



STUDIO TRANSMITTER LINK SOLUTION

Streamit's Studio Transmitter Link solution makes it a lot easier for radio stations to transmit their programs to FM transmitters and cable head-ends. By using standard internet technology, the setup and configuration of a STL connection is fast and easy. The Ogg Vorbis audio codec provides excellent audio quality.

Advantages:

1. High quality audio
2. Uses standard internet connections
3. Easy installation and configuration
4. Remote configuration and monitoring
5. Limited network knowledge required
6. 19" rack mountable

Easy to install

The STL solution consists of a transmitter and a receiver, which can also be used independently from each other. Using the optional rack mount kit, both devices can be mounted in a 19" rack. With standard CAT5 cables the devices are connected to the data network. Audio inputs and outputs are balanced XLR connectors.

Transmitter (SAS250 and SAS220)

The transmitter (SAS250 or SAS220) is installed in the studio and is equipped with XLR inputs and a headphone output. Analog audio is encoded in Ogg Vorbis format. This delivers excellent audio quality and requires little bandwidth. A standard ADSL connection normally provides sufficient bandwidth. Configuration of the transmitter (SAS250 and SAS220) is done with the Streamit Device portal. The SAS250 and SAS220 are able to do point-to-multi-point streaming: A stream is sent from one transmitter to several receivers.

Receiver (SIR150 and SIR120PRO)

The receiver (SIR150 or SIR120PRO) is installed in the cable head-end, in the FM transmitter station or at the satellite uplink. The SIR150 and SIR120PRO has XLR outputs and supports not only Ogg Vorbis streams but also AAC+, WMA and MP3. An SD(HC) memory card with a backup radio program deals with unexpected network issues. After a network or power failure the SIR150 and SIR120PRO automatically reconnects to the transmitter (SAS250 or SAS220). The configuration of the SIR150 and SIR120PRO is done with Streamit's Device portal. This portal also allows for remote monitoring and configuration. A long drive to the head-end or to the FM transmitter site will become a rare trip.

RDS data

Both the SAS250 transmitter and the SIR150 receiver have an RS232 port for transparent RDS data transfer. The SAS220 and SIR120PRO do not support RDS.

Low delay

The Streamit SAS250, SAS220, SIR150 and SIR120PRO have a 'low delay' feature. Contrary to common audio transmission over the internet the delay for Streamit's STL is less than 1 second, depending on the bitrate being used.

Transmitter locations

Streamit's STL solution is being used around the globe by small and large radio stations and by cable and satellite network operators just as well. Network operators in particular are enthusiastic about the possibility to standardize and increase productivity because of the flexibility Streamit's STL solution offers.



PRODUCT FEATURES



MP3 is the most commonly used format for storing digital audio as well as for audio streaming.
Applies to devices: SIR150 SIR120PRO SAS220



WMA is the Microsoft audio format. This format is used by many internet radio stations.
Applies to devices: SIR150 SIR120PRO



Ogg Vorbis is a free and open source audio format intended to serve as a replacement for MP3. For many applications, Ogg Vorbis has clear advantages over other audio formats in that it produces smaller files at equivalent or higher quality when using bitrates ≥ 64 kbps. *Applies to devices: SIR150 SIR120PRO SAS250 SAS220*



AAC+ is a standardized audio format and designed for 16-48 kbps streaming audio applications. CD quality is achieved at 48 kbps.
Applies to devices: SIR150 SIR120PRO



SAF (Store And Forward) enables the device to update the audio content of the memory card from a remote server. *Applies to devices: SIR150 SIR120PRO*



SMCP (Streamit Monitoring and Control Protocol) is used to monitor and control your device. The device sends status message at user-defined intervals to a remote monitoring server; from the remote server also commands can be sent to the device.
Applies to devices: SIR150 SIR120PRO SAS250 SAS220



Encryption. The device supports both playback of encrypted files and encrypted streams. *Applies to devices: SIR150 SIR120PRO*



Scheduler. Schedules can be sent to the device from a remote server, consisting of all kind of tasks to be executed at desired moments in time and daily intervals.
Applies to devices: SIR150 SIR120PRO



RSU (Remote Software Update) enables the device to update its internal software from a remote server.
Applies to devices: SIR150 SIR120PRO SAS250 SAS220



LD (Low Delay) enables the delay between source and receiver to be reduced to less than 1 second, depending on the bitrate being used. *Applies to devices: SIR150 SIR120PRO SAS250 SAS220*

ABOUT STREAMIT

Streamit is a Dutch company specialized in the development and marketing of transmitter and receiver equipment for audio and video streaming over the internet. We develop our products for niche markets where quality and specific requirements can not be met by standard consumer solutions. Our products and solutions are being used worldwide.

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TECHNICAL INFORMATION

ORDER INFORMATION

Type number Europe
Type number US / Canada
Type number UK
Type number Australia

SAS250 / SAS220

SAS250 / SAS220 - EU
SAS250 / SAS220 - US
SAS250 / SAS220 - UK
SAS250 / SAS220 - AU

SIR150 / SIR120PRO

SIR150 / SIR120PRO - EU
SIR150 / SIR120PRO - US
SIR150 / SIR120PRO - UK
SIR150 / SIR120PRO - AU

INCLUDED IN DELIVERY

SAS audio streamer or SIR internetradio, Powersupply 12 Vdc with screw jack, Ethernet cable RJ45 3m, USB programming cable, Quick start manual

SIZE AND WEIGHTS

Sizes (b x d x h mm)	220 x 125 x 45	220 x 125 x 45
Size of packaging (b x d x h mm)	310 x 220 x 100	310 x 220 x 100
Weight (g)	800	800
Total weight in packaging (g)	1300	1300

SPECIFICATIONS

	SAS250 / SAS220	SIR150 / SIR120PRO
Stereo decoder		MP3, WMA, AAC+ and Ogg Vorbis
Stereo encoder	Ogg Vorbis	
Samplefrequency (max. kHz)	48	48
Bitrate (stereo, max. kbps)	256	320
Ethernet controller	10 Mbps	10 Mbps
Audio input impedance	> 20 kOhms (balanced)	
Common mode rejection ratio	> 50 dB	
Inputlevel (nominal, clipping)	6 / 15 dBu	
Outputlevel (nominal, clipping)		6 / 15 dBu
LCD-display	662 x 15 mm, 2 x 16 characters, 5 x 8 dots	
LCD-display with backlight / color	yes/blue	yes/blue
Languages	English	English / NL, EN, DE, FR, ES
Real-time clock	yes	yes
Firmware upgrade on-line	yes	yes
Compatible with Icecast	yes / yes	yes / yes
Compatible with Shoutcast	no / no	yes / yes
Windows Media Streaming compatibel		yes
SD memory card / back-up	no	yes
Poweradapter	100 - 240 VAC / 12 Vdc - 500mA	
Power consumption		
- standby (typical W)	2	2
- operation (typical W)	3	3
Streaming clients	2 (max)	

INPUTS

	SAS250 / SAS220	SIR150 / SIR120PRO
Ethernet 10 Base-T	RJ45	RJ45
Power in 12 Vdc	Screw-jack	Screw-jack
Service-connector in/out	USB-A	USB-A
MMC/SD/SDHC-card	no	yes
Infrared control	yes	yes
RS232	yes / no	
Balanced inputs	2x XLR female	

OUTPUTS

	SAS250 / SAS220	SIR150 / SIR120PRO
Stereo lineoutput / headphone	6,3 mm	2 x RCA
Balanced outputs		2x XLR male
RS232		yes / no

TEMPERATURE RANGE

	SAS250 / SAS220	SIR150 / SIR120PRO
Operation (°C)	+10 to +35	+10 to +35
Storage packed (°C)	-25 to +50	-25 to +50
Storage unpacked (°C)	0 to +45	0 to +45

ACCESSORIES

	SAS250 / SAS220	SIR150 / SIR120PRO
19"-rack mounting kit	MK (optional)	MK (optional)

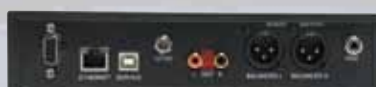
SERVICE COMPONENTS

	SAS250 / SAS220	SIR150 / SIR120PRO
Power adapter (Europe)	SPS/EU	SPS/EU
Power adapter (USA / Canada)	SPS/US	SPS/US
Power adapter (UK)	SPS/UK	SPS/UK
Power adapter (Australia)	SPS/AU	SPS/AU

SIGNAL SPECIFICATION OF COMPLETE SOLUTION

Amplitude response	< +/- 1 dB, from 20 Hz - 20 kHz
Total harmonic distortion	< 0,15%
Total intermodulation distortion	< 0,15%
Signal to noise ratio	> 75 dB relative to 0 dBFS (Unweighted)
Left/right channel level difference	< 1 dB, from 20 Hz - 20 kHz
Left/right channel phase difference	< 5 °, from 20 Hz - 20 kHz
Left/right channel separation stereo mode	> 70 dB, from 20 Hz - 20 kHz
Audio level non-linearity	< 0,4dB, from 20 Hz - 20 kHz @ -40dB
Signal to hum ratio	> 80 dB, RMS from 20 Hz - 1 kHz @ 0 dBFS
Minimum delay @ 128 / 64 / 16 kbps	0,7 / 1,5 / 3,2 s

SIR150



SIR120PRO



SAS250



SAS220

