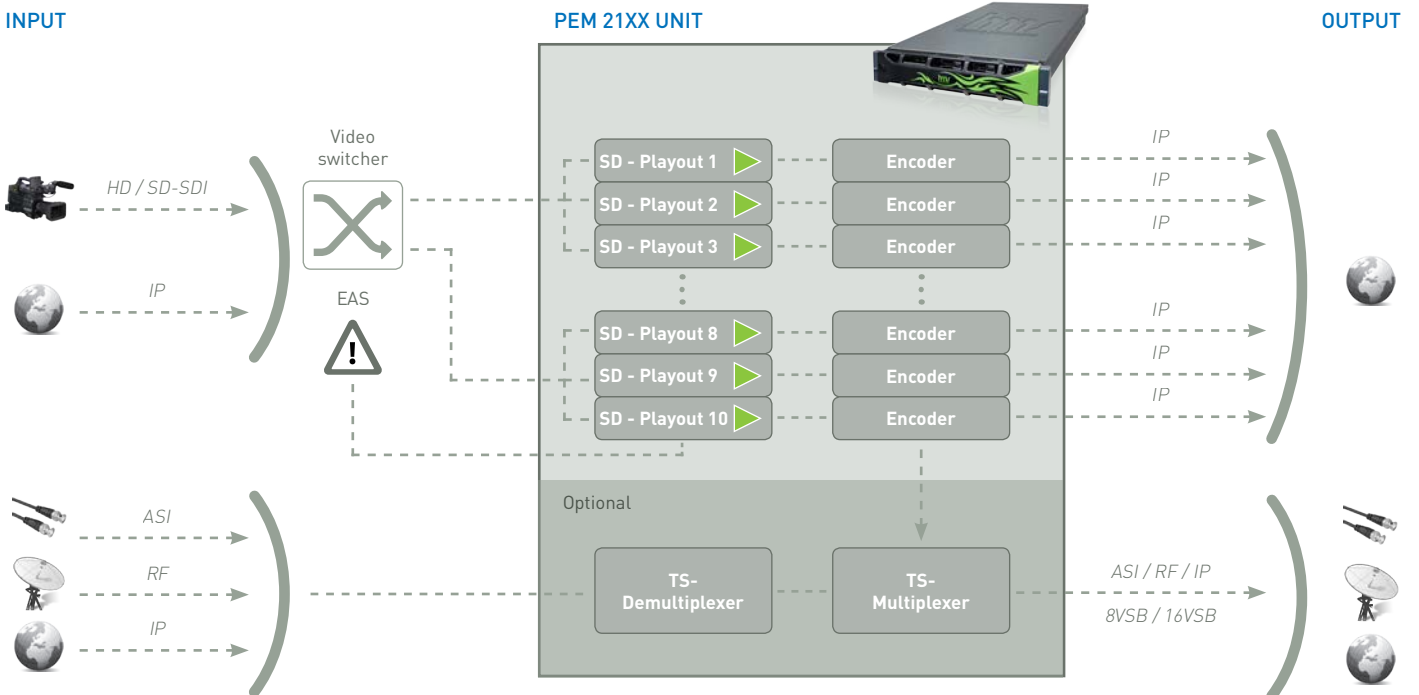
PEM 21XX Series



Key features

- ▶ Unique “channel-in-the-box” combination of SD playout, encoder and multiplexer
- ▶ Simultaneous 10 channel H.264 / MPEG-2 encoder
- ▶ Stereo audio encoding (MPEG-1 Layer II / AAC / Dolby® Digital)
- ▶ DVB / ATSC compliant MPEG-TS multiplexer
- ▶ Optional MPEG-TS remultiplexer
- ▶ Integrated video switcher (live pass through)
- ▶ SDI, IP, ASI and RF input / output (see ordering info)
- ▶ Internal static SI/PSI (DVB), PSIP (ATSC) generator
- ▶ Powerful render engine for real-time insertion of templated graphics with independent layers
- ▶ Live pass through of third party broadcast signals with cue tone (DTMF) detection

Application



Specifications

| PLAYOUT | |
|-----------------------------|---------------------------------------|
| Channels | 10 x SDTV |
| SD resolution / frame rates | 576i @ 25 x 720 480i @ 29.97 x 720 |
| Loudness normalization | EBU R128 / ITU BS-1770-1 / -2 |
| Closed captioning | CEA-608 / -708 |
| VBI | VPS, TTX, WSS |
| EAS | RS232C / RCA audio, standard protocol |
| Channel branding | real-time |

| INPUT | |
|----------------------------|--|
| Audio / Video | |
| SDI | SMPTE 259M |
| HD-SDI | SMPTE 292M |
| Transport stream | |
| ASI | DVB-ASI (optional) |
| Ethernet | IP Stream (RTMP, RTSP, TS over UDP/RTP/TCP) |
| RF | 8VSB / 16VSB (optional) |
| Signal synchronization | |
| External | Black Burst / Tri-SYNC |
| Resolution and frame rates | |
| SD | 576i @ 25 x 720 480i @ 29.97 x 720, 704 |
| HDV | 720p @ 50, 59.94 x 1280 |
| HDTV | 1080i @ 25, 29.97 x 1920 |

| OUTPUT | |
|----------------------------|--|
| Audio / Video | |
| SDI | SMPTE 259M |
| HD-SDI | SMPTE 292M |
| Transport stream | |
| ASI | DVB-ASI (optional) |
| Ethernet | IP Stream (RTMP, RTSP, TS over UDP/RTP/TCP) |
| RF | 8VSB / 16VSB (optional) |
| Error correction | |
| FEC | Pro-MPEG |
| Resolution and frame rates | |
| SD | 576i @ 25 x 720 480i @ 29.97 x 720, 704 |

| MPEG-ENCODER | |
|------------------------|------------------------------|
| SD video | |
| MPEG-2 | MP @ ML 1 to 15 Mbps 4:2:0 |
| H.264 / AVC (max. 4 x) | MP @ L3 0.5 to 10 Mbps 4:2:0 |
| Audio | |
| MPEG-1 Layer II | 32 to 384 kbps |
| AAC-LC | 16 to 576 kbps |
| AAC-HE V1 / V2 | 16 to 128 kbps |
| Dolby® Digital | up to 640 kbps (AC-3 2.0) |

| TS-MULTIPLEXER | |
|------------------|--|
| Video format | MPEG-2 / H.264 |
| Audio format | MPEG-1 Layer II / AAC / Dolby® Digital |
| Standard | DVB / ATSC |
| SI/PSI insertion | all mandatory DVB tables |
| PSIP insertion | all mandatory ATSC tables |

| TS-REMULTIPLEXER (OPTIONAL) | |
|-----------------------------|--|
| Input sources | DVB ASI / IP / RF |
| Ancillary data | automatic PSI and DVB-SI extraction, regeneration and insertion |
| Table processing | adaptation of PIDs, services, tables and descriptors |

| PHYSICAL DIMENSIONS | |
|---------------------|---|
| H x W x D | 3.40 x 17.35 x 31.21 in (2 RU) [86.3 x 440.6 x 792.7 mm] |
| Weight | approx. 55 lb [25 kg] |

| POWER | |
|--------------------------|---|
| Voltage | 100 V to 240 V, 12.00 A to 6.00 A, 50 Hz to 60Hz |
| Wattage | 1023 W on 100 VAC to 120 VAC, 1100 W on 200 VAC to 240 VAC |
| Maximum heat dissipation | 4774 BTU/hr |

| ENVIRONMENTAL | |
|-----------------------|--|
| Operating temperature | 50 °F to 95 °F (10 °C to 35 °C) |
| Storage temperature | -40 °F to 149 °F (-40 °C to 65 °C) |
| Relative humidity | 20 % to 80 % (noncondensing) |
| Quality mark | CE compliant |
| Safety | EN 60950, EN 62311 |
| EMC | EN 55022, EN 55024, EN 61000, IEC 61000 |

| ORDERING INFORMATION* | |
|-----------------------|--|
| PEM 2100 | 10 x SD playout 10 x SD MPEG encoder 1 x DVB / ATSC multiplexer 2 x IP in / out 1 x ASI in / out |
| PEM 2110 | 1 x PEM 2100 + 4 x SD / HD SDI in |
| PEM 2115 | 1 x PEM 2100 + 10 x SD / HD SDI in |
| PEM 2120 | 1 x PEM 2100 + 1 x RF out |
| PEM 2121 | 1 x PEM 2100 + 2 x RF in + 1 x ASI in / 1 x ASI out |
| PEM 2122 | 1 x PEM 2100 + 2 x RF in / 1 x RF out + 1 x ASI in / 1 x ASI out |
| PEM 2132 | 1 x PEM 2100 + 3 x ASI out |

* Example configurations, other configurations available on request.
All PEM 21XX units available with optional TS-Remultiplexer
(PEM 21XXR).

