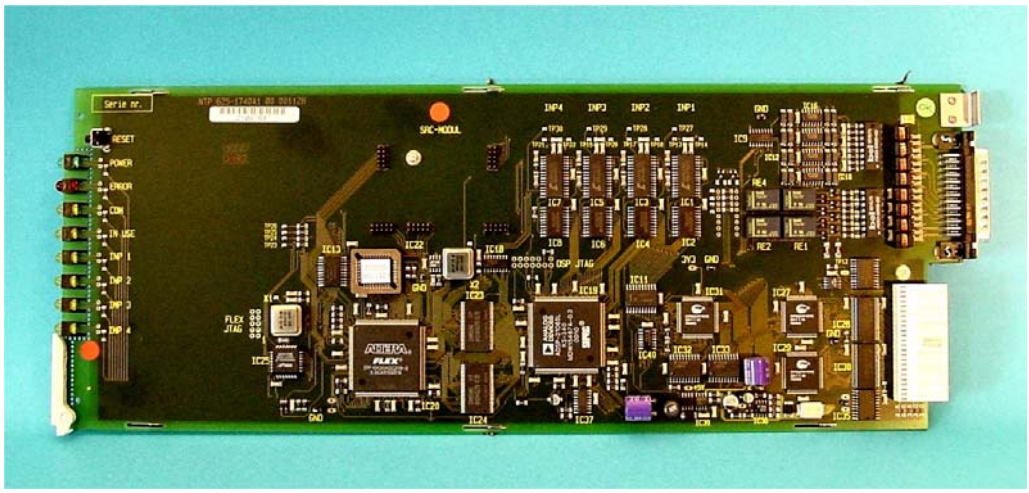
NTP TECHNOLOGY A/S

625 Digital Switching System
AES/EBU I/O Card 625-170A



General Description.

The card is equipped with 4 balanced inputs and 4 balanced outputs for AES/EBU formatted signals (conforming to AES3-1992 specifications). Its function is to convert the incoming and outgoing signals between the AES/EBU signals and the TDM bus format. The sampling frequency of the incoming and outgoing signals is 48kHz and synchronized to the ref. sync of the system. However, inputs out of lock will normally be routed with only the occasional loss or repetition of a sample, providing the sampling frequency is within 48kHz ±12,5% (AES/EBU specification).
User bits, channel bits, parity bits and validity bits can be routed transparently to other AES/EBU outputs. However, a non-transparent mode can be selected for special applications. In this case, a default channel status setting is applied to the output to ensure that the receiver of the following equipment is always able to lock on it.
Optionally, a Sample Rate Converter module can be mounted on the board, accepting any input sample frequency between 10kHz and 48kHz.
The card is equipped with relay contacts, to connect one output at the time, to the Output monitor bus.

The 625-170A card is equipped with DSP power for making the following functions available;
Level adjustment, mixing, summing (Stereo to Mono), modulation detection, phase shift, delay and various filter functions etc.

Specifications:

Input

Number of Inputs (Stereo)	4
Input sample frequency without SRC	48kHz
Number of audio bits	24bits
Input impedance, balanced floating (0,1 to 6MHz)	110Ω ±20%
Input signal level (Input accept signals with eye diagram According to AES3-1992)	0,2 Vpp to 7 Vpp
Input common mode rejection	No data errors with 7 Vpp common mode signal from DC to 20kHz

With Sample Rate Converter module

Input sample frequency range	10kHz - 48kHz
Number of audio bits	20bits
Dynamic range (20 Hz – 20 kHz at -60 dB input)	120dB
Total harmonic distortion +noise (20 Hz – 20 kHz, full-scale input)	< 110dB
Total harmonic distortion +noise (1 kHz, full-scale input)	< 110dB

Output

Number of Output (Stereo)	4
Output sample frequency	48kHz
Output impedance, balanced floating (0,1 to 6 MHz)	110Ω ±20%
Output signal level (R^{load} = 110Ω)	Between 2 Vpp and 7 Vpp. Typical 4,5 Vpp
Ouput common mode component (DC to 6MHz)	More than 30dB below output signal
Output data jitter	Less than ±5 nses

Audio data format
The system is bit to bit transparent, but only when there are no defined DSP functions that change the signal amplitude.

Channel Status bit
The system is transparent to the channel status bit when both signals in an AES/EBU signal comes from sources which are block-synchrone and there are no DSP functions in the signal route which might influence the channel status content.

User bit
The system is always transparent to user bit, except when the signal comes from an input with Sample Rate Converter.

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