

# MSE19

## MULTIPLEX STEREO ENCODER / RDS GENERATOR



MSE19 is a compact high-performance Multiplex Stereo Encoder whose elective use is intended to be on studio or re-broadcast transmitter sites. Its careful “audiophile” design continues the long tradition of quality and the experience in this type of apparatus for which SIEL was recognized since early '80. A small elegant cabinet encloses an advanced digital control and a powerful circuitry which assures laboratory-grade performance with overall local or remote control and a superior flexibility together with affordable cost.

Multiplex signal synthesis is obtained mainly in analogue domain with a pseudo-digital stepwise modulator which assures the best of the two worlds: a clean distortion-less and artifacts-free sound joined to the highest linearity and stereo separation. The LF stereo input channel may be fitted with a Digital Audio AES / EBU input card for direct link to a digital processing source. Similarly a RDS generator board fully programmable via software and phase locked to the local Mpx signal may complete the equipment where required.

The small and elegant 19" rack is robustly shielded and guarantee excellent immunity to strong external RF fields such as those present in a radio transmission site. The performance of the equipment are state of the art and do not add any noticeable degradation to high grade input signal, allowing the generation of stereo multiplex with or without RDS of the highest quality. The MSE19 is extremely versatile and widely programmable in levels, sensitivity and in all its functions via a single multi-function front panel knob and a large display. Through these latter in conjunction to a powerful microcontroller, driven by an intuitive and friendly internal software, several other functions are also available for the precise measurement and control of the input / output signals. The user can also program an alarm threshold adjustable in sensitivity and time which may be used in a remote control

### TECHNICAL DESCRIPTION

- Precise and versatile microcontroller driven
- Possibility to generate a programmable alarm in case of modulation loss
- Highest quality Stereo Encoder
- Parallel and serial I/O remote control connectors
- Optional internal RDS Generator, externally programmable and phase locked with the Mpx signal. The main programmed parameters are shown on the display
- Universal AC adapter (90 ÷ 260 Vac)
- Excellent spectral purity of the generated signal
- Password protection on critical data and parameters

## MSE19 TECHNICAL SPECIFICATIONS

- L, R frequency response: 30 Hz ÷ 15 kHz ±0.1dB
- L, R level: -3.5 ÷ +12.5 dBm or -13.5 ÷ +2.5 dBm (opt. H)
- L, R input connectors and impedance: XLR female, 600Ω/10kΩ balanced
- L, R variation: 32 x 0,5dB precise steps
- 19kHz attenuation on LF channels: >60dB
- Stereo separation: >60 dB (30 ÷ 15000 Hz)
- Harmonic distortion (THD): ≤0,03% (30 ÷ 7500 Hz)
- Pre-emphasis time constant: 0, 50, 75 μs ±1%
  
- Auxiliary channel frequency response: 20 ÷ 100kHz ±0.1dB
- Aux signal level: -12.5 ÷ +3.5 dBm @ ±7.5kHz deviation  
-24 ÷ -8 dBm @ ±2kHz deviation
- Aux input connector and impedance: BNC, 10kΩ unbalanced
  
- Mpx output level: 0 ÷ +10 dBm
- Signal to Noise ratio: >86 dB (30 Hz ÷ 20 kHz, stereo decoded with or without embedded RDS)
- Alarm threshold level and time: -22 ÷ -12 dB continuously adj., 10 ÷ 255 with 1 second step
  
- RDS/RDBS signal and control: Conforming to CENELEC EN50067 and UECP control protocol
- Available services: PI, PS, PTY, TP, AF, TA, PTYN, DI, EON, RT+, M/S, PIN, ECC, RT, TDC, IH, ODA, CT, LIC, TMC
- Text memory: Up to 100x255 characters for RT o dynamic/scrolling PS
  
- RDS level vs. Mpx: 0 ÷ 7%, factory adjusted to 2.7% (2kHz deviation)
- RDS phase vs. Pilot tone subcarrier: 0 ÷ 180° selectable with 9.5° steps. Factory adjusted to 90°
- RDS spurious signals suppression: >90 dB
  
- Remote control: Parallel on SubD9 male connector (TA on, alarm)  
RS232 serial on SubD9 female connector (main commands, optional)  
RS232 serial on SubD9 female connector (RDS control, optional)
  
- Dimensions and weight: 483x43,5x300mm, <3,5kgr
- Power supply: 90 ÷ 260Vac 50/60Hz <11W (25VA)

**INFORMATIONS HERE REPORTED ARE AS ACCURATE AS POSSIBLE AT THE TIME BEING. SIELCO RESERVES RIGHT TO VARY EITHER THE CIRCUITRY AND DETAILS IN ORDER TO IMPROVE THE PRODUCT.**

### MSE19 – rear panel

