



**TSE 6802**  
**Digital Stereo Audio**  
**Transmission System**

## TSE 6802 Digital Stereo Audio Transmission System

The system is designated for a monophonic or stereophonic wireless audio signal transmission within 420 MHz band to a distance according to the transmitting power and field conditions. Due to digital modulation, a better audio transmission quality is acquired during a weak signal in the noise threshold in comparison with the analogue systems. The set is designed as a frequency tuneable unit. In a case of interference, it is possible to retune to another RF channel.

The transmission is continuous without amplitude modulation of the carrier. This limits the possibility of undesired penetration of the signal into other electronic devices (e.g. car radio, walkman, etc.). During interference, no characteristic audio effects occur, as known in e.g. mobile phones.

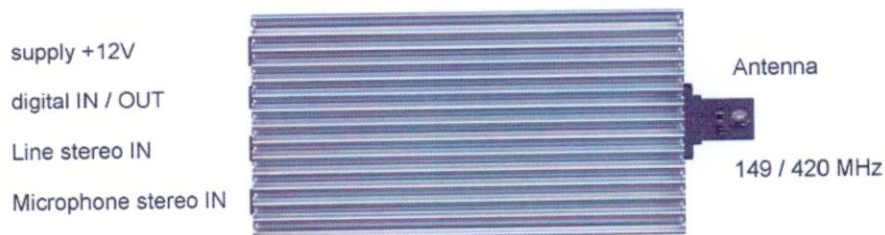
An unauthorized listening is practically eliminated by digital transmission, method of coding and encryption. A regular AM or FM receiver indicates the signal as an increased level of noise only. A data word of the encrypted audio signal does not contain any obvious signs such as e.g. start or stop bites, which makes the possibility of undesired decoding far more difficult. An encryption table to the individual transmitters is being designated during manufacturing.

The remote control takes place at the single frequency in the 150 MHz band, equal for all manufactured transmitters. The desired transmitter is located by a digital code being transmitted at every command. When the transmitter is controlled, it is identified by its assigned address, which is a number from 0 to 255.

For transmission of the remote control signals the same antennas are used like in case of an audio signal transmission. Therefore, the equipment may simultaneously receive as well as transmit by a single antenna on the transmitter and the receiver too. This is permitted by a frequency separator installed in both devices.

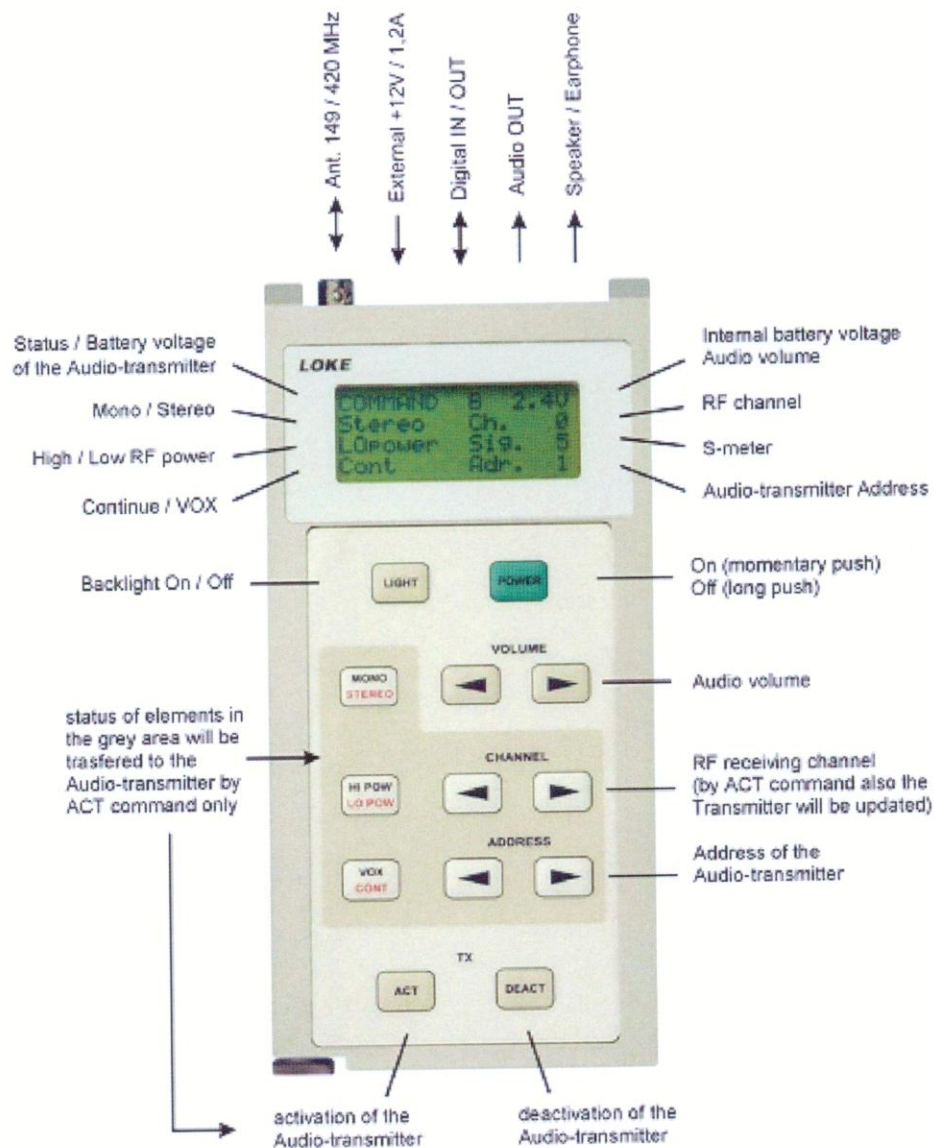


Standard Stereo Audio Transmitter



2 watt Stereo Audio Transmitter

## Digital Stereo Receiver & Commander





## TSE 6802 TECHNICAL SPECIFICATIONS

### Transmitting Units

#### Standard Transmitter

- Dynamics compressor Rising time approx. 0.1s, falling time approx. 4s
- Switch-off time in VOX regime 13 seconds after acoustic stimulus dies away
- Crosstalk between audio-channels 40 dB (depending on audio frequency)
- RF power / DC consumption (typical values)
 

HI Power	170mW / 95mA - supply voltage 6V (nominal) 80mW / 90mA - supply voltage 3.6V (min)
LO Power	12mW / 42mA - supply voltage 6V (nominal) 10mW / 40mA - supply voltage 3.6V (min)
- Spurious RF products < 40dBc (non harmonics)
- VOX consumption 0.4mA - average value (without activation stimuli)
- INACTIVE consumption 0.14mA - average value
- Battery polarity reversal Without any damage – protection by serial Schottky diode
- Climate operating conditions -10°C to +60°C / 14F to 140F, humid environment
- Dimensions 54x27x8 mm / 2.1x1.1x0.3 inches (without contact pins)

#### High Power Transmitter – 2W

- Stereo inputs: Audio line 0.7V (ef) Microphone (electret, 3V bias introduced through 4.7 k. .resistor)
- Digital input/output: TTL audio signal data stream input TTL remote control signal output
- Dynamics compressor: Rise time 0.1s (approx.), fall time 4s (approx.)
- Switch-off time in VOX mode: 13 seconds after acoustic stimulus or data stream dying down
- RF power:
 

HI Power:	2.5W
LO Power:	0.2W
- Spurious RF products: < 55dBc (non-harmonic components) < 60dBc (harmonic components)
- Supply: +12V (min. 8V, max. 15V) / max. 0.8A – DC/DC converter used
- Reversal of battery poles: Without transmitter damage – serial Schottky diode protection
- Climatic operating conditions: -10 to +60°C, humid environment
- Size: 100.51.27mm / 3.9x2.0x1.1 inches

## Receiving Unit

Receiver sensitivity 1 $\mu$ V (Mono), 1.5 $\mu$ V (Stereo) - listening without noticeable defects 0.8 $\mu$ V (Mono); 1.2 $\mu$ V (Stereo) - good speech intelligibility 0.5 $\mu$ V (Mono), 0.8 $\mu$ V (Stereo) - listening on the edge of intelligibility

- RF signal processing Double mixing, 1.MF=159.825MHz, 2.MF=10.7MHz, PLL detector
- S-meter Displayed value from 0 up to 100 (see the picture below this table)
- Data synchronization Bites - hardware PLL Frames - to maximum average of parity
- Synchronization time < 0.1s
- Noise squelch After data stream loss, artificial noise -18dB
- Receiver digital output TTL, updated copy of received data for retransmission
- Receiver line output 0.7V
- Receiver repro output 4., 1W
- Remote control RF power 1W (according to battery voltage, external source, resp.)
- External source voltage 12V nom. (8V min., 15V max.)
- Current consumption: 110 mA from external power supply (+50 mA – display backlighting)  
200 mA from internal 3V battery (+90 mA – display backlighting)
- Internal battery 2 x AA
- Receiving operating period Up to 10 hours depending on battery quality and use of remote control command (without display backlight)
- Ext. source polarity reversal Device damage free - protection by a polarized relay
- Int. battery polarity reversal May lead to a damage - not permitted!
- Climatic oper. conditions -10°C to +60°C / 14F to 140F, internal environment without humidity
- Dimensions 205x95x40 mm / 8.1x3.7x1.5 inches (without connectors)



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