

# SI 30/SZI 30

## IR Audio Transmission Technology | Modulators/Radiators

### General Description

The SI 30 is a wideband modulator with an integral radiator. It can be switched between operation on channel 1 (2.3 MHz), channel 2 (2.8 MHz) and stereo operation. Due to its compact size and relatively low radiating power, the SI 30 modulator/radiator and the SZI 30 radiator are an ideal choice for smaller or medium-sized rooms, for covering recesses or for applications which require transmission of audio information to well defined zones, e.g. in museums.



### Technical Data SI 30

Modulation .....	wideband FM
Nominal deviation .....	$\pm 50$ kHz
Carrier frequencies .....	2.3 MHz, 2.8 MHz
AF input.....	3-pin Texas socket
AF input voltage for nominal deviation.....	45 mV – 4 V (automatic modulation control)
AF frequency response .....	30 – 18,000 Hz
THD (1 kHz, nom. dev.) .....	$\leq 1$ %
AF signal-to-noise ratio .....	$\geq 60$ dB(A) <sub>rms</sub>
RF output.....	3.5 mm mono jack
Output impedance.....	approx. 50 $\Omega$
IR diodes .....	11
Max. coverage area .....	approx. 80 m <sup>2</sup> , single-chn.
Radiating power .....	approx. 0.5 W
Operating voltage.....	24 – 27 V DC via 2-pin Texas socket
Current consumption .....	approx. 180 mA
Dimensions .....	approx. 118 x 25 x 90 mm
Weight .....	approx. 140 g

### Features

- Compact radiator and modulator/radiator for the carrier frequencies 2.3 MHz and 2.8 MHz
- Easy installation and precise alignment
- Delivery includes:  
SI 30: 1 x SI 30 modulator/radiator, 1 x AF connection cable, 3.5 mm stereo jack plug to Texas connector, length 2 m, 1 x 3.5 mm/1/4" stereo jack adaptor  
SZI 30: 1 x SZI 30 radiator

The NT 20-1 plug-in mains unit is not included in the delivery. Please order it separately in the version you require (European, UK or USA versions available).

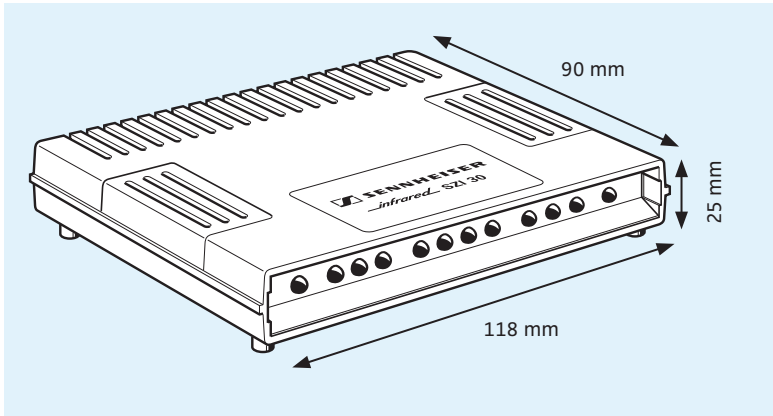
### Technical Data SZI 30

Nominal deviation .....	$\pm 50$ kHz
Carrier frequencies .....	max. 6 MHz
AF frequency response .....	depends on modulator
THD (1 kHz, nom. dev.) .....	$\leq 1$ %
AF signal-to-noise ratio .....	$\geq 60$ dB(A) <sub>rms</sub>
RF input .....	3.5 mm mono jack
RF output.....	3.5 mm mono jack with a 50- $\Omega$ term. impedance
Output impedance.....	approx. 20 k $\Omega$ or 50 $\Omega$ *
IR diodes .....	11
Max. coverage area .....	approx. 80 m <sup>2</sup> , single-chn.
Radiating power .....	approx. 0.5 W
Operating voltage.....	24 – 27 V DC via 2-pin Texas socket
Current consumption .....	approx. 150 mA
Dimensions .....	approx. 118 x 25 x 90 mm
Weight .....	approx. 135 g

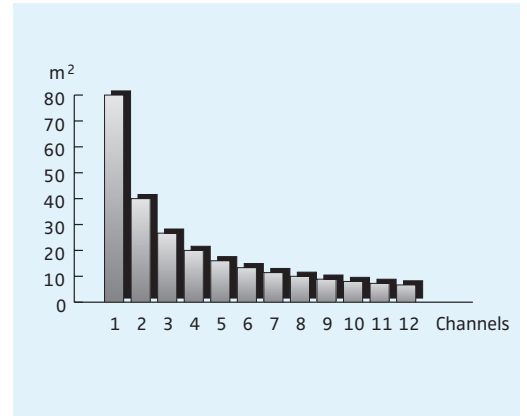
\*see description on the following pages

# SI 30/SZI 30

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Dimensions of the SI 30 / SZI 30



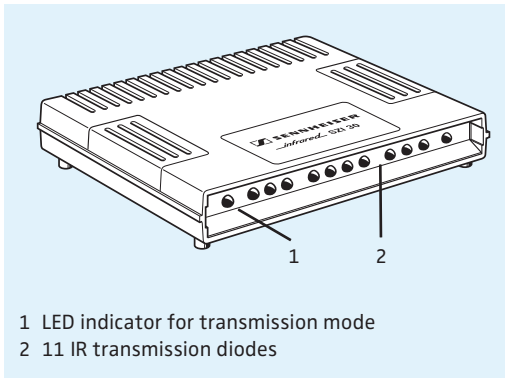
Coverage area of the SI 30 / SZI 30

### Recommended Accessories

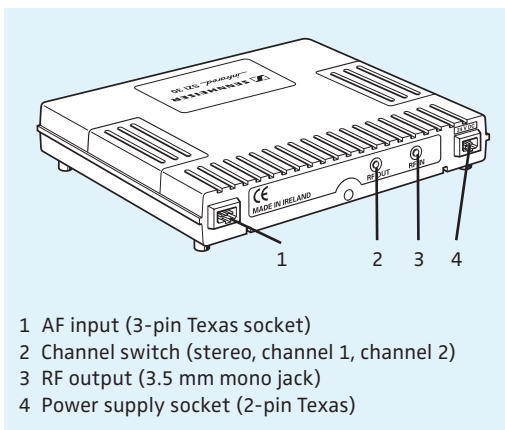
- Plug-in mains unit
  - NT 20-1 European version Cat. No. 003600
  - NT 20-1-120 USA version Cat. No. 003601
  - NT 20-1-UK UK version Cat. No. 003602
- Mains unit for up to four SI 30 / SZI 30
  - NT 20-4 European version Cat. No. 003603
  - NT 20-4-120 USA version Cat. No. 003604
  - NT 20-4-UK UK version Cat. No. 003605
- RF connection cable (2 x 3.5 mm jack)
  - KR 20-7 (7.5 m) Cat. No. 003535
  - KR 20-015 (0.1 m) Cat. No. 003536
- AF extension cable (2 x Texas)
  - KK 20-1 (1 m) Cat. No. 003557
  - KK 20-7 (7.5 m) Cat. No. 003558
- KK 20-015 4-way "octopus" cable (Texas) Cat. No. 003599
- IZK 20 mounting clamp Cat. No. 003560
- IZM 20 cluster mounting kit Cat. No. 003561

# SI 30/SZI 30

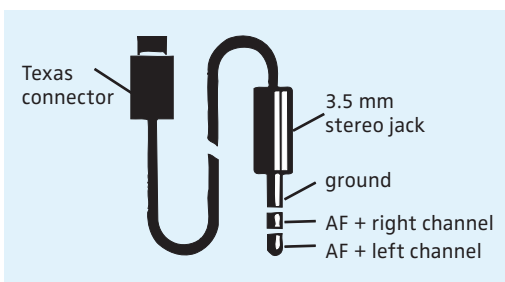
## IR Audio Transmission Technology | Modulators/Radiators



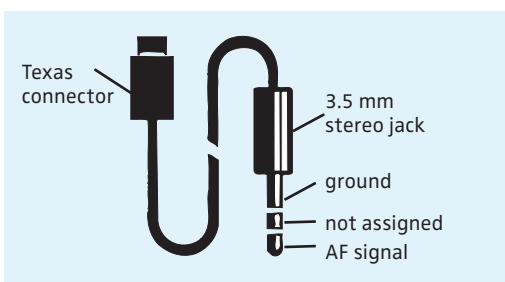
SI 30 front panel



SI 30 back panel



Connector assignment in stereo operation



Connector assignment in single-channel operation

### SI 30 Modulator/Radiator

The SI 30 is a miniature combination modulator/radiator. It is slim and compact but can cover areas of up to 80 m<sup>2</sup> in mono operation. The integrated modulator uses stereo wideband modulation. When the audio signal at the SI 30 input exceeds a certain threshold value, the modulator/radiator is switched on automatically. It switches off again when there has not been an audio signal for about 2 minutes. Transmission is indicated by a green LED on the left of the front panel.

The radiator of the SI 30 comprises 11 IR transmission diodes connected in series. The AF input of the SI 30 is a 3-pin Texas socket located at the back of the unit, on the left. It is an unbalanced stereo input, so you should not use long connection cables. A 2 m connection cable with 3.5 mm stereo jack to a 3-pole Texas connector is supplied as standard.

An automatic modulation control adapts to audio signals between 45 mV and 4 V. This process is effected over a period of about one minute, so that short speaking pauses do not entail a greater amplification. Problems may arise when you are working with microphones and very different signal levels. Longer breaks can lead to a strong increase in amplification.

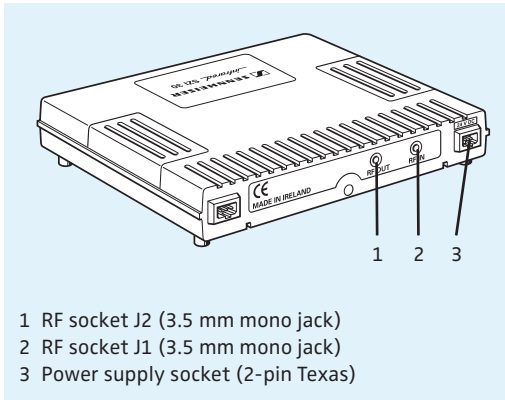
When connecting the SI 30 to headphone sockets of TV sets or similar sound sources, you should adjust the level to a medium value. Too low a level results in more noise. With the channel selector switch, you can choose between channel 1 or 2 transmission or stereo operation. In mono operation, the integrated radiator and all connected radiators can cover a greater area. For mono transmission, choose the frequency suitable for the receiver, e.g. 2.3 MHz (channel 1) for the RI 150.

The RF output for connection of additional radiators is designed as a 3.5 mm mono jack socket. You can connect both SZI 30 mini radiators or high-power radiators such as the SZI 1029. For short distances, you can use connection cables from the Sennheiser accessory range. When working with greater cable lengths, you can make your own cables using standard 50-Ω RG 58 co-axial cable.

The NT 20 plug-in mains unit is connected to a 2-pin socket at the back of the SI 30. For supplying clusters, e.g. one SI 30 modulator/radiator and two SZI 30 radiators, you can use the NT 20-4 plug-in mains unit and a KKY 20-015 4-way "octopus" cable for connection. They have been designed for up to four SI 30 / SZI 30 units.

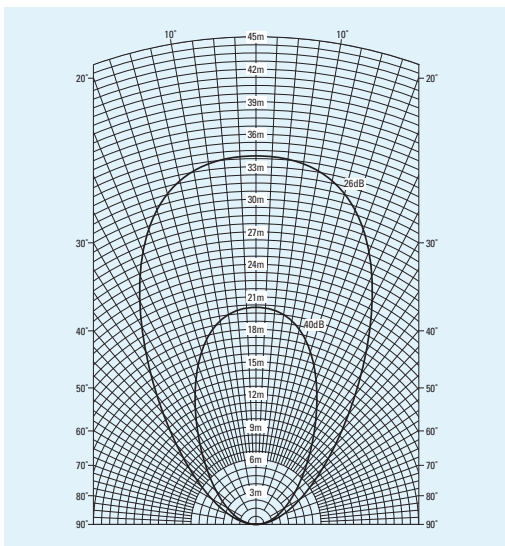
# SI 30/SZI 30

## IR Audio Transmission Technology | Modulators/Radiators

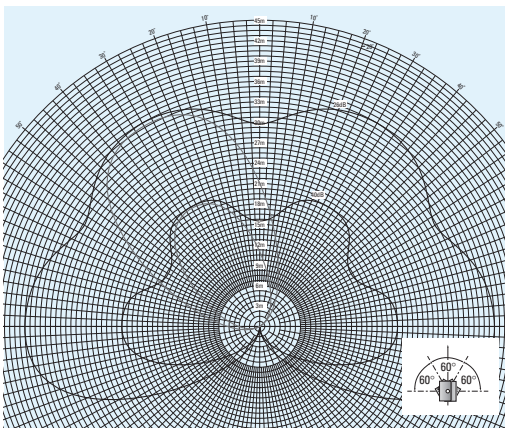


- 1 RF socket J2 (3.5 mm mono jack)
- 2 RF socket J1 (3.5 mm mono jack)
- 3 Power supply socket (2-pin Texas)

SZI 30 back panel



Polar pattern of the SI 30 / SZI 30  
free field, extraneous light < 100 lx, single-channel operation



Four SZI 30, mounted at an angle of 60° to one another. For comparison purposes, the coverage of a single SZI 30 is shown at 30°.

### SZI 30 Mini Radiator

The SZI 30 is a miniature-sized radiator which can be fed modulated signals from an SI 30 or any other modulator. In narrow-band systems it can transmit frequencies of up to 1.3 MHz (channel 31). It has no charging compartments, the LED on the right of the front panel serves as a power indicator instead, showing that a supply voltage is present.

At the back of the SZI 30 you have – besides the DC input connector – two RF sockets. If no plug is connected to the output socket, a 50-Ω terminating impedance is switched into the RF connection.

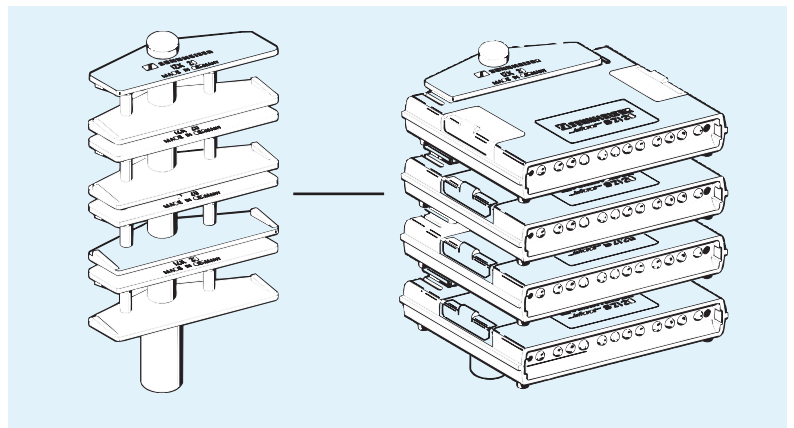
### SI 30 / SZI 30 – Common Features

With their 11 IR transmission diodes, the SI 30 and SZI 30 can cover areas of up to 80 m<sup>2</sup>. In two-channel (stereo) operation, coverage is reduced to 40 m<sup>2</sup>. A signal-to-noise ratio of 26 dB (the outer of the two characteristics in the polar diagram) gives an intelligible but noisy signal. Only a signal-to-noise ratio of > 40 dB ensures comfortable listening without the annoying noise.

SI 30 modulators/radiators and SZI 30 radiators are especially suitable for the following applications:

- As small wideband systems, e.g. for transmitting TV sound. Such a system can consist entirely of SI 30 and SZI 30.
- As auxiliary radiators in combination with the SZI 1029, for covering room niches and recesses.
- As “island solutions” – e.g. for exhibits in a museum. Such a system can economically be implemented using the SI 30. The individual areas within the museum have to be optically decoupled, giving the visitor exactly the audio information which is associated with the exhibit he or she is facing – without having to switch channels.

With the IZK 20 mounting clamp and the IZM 20 cluster mounting kit, up to four SI 30/SZI 30 can be mounted on top of one another. This makes it very easy to align them correctly, at an angle to one another. The diagram on the left shows an installation in which the radiators have been mounted in 60° steps. The result is an almost uniform coverage over an angle of 200°.



Radiator cluster with four IZK 20 clamps and IZM 20 cluster mounting kit

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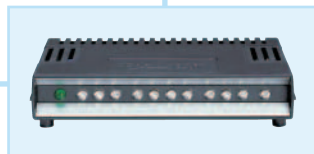
## IR Audio Transmission Technology | Modulators/Radiators



AF connection cable, 3.5 mm stereo jack plug to Texas connector (supplied with the SI 30)



IZM 20 cluster mounting kit, includes screws and flange for combining up to four IZK 20 in a cluster, 3/8" and 5/8" internal threads



SI 30



IZK 20 mounting clamp for one SI 30 / SZI 30, 3/8" internal thread



KK 20 extension cable for connecting the plug-in mains unit to the modulator/radiator, lengths: 1 m (KK 20-1) and 7 m (KK 20-7), can also be used with the NT 20-4



KR 20-7 RF connection cable, 3.5 mm mono jack plug, length 7 m



GZG 1029 swivel joint



KR 20-015 RF connection cable, 3.5 mm mono jack plug, length 0.15 m, for connecting clusters



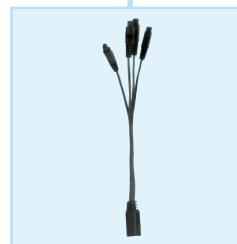
MZT 100 anti-vibration table stand



GZP 10 mounting plate



SZI 30



KKY 20-015 4-way "octopus" lead for connecting the NT 20-4 to SZI 30 / SI 30 clusters



NT 20-1 Plug-in mains unit for one SZI 30 / SI 30, European, UK and USA versions available



NT 20-4 plug-in mains unit for up to four SZI 30 / SI 30, European, UK and USA versions available