



Radio Relay over IP using Multicast streaming

**Application Note AN233
Revision v1.1
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1 Overview

This Application Note discusses Multicast streaming only. There is a separate Application Note **AN234 Radio Relay using Unicast** for Unicast streaming.

Vocality Radio over IP functionality now supports Multicast and Unicast RTP streaming without the need for SIP signalling. This allows quicker connections, greater bandwidth efficiency and more flexibility in the connectivity options for Radio Relay.

Note:

The RTP Multicast and IP Multicast routing functions are totally independent and not reliant upon each other.

To support RTP Multicast streaming the underlying network (or relevant section of the network) must support Multicast. If the network does not support Multicast natively, then IP routing functionality and GRE tunnels need to be configured.

It is assumed that your unit has been configured in all other areas required prior to configuring for RTP streaming. In particular, the multicast network needs to be connected to the first IP network listed in your IP > Networks menu.

2 Outline

Multicast IP address range: 224.0.0.0 to 239.255.255.255

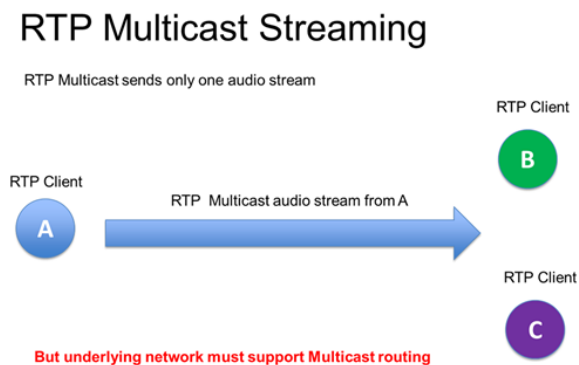


Figure 1 RTP Multicast streaming concept



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Configuration

Figure 2 SIP Gateway > System menu

On the **SIP Gateway > System menu** ensure the Mode is set to 'Gateway', prior to configuring for RTP streaming.

Figure 3 SIP Gateway > Channel Summary > Channel Details menu

RTP Multicast streaming can be configured by changing SIP BYPASS on the **SIP Gateway > Channel Details menu** to 'Enabled'. Then specify RTP TX and RX parameters. For Multicast use a Multicast address.

CHANNEL TO EDIT : select channel

SIP BYPASS : change to 'Enabled' for RTP streaming

DESTINATION : set as either a voice port or another SIP gateway

RTP TX ADDR : multicast address of transmit stream

RTP TX REMOTE PORT : multicast transmit stream UDP port number

RTP TX LOCAL PORT : source UDP port from which the traffic will originate on your unit. (This must be unique.)

RTP RX ADDR : multicast receive stream address. (This can be the same as the TX address.)



RTP RX SSM SOURCE ADDR : This parameter is only displayed when the RTP RX ADDR field is set to an IP address starting 232.x.x.x.

RTP RX LOCAL PORT : multicast receive stream UDP port number. (This can be the same as the TX port number.)

Note: The UDP port numbers you select must be even numbers, because your unit will automatically open each UDP port number +1 as the RTCP port. If you use odd numbers, for example RTP TX REMOTE PORT: 6020, RTP TX LOCAL PORT : 6021, RTP RX LOCAL PORT : 6020, you will find port 6021 is also open as the RTCP port for 6020 and you may have problems. (If you use software version VOS08.08.01 onwards this issue will not arise as you will be restricted to select even numbered ports).

4 Analogue Ports settings

Chan	Clk Ref	Op Mode	IF Type	Algorithm	Silence Suppress	Resvd BW	Gain In	Gain Out	Destination
0:1	<input checked="" type="radio"/> GC1 <input type="radio"/> GC2	DTMF	4W	G.729A 8K	<input type="radio"/> OFF <input checked="" type="radio"/> ON	8000	0dB	0dB	1:SG:1
0:2	"	DTMF	4W	G.729A 8K	<input type="radio"/> OFF <input checked="" type="radio"/> ON	8000	0dB	0dB	AUTO
0:3	"	DTMF	4W	G.729A 8K	<input type="radio"/> OFF <input checked="" type="radio"/> ON	8000	0dB	0dB	AUTO
0:4	"	DTMF	4W	G.729A 8K	<input type="radio"/> OFF <input checked="" type="radio"/> ON	8000	0dB	0dB	AUTO

Figure 4 Analogue Voice > Analogue Ports menu

Ensure that the Algorithm chosen here matches the setting on the **SIP Gateway > Channel Details menu** and Destination is pointing to the correct SIP Gateway Channel.

5 About Application Notes

Application Notes are intended as a supplement to, rather than a substitute for, your User Manual. Should you have queries which are not answered by our current documentation, your local Vocality support team would be happy to hear from you.
E-mail support@vocality.com.