FAQs

Sonifex Pro Audio Streamers Frequently Asked Questions (FAQ)

This FAQ (frequently asked questions) answers some of the popular questions asked about the Pro Audio Streamers. If you have any specific questions regarding the operation the Pro Audio Streamers which aren't covered below, please contact your nearest distributor, or Sonifex directly.

Pro Audio Streamer and VLC test setups:

Download this FAQ as a PDF file >

VLC GUI:

RTP VLC to Pro Audio Streamer PS-PLAY/PS-AMP (so opening a file on a PC and streaming it to a Pro Audio Streamer PS-PLAY).

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To stream from VLC using RTP click media and streaming.

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e Sele u can	ction select local	files with the follow	ing list and buttons.	
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In the file selection box click Add and add an audio file to playback, once the track is showing in the file selection click stream.

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This dialo You shoul	g will allow you to stream or convert your media for use locally, on your private network, or on the Internet. d start by checking that source matches what you want your input to be and then press the "Next" button to	continue.
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Click next change the destination to RTP Audio/Video profile and click add next to the destination.

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Change the port if needed to the required value for this example port 4444 will be used and set the address to RTP://and then the IP address required, e.g. RTP://192.168.0.35

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Base port 4444 荣		
 Activate Transcoding Profile 	Audio - MP3	• 💥 🗶 🖹
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		Stream Cancel

We also need to ensure the audio is in a format that is supported by the PS-PLAY, to do this select activate transcoding and set the profile to audio-MP3 the PS-PLAY/PS-AMP support all MP3 bitrates up to 320 k so in order to set this click the spanner next to the profile selection.

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) MPEG-PS	© MJPEG	I WAV	© RV
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) ASF/WMV			

Set encapsulation to RAW set the bitrate to 128, 160, 192, 256 or 320k.

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	Profile Name	Audio - MP3			
	Encapsulation	Video codec	Audio codec	Subtitles	
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	Bitrate				320 kb/s 🚔
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HTTP VLC to Pro-Audio Streamer PS-PLAY:



Click media and Streaming.

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In the file selection box click Add and add an audio file to playback, once the track is showing in the file selection click stream.

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Click next and change the destination to HTTP profile and click add next to the destination.

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Enter a port number and a path. We also need to ensure the audio is in a format that is supported by the PS-PLAY, to do this select activate transcoding and set the profile to audio-MP3 the PS-PLAY/PS-AMP support all MP3 bitrates up to 320 k so in order to set this click the spanner next to the profile selection.

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Set encapsulation to RAW set the bitrate to 128, 160, 192, 256 or 320k.

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PS-SEND to VLC

From the GUI:

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Click Media Open network stream.

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If the PS-SEND is configured to send an individual RTP stream then enter rtp://0.0.0.portnum* (* where portnum is the streaming port defined on the PS-SEND) in the network URL and click play

to receive a http stream enter http://xxx.xxx.xxx.portnum/radiopath* (* where xxx.xxx.xxx.xxx =is the IP address of the PS-Send portnum is the streaming port of the PS-Send and radiopath is the streaming radio path of the PS-Send (set to pssend by default)) in the network URL and click play.

PS-SEND and PS-PLAY/ PS-AMP Icecast/Shoutcast Setup:

In cases where multiple clients may need to connect to a stream internet radio for example then the PS-SEND, PS-PLAY/PS-AMP support streaming to and from Icecast/ Shoutcast Servers.

A PS-SEND can be connected to a Shoutcast stream as either a source or a relay.

In cases where a dedicated online Icecast or Shoutcast streaming solution is not being used then an Icecast server can be installed on a PC on the network. This server is then capable of handling multiple steams from multiple sends and redistributing them.

Icecast:

The Icecast server install package can be downloaded from here: http://www.icecast.org/download.php Once installed and opened the interface appears as below:



To configure the server ensure it is stopped and then edit the configuration. The default configuration is as below:

<!-- This config file contains a minimal set of configurable parameters, and mostly just contains the things you need to change. We created this for those who got scared away from the rather large and heavily commented icecast.xml.dist file. --> <icecast> <limits> <sources>2</sources> </limits> <authentication> <source-password>hackme</source-password> <relay-password>hackme</relay-password> <admin-user>admin</admin-user> <admin-password>hackme</admin-password> </authentication> <hostname>localhost</hostname> <listen-socket> <port>8000</port> </listen-socket>

<fileserve>1</fileserve>

<paths>

- <logdir>./logs</logdir>
- <webroot>./web</webroot>
- <adminroot>./admin</adminroot>
- <alias source="/" dest="/status.xsl"/>
- </paths>
- <logging>
- <accesslog>access.log</accesslog>
- <errorlog>error.log</errorlog>
- <loglevel>3</loglevel> <!-- 4 Debug, 3 Info, 2 Warn, 1 Error -->
- </logging>
- </icecast>

The main setting here that we are interested in is the port and source password we also need to know the IP address of the PC the server is installed on.

The send is configured as an Icecast source and the destination IP address and port for the Shoutcast server are entered into the basic settings screen as below:

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s income are interes Streaming under Connection type IP Addess Port No.	send always • locast source • 192 .668 0 .52 8000 • • •	Select the apput source that the used by closes on the appropriate radio loss. Only one can be extended at a time. Channel Mode Select whether the source is Danese are from it more is associated, tesh birth and rept clusterins of the andwork shows portion birt channel disk. The athress becomes dual enset. Encoding Chanses and the encodering webbiods and sampler ratios. Pression becomes the common selection of the encodering webbiods and sampler ratios. Pression becomes the Channel of the encodering webbiods and sampler ratios. Presses note that ig 211 and PCM have self or rems where larger is not at the detected. The apple sampler rate a restricted to 2000, encodering of determines the control from encodering and effective distribution. We restrict the apple sampler rate a restricted to 2000, encoder of the antiple rate on at the detected. The apple sampler rate a restricted to 2000, encoder on the encodering rate of the detected of the apple sampler rate a restricted of the 2000, encoder on the encodering rate of the apple sampler rate a restricted of the 2000, encoder on the encodering rate of the apple sampler rate a restricted of the 2000, encoder on the encodering rate of the apple sampler rate a restricted of the 2000, encoder on the encodering rate of the apple sampler rate a restricted of the 2000, encoder on the encodering rate of the apple sampler rate a restricted of the 2000, encodering rate of the apple sampler rate and restricted of the apple sample rate and restricted of the apple sampler r	
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To connect to the lcecast server installed on the test PC we would enter the relevant port number (here 8000) the IP address of the PC lcecast is running on and click submit to apply these settings.

A radio path must also be entered and submitted in the advanced stream settings Radio Path setting.

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Then the password in the advanced security screen should also be set to the source password in the lcecast config file, (in this case hackme). If there is already a password set then set will be displayed at the side of this box if not it will read unset.

To enter a new password simply type the password into the box and click submit.

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If the lcecast sever is not running then run it now and it should be possible to view a status page in a web browser by typing in the IP address of the PC and port number I.e. for this example: 192.168.0.92:8000.



To view status click the administration menu and when prompted enter the admin user-name and password defined in the lcecast config file.

If the send is streaming correctly then it should be possible to see the radio path we specified as a mount point as below:



If this does not happen and all settings are correct then the most likely problem is that a firewall is blocking some or all of the ports required for use or the lcecast application. To overcome this edit your firewall rules to make an exception for the lcecast application.

Connecting the PS-PLAY/PS-AMP to the icecast server:

Connecting the PS-PLAY to the loccast server is relatively simple the URL is entered as if it is a standard http stream i.e. URL 1 for our example would be : http://192.168.0.92:8000/pssend

Icecast Relay:

There are several reasons why it might be beneficial to relay the PS-SEND output via an Icecast server rather than as a source one of these is if a user wishes to embed meta-data in the Shoutcast stream. To achieve this the PS-SEND is set up as if it is just sending a standard http (internet radio) stream to the pc running the Icecast server.



The port must now be a different one from the one used by the lcecast server so for this example port 8001 is used. The password and radio path must all still be specified as well.

Then to begin sending meta-data you would then enter: http://<ip-ps-send>/rc.cgi?E=StreamTitle='Title'; in the navigation bar, so in our example: http://192.168.0.148/rc.cgi?E=StreamTitle='U2';

The Icecast server itself also needs some additional information so the config file would be changed as below:

<!-- This config file contains a minimal set of configurable parameters, and mostly just contains the things you need to change. We created this for those who got scared away from the rather large and heavily commented icecast.xml.dist file. --> <icecast> <limits> <sources>2</sources> </limits> <authentication> <source-password>hackme</source-password> <relay-password>hackme</relay-password> <admin-user>admin</admin-user> <admin-password>hackme</admin-password> </authentication> <hostname>localhost</hostname> <listen-socket> <port>8000</port> </listen-socket> <fileserve>1</fileserve> <paths> <logdir>./logs</logdir> <webroot>./web</webroot> <adminroot>./admin</adminroot> <alias source="/" dest="/status.xsl"/> </paths> <logging> <accesslog>access.log</accesslog> <errorlog>error.log</errorlog> <loglevel>3</loglevel> <!-- 4 Debug, 3 Info, 2 Warn, 1 Error --> </logging> <relay> <server>192.168.0.148</server> <port>8001</port> <mount>/pssend</mount>

<local-mount>/test</local-mount>

<relay-shoutcast-metadata>1</relay-shoutcast-metadata>

</relay>

</icecast>

The parts that have changed are all in the relay section, the first of these is the <server> field (this is the ip address of our send unit). The second is <port> (the port of our send unit)

The third is <mount> (the radiopath of the send unit)

the fourth is <local-mount> (the mount point for the relayed stream anything can be specified here but we have used test)

the fifth is <relay-shoutcast-metadata> this is whether we wish to send metadata set to 0 for no data 1 for data, please note if set to 1 and then no metadata is sent from the send then the stream will not be relayed successfully.

Connecting a Play to the relayed stream:

The play url is then set to the url port and mountpoint of the lcecast server so for this example that would be: http://192.168.0.92:8000/test

Shoutcast:

To install a standalone Shoutcast server (non internet hosted), download the applicable version of Shoutcast DNAS2.0 from here: https://www.shoutcast.com/

Then run the install package on the PC you intend to run as your Shoutcast server.

Please note Windows Vista and & 7 users should install to a directory other than program files that they have full access to or logging etc will fail due to Windows UAE.

Once installed open the installation directory in a file manager there are several default configurations provided by default for this example we are going to use sc_serv_simple.conf as below:

; NOTE: for any relative paths specified are relative to

; sc_serv and not to where the conf file is being stored

; here we will setup where the log and other related files

; will be stored. make sure that these folders exist else

; sc_serv will throw an error and will close itself down. ; we will make the logs save to the sc_serv2 directory

logfile=logs\sc_serv.log

w3clog=logs\sc_w3c.log

banfile=control\sc serv.ban

ripfile=control\sc_serv.rip

; the following will force any sources to be public which ; allows us to then connect and be listed on the YP publicserver=always;

password used by sc_trans or the Winamp DSP plug-in; NOTE: remember to change this to something else password=testing;

password used for accessing the administation pages;

NOTE: remember to change this to something else

adminpassword=changeme; as we are going to connect to the YP then we need to fill; in the required options so we can authenticate to the YP2; see sc_serv.txt - section 3.0 for details on getting this; make sure that you completely replace the string; <enter_your_auth_key_here> with the authorisation key you; obtained when registering the stream for the SHOUTcast YP; e.g. if you auth hash key is 12345 then the line would be; streamauthhash=12345 streamauthhash=<enter_your_auth_key_here>

open this file in a text editor and change the line that reads:

publicserver=always to publicserver=never

and save the file. This bascically means that the stream will not be listed on shoutcast.com, if you wish your stream to be listed you must obtain an Auth hashkey to enter into your conf file.

Now open the same directory in a command prompt window and enter sc_serv.exe sc_serv_simple.conf text similar to that below should be seen:



You should now be able to connect to the Shoutcast server through a webbrowser by entering the default port

within sc_serv_simple.conf (in this case 8000)

so to open it the url would be:

http://192.168.0.34:8000

(where 192.168.0.34 is the ip address of the Shoutcast PC)

A page similar to the one below should be seen if not check that Shoutcast is not being blocked by a firewall running on the PC or on a network device like a router.



Setting up the PS-SEND is very similar to setting it up for loccast in the basic settings the IP address of the Shoutcast server PC and the port number should be entered and then submitted, i.e url 1 would be http://192.168.0.92:8000/pssend

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The stream settings also need modifying and again these are very similar to loccast except that icy genre and name must be specified. For example a name of sonifexradio and genre of pop could be used.

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Then submit the stream settings. As with Icecast a Shoutcast server requires a pssword from any sources connecting to it in this case the password in the conf file used is testing, enter this and click submit.

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Now if you refresh your Shoutcast web page there should be 1 stream available logging in with the default user/ password of admin/ changeme should show the details of the PS-SEND stream .

The PS-PLAY setup is identical to the setup for locast the only parameters that need to be entered are teh ip address and port number of the Shoutcast server.

Pro-Streamer Web Update

Select $i_i \frac{1}{2}$ Update $i_i \frac{1}{2}$ from the top menu bar.

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Latency Between The Pro Audio Streamer PS-SEND & PS-PLAY/PS-AMP

Both the PS-SEND and the PS-PLAY allow audio to be passed through an IT network infrastructure. The time taken for the audio to appear from the input on the PS-SEND to the PS-PLAY/PS-AMP, or latency, is dependent on a number of factors:

- 1. The time taken to encode/decode the audio.
- 2. The time taken for the stream to travel through the network.
- 3. The time taken to buffer the stream.

1. Latency Involved in Encoding/Decoding The Audio

The encoder samples the audio it receives in order for it to be handled in the digital domain. Sending each sample directly would generate a lot of traffic, for example, a 48kHz sample rate would send 48,000 samples, each within its own Ethernet frame. As an Ethernet frame's minimum size is 60bytes this would lead to traffic of around 23Mbps. So, it's important that samples be grouped into a reasonable packet size in order to avoid clogging up the network.

As an Ethernet frame can carry a payload of around 1500 bytes, 750 samples can be sent. To accumulate 750 samples at 48kHz, approximately 16 ms is required to collect the correct number of samples.

An additional time is added depending on which encoding method is chosen. Higher bit rates mean that the buffer in the PS-PLAY is filled faster and the delay can be reduced. It's also worth noting that the higher the compression of the audio the longer the PS-SEND will take to encode it. That being the case a high compression algorithm like MP3 will introduce a delay, in the order of 20–50ms (dependant on quality settings), whereas using a lower or no compression algorithm, like MPEG2 or PCM, will have less latency.

The decoding of the audio and sample buffer of the D/A in the receiver device will also cause a delay. Again, decoding of MP3 will be more processor intensive. The D/A sample buffer is handled in bytes, which means slower data rates will incur bigger delays at this stage.

2. Latency Involved Over a Network

Another factor involved is the transport protocol selected. HTTP is a TCP protocol which involves hand-shaking and error correction, which slows down packet reception. This means that large amounts are buffering are required for a stable stream which can add a substantial amount of delay. If RTP/ BRTP are chosen, which are based on the UDP protocol, the data is sent much more quickly and therefore less buffering is required, although the trade off is the occasional missed or erroneous packet.

Typically a LAN, (Local Area Network), should involve less latency than an internet stream, although obviously this is very much dependent on network configuration. Local network latency can be minimised in the usual ways such as using intelligent network switches to route traffic to the correct destinations.

3. Latency Involved in Receiving & Buffering The Stream

In a PS-PLAY, the receiver, when receiving an HTTP stream the default buffer is used as standard which is 60kBytes (61440bytes). So the latency for an HTTP stream would be:

For a 192kbs stream:

- 192000/8 = 24000 bytes
- 61440(buffer)/24000 = 2.56
- Latency of approx 2.56 seconds

When receiving an RTP stream, more flexibility is allowed and the buffer size can be changed. To make it simpler, rather than having to work out what buffer size is required for a given delay, the P-PLAY accepts a value in milliseconds and makes the calculation.

Found on the 'Streaming Settings' page on the web server, there is a box entitled 'RTP Delay'. The delay should be big enough to account for network jitter, otherwise the stream will become unstable. As mentioned above, the higher the bit rate, the smaller amount of delay required. The following are recommended values to use:

Algorithm & Rate	Recommended Delay
MP3	600ms
uLaw/ALaw 8kHz mono	444ms
PCM 8kHz mono	444ms
uLaw/ALaw 12kHz mono	316ms

PCM 12kHz mono	316ms
uLaw/ALaw 24kHz mono	188ms
PCM 24kHz mono	188m
uLaw/ALaw 32kHz mono	156ms
PCM 32kHz mono	152ms
PCM 44.1kHz mono	110ms
PCM 44.1kHz stereo	79ms
PCM 48kHz stereo	72ms

Conclusion

There are many sources of delay in the system, most significantly buffering to eliminate network jitter. As there will always be a delay present, it is worth configuring the system to use the highest bit rates and sample rates possible, providing that the bandwidth is available.

Some Real World Examples on a Typical Network (PS-SEND to PS-PLAY) HTTP stream:

MP3 @ 44.1kHz; Quality setting 7 – 2.85s MP3 @ 44.1kHz; Quality setting 0 – 5.62s MP3 @ 32kHz; Quality setting 7 – 2.85s MP3 @ 32kHz; Quality setting 0 – 7.77s

RTP stream, using recommended RTP Delay settings:

MP3 @ 44.1kHz; Quality setting 7 – 0.73s MP3 @ 44.1kHz; Quality setting 0 – 0.73s MP3 @ 32kHz; Quality setting 7 – 0.80s MP3 @ 32kHz; Quality setting 0 – 0.80s PCM @ 8kHz: 0.51s PCM @ 48kHz: 0.11s

PS-Send to PS-Play Setup

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Streaming from a PS-Send to a PS-Play using RTP

RTP is often the preferred method for steaming as it offers the lowest latency and is the preferred option for point to point streaming. It also supports all encoding formats where PCM and G711 are not supported on TCP (HTTP).

In order to set the PS-send up to stream to a ps-play /amp using RTP select the connection type as RTP and then enter the IP address* of the destination ps-play/ amp or pc and the port number you wish to send on.

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Virtu Market Distribution Virtu Market Distribution Version Market Distribution Market Distribution Market Distribution Mar
Unit Status: CPI Status: Sending Status SENDING Input 1 Analogue Input Peak Value I.21 Input 2 Analogue Input Peak Value R22 Input 4 Input 5 Input 6

(*Please note broadcasting or sending to multiple devices using raw UDP RTP or BRTP is not recommended as it can create very high network traffic.)

The ps-play would then be set up as below:	
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PS-PLAY Manufacturer Basic Settings Advanced S	NIFEX	ID address 197 189 0 197
PS-PLAY Manufacturer Basic Settings Advanced S		Netmask: 255 255 0
Basic Settings Advanced S	s of audio and video equipment	Default gateway: 192.168.0.149
Dasic Settings Muvaliceu S	attinon Ilodate	DNS1 address: 192.168.0.166
	ennige opdate	
	<u></u>	Status block
BASIC SETTIN	65	The unit status is available on all pages and contains the following information.
STREAMING		Current play status
1. URL	rtp://0.0.0.0:4444	The current play status can show a number of different states: PRIORITY - The unit is
2. URL		currently playing a priority stream. STAND-BY - The unit is currently on stand by.
3. URL	playlistm3u	BUPPERING – The unit is attempting to buffer the stream. IDLE – The unit is currently not connected to any stream. PLAYING – The unit is currently playing the stream.
DLAVBACK		
Volume	50 %	URL currently playing
Bace	0	The carrie cand of the order, r _i , or o.
Trable	0	Shuffle
Shuffle	00000	is the USB play shuffle turned on or off.
USB Autoplay	©On ©Off	
		Repeat
submit		te inclates repeat territe on on on.
		Stream Address
		The actual URL for the track that is currently playing.
		Song title – Artist/Station
		Displays this information for the currently streaming URL id it is available.
		Volume
		The output Volume of the unit in percent.
		•
Unit Status:		
Current play status IDL	E	Current Volume 50 %
URL currently playing UR	1.0	Current Bitrate 0 kbps
Repeat		Current Left channel output value -93 dB
Stream Address	_	Current Right channel output value -93 dB

The play URL is set to receive audio from any IP address and the correct port number (RTP://0.0.0.0:portnum), this method is referred to as push streaming.

RTP Multicast:

In cases where the low latency of RTP is needed but multiple clients are also required then only option is multicast.

Multicast is where a single stream is sent to a multicast address on the network and multiple clients can connect to this address with only the need for one stream.

PS-sends and plays fully support multicast and all that needs to be set for a multicast broadcast is that the send should be configured to send to a multicast address and the play should be configured to play back from it.

Multicast addresses are in the range: 224.0.0.0 to 239.255.255.255 You should contact your network administrator to see what addresses are available for you to use.

Streaming from one Send to one play unit HTTP single client server:

The configuration for this is similar to the RTP configuration but the play URL must also contain the radio path of the send located in streaming settings.

The play URL will then need to be set as http://x.x.x.r:portnum/radiopath (where x.x.x.x is the IP address of the server)

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SON P3-SIND Manufacturers of audi	IFEX o and video equipment			V1.015 NAZ 60468 0.00 B E1 02.37.40 PF addwar 192.103 0.197 Neimaa 202.02.25.0 Cubadu galaway 102.103.103	
Basic Settings Advanced Settings U	Ipdate				
STREAMING SETTI	NGS		Â	Help A	
				Own Name	
Own Name	1			This is an identification string for the unit so that it maybe identified on the network.	
Anting generation	- I · · · ·			Streaming Mode	
Send Contact Closure information	viused *			Decide when the audio is streamed. The audio can be streamed when:	
Trigger Level	1000				
Pre Trigger Start	0	msec		Send always - The audio is always streamed. Send on level - The audio is only early when the level is above the Trinner Level. See	
Post Trigger Play	1024	msec		Advanced audio settings page for more details on the 'trigger' level.	
Buffer Underrun Mode (TCP)	skip 👻		=	Send on VO - Send when an input is detected and used in conjunction with Active	
Stream Packet Strategy	optimal package			open/closed and Control GPI.	
Radio Path	/pssend			Control GPI	
icy-url / SIP user				Select which GPI controls the send operation.	
icy-genre					
Shoutcast stream	public -			Active open/closed Select whether the ap open or closed state on the selected CPI is used to activate the	
Type of Service/DSCP	0			send operation.	
SNMD SETTINGS				Sand Contact Clasure Information	
Trap Target IP Address	0.0.0.0			If sending on VO and using the RTP transport protocol, the closure of the selected GPI	
				can be sent to the receiving Play or Amp unit, and the relay contacts on that unit are	
Low Audio Level	0 Left 0 Right			closed.	
Trap Repeat	0 Left 0 Right 0 Left(sec) 0 Right(sec)	-	Trigger Level	
		,			
Unit Status:				GPT Status:	
Analogue Input Peak Value L 0	IVE			Input 1	
Analogue Input Peak Value R 0				Input 3	
				Input 4	
				Input 6	
Sonifex Ltd. 61 S	Station Road, Irthlingborough, Northants, N	N9 5QE.	UK. T	el: +44 (0)1933 650700 Fax: +44 (0)1933 650726 EMail: sales@sonifex.co.uk	

Streaming to multiple PS-plays/ amps using http internet radio:

If you wish to stream to up to 6 ps-play units then using http is recommended the PS-send is set up as below with internet radio (HTTP) selected and the IP address set to 0.0.0.0 the port number must still be specified and the radio path in stream settings.

Pro Audio Streamer - Send	× S Pro Audio Streamer - Play	× +
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SON PS-SEND Manufacturers of a	IIFEX idio and video equipment	V1.01 MAC edites: 00.08(1:02.07.40 IP addes: 102.108.0.104 Netmask: 205.202.05.6 Default: gatesing: 102.108.0.109
Basic Settings Advanced Settings	Update	
BASIC SETTINGS		Status block Sending status
AUDIO SETTINGS Input source	Analogue Phono -	The last recorded status of the unit and it shows either SENDING or INACTIVE. Analogue peak input values
ENCODING	MD2 -	The last recorded peak input value displayed in dBs for both channels.
Sample Rate Channel Mode	44.1kHz Stereo	The last recorded GPI input status, Grey box means currently open contact. Green box means currently closed contact.
MPEG Encoding quality	7 Highest 👻	Basic settings
STREAM SETTINGS Streaming mode	send always 🔹	Select the input source that will be used by clicking on the appropriate radio box. Only one can be selected at a time.
Connection type IP Address	Internet Radio +	Channel Mode
Port No.	4444	channels of the network stream contain left channel data. The stream becomes dual-mono.
submit		Encoding Choose one of the encoding methods and sample rates. Please note that g 711 and PCM have set bit rates while MPG is vanishe. The quality drop box only affects MPEO encoding and determines the overall bit rate. If using the digital inputs, IVER-1 will be used and the sample rate will be detected. The neght sample rate instituted to 32bitz, 441 bitz or 4Bbitz. To work out the bit rate for 0.711 and PCM, samply •
Unit Status:		GPI Status:
Sending Status SEI Analogue Input Peak Value L 21 Analogue Input Peak Value R 22	IDING	Input 1 Input 2 Input 3 Input 4 Input 5 Input 6 Input 6 Input 6 Input 6 Input 6 Input 6 Input 7 Input

For up to six connections from a PS-send each additional stream (in addition to stream 1) must also be set to HTTP with the same port number i.e.:

PS-SEND Manufacturers of Basic Settings Advanced Setting	audio and video equipment Is Update Reboot Defaults	Default gateway: 192-168.11.1
BASIC SETTINGS		Status block Sonding status The last recorded status of the unit and it shows either SENDING or NACTIVE Analogue page k leant uptime
ENCODING		The last recorded peak input values
Encoding Sample Rate Channel Mode MPEG Encoding quality	MPEG2 24kHz Stereo Thickest	GPI Status The last recorded GPI input status. Grey box means currently open contact. Green box means currently load contact.
STREAM SETTINGS Streaming mode Select Connection	Send always Stream 2	Dasits Securitys Input Source Select the input source that will be used by clicking on the appropriate radio box. Only one can be selected at a time.
Connection type IP Address Port No.	notused	Channel Mode Select whether the source is Stereo or Mono. If mono is selected, both left and right channels of the network stream contain left channel data. The stream becomes dual-mono.
submit		Encoding Choose one of the encoding methods and sample rates. Please note that g.711 and PCM have set bit rates while MPEG is variable. The quality drop box only affects MPEG encoding and determines the overal bit rate. If using the digital inputs, MPEG-1 will be used and the sample rate will be detected. The input sampler rate in restricted to 32MHz, 44.1 MHz or 48MHz. To work out the bit rate for G.711 and PCM, simply
Unit Status: Sending SENDING Status SENDING Analogue Peak Right 18 dB		GPI Status:

From the drop down box labelled select connection each connection must be set to HTTP and each port set to the applicable port and then submit clicked. So for six connections this would need to be repeated for all connections from 2 to 6.

The PS-play or amp is then set up as below: (this method is referred as a TCP listen.) This is because the send will only send a stream if a unit connects to it so it listens for an incoming connection.

This time the play has the full IP address followed by the port number and the path and up to six units can be configured in this way.

If more than 6 PS-plays are to be streamed to from one PS-send then a shoutcast server must be used.

Sonifex Ltd. 61 Station Road, Irthlingborough, Northants, NN9 5QE, UK. Tel: +44 (0)1933 650700 Fax: +44 (0)1933 650726 EMail: sales@sonifex.co.uk