NETWORK CAMERA Protocol Spec.
HTTP Audio Transport Protocol Specifications Ver. 1.0

VB-C500 / VB-C60 / VB-C300 / VB-C50i / VB-C50iR / VB-C50FSi

Ver 1.0

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CANON INC.

Change Tracking List

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1 Overview

This document explains audio transport protocols for VB-C50i, VB-C50iR, VB-C50FSi, VB-C300, VB-C60 and VB-C500 network cameras.

The audio transport protocols provide following features.

- G.711 μ-law for audio codec
- Full-duplex audio transmission capability
- Client-bound Audio Transport for transmitting audio to multiple clients simultaneously
- For Server-bound Audio Transpor, each speaker can only be allocated by a single administrator

The format of the protocols has been established completely independent from the WVHTTP video transport protocol. The format was developed independently, considering the possibility of creating only audio-based application.

2 Protocol

2.1 Overview

The WebView Audio Transport Protocol provides following three commands.

“Client-bound Audio Transport Command”
“Server-bound Audio Transport Command”
”Server Information Retrieval Command”

Clients use the ”Client-bound Audio Transport Command” to receive audio data, which is transmitted from a camera (server).
“Server-bound Audio Transport Command” is for transmitting audio from clients to a camera (server).
“Server Information Retrieval Command” is used when obtaining variuos information, such as camera (server) settings.

The audio transport protocol is divided into two layers.

1: HTTP Protocol
Calls are made using GET and POST

2: Audio Stream Protocol (x-wva-100)
A protocol for transmitting audio data over HTTP

The audio data is delivered wrapped in an audio stream. The overall structure is such that it appears as the HTTP protocol.

2.2 HTTP Protocol

2.2.1 Server Information Retrieval Command (info)

Function

Server Information Retrieval Command is a method that allows clients to retrieve information such as the server codec. The information that is retrieved includes supported codec information (codeclist_packet), protocol version information (protocolversion_packet), and server mode information (servermode_packet:0x0b).

This command does not require administrator privileges.

* For VB-C300, User authentication using Basic authentication is required for both Administrator and authorized clients (guest users). User authentication is also required for other models, if audio tranmission to authorized users (guest uesrs) is prohibited.

Protocol

ex) GET /-wvaudio-01-/info HTTP/1.1

Call URL Parameters

None

Call Headers

Header Name	Meaning	Value
Host	Name of the server to access	The host name or the IP address of the server to access
Connection	Continuity of the connection	Set to "keep-alive" to maintain the connection to the server

*** For VB-C300**

Authorization	Basic authorization character string	Encrypted string. Authorization is required for both Administrator and authorized user.

Response Headers

Header Name	Meaning	Value
Content-type	Stream type	The data type is indicated by the Mime-Type specified in the "Response Mime-Type".
Content-Length	Stream length	Specified in units of bytes. The Content-Length may be omitted.
Connection	Continuity of the connection	Set to "keep-alive" to maintain the connection

Server	Server software name	Defined for each model as follows: VB-C50i/VB-C50iR/VB-C50FSi: VB-C50iAudio/1.00" VB-C300: "VB-C300Audio/1.00" VB-C500/VB-C60: "VBaudio/1.00"

Response Mime-Type

Mime-type	Description
application/x-wva-100	Stream as specified by the WebView Audio Transport Protocol

Response HTTP Result Codes

HTTP Result Code	Meaning
200	OK
401	Authentication is required. Generated when access is attempted without authentication.

Payload

The payload contains multiple packets that indicate the state of the x-wva-100 stream server. The number of bytes of the packet is shown in hexadecimal in front of each packet, which is common for all commands. A byte count of 0 represents the end of the payload. This packet transfer scheme uses HTTP/1.1 chunked transfer encoding.

Note)

- Followings are sample protocols of VB-C500/VB-C60. Please understand that the position of 'Server:Head' differs in other models' protocols.
- In those models released before VB-C300, the first line is "HTTP/1.0 200¥r¥n", not "HTTP/1.1 200¥r¥n".

OK

```
HTTP/1.1 200¥r¥n
Server: VBaudio/1.00¥r¥n
Content-type: application/x-wva-100¥r¥n
Content-Length: 30
¥r¥n
11[CR][LF]
(Server Transportable Codec Information
Chunk)[CR][LF]
4[CR][LF]
(Protocol Version Information Chunk)[CR][LF]
2[CR][LF]
(Server Mode Information Chunk)[CR][LF]
1[CR][LF]
(End Chunk)[CR][LF]
0[CR][LF]
[CR][LF]
```

○ Error

```
HTTP/1.1 200¥r¥n                        Note: This is not an HTTP
error
Server: VBaudio/1.00¥r¥n
Content-type: application/x-wva-100¥r¥n
Content-Length: 24¥r¥n
¥r¥n
2[CR][LF]
0x01 ....   (Only returns x-wva-100 stream resultcode_packets.)
0[CR][LF]
[CR][LF]
```

○ Error (Authentication Error)

An audio stream is not returned if there is an authentication error.

```
HTTP/1.1 401¥r¥n
Server: VBaudio/1.00¥r¥n
Content-type: text/plain¥r¥n
¥r¥n
¥r¥n
```

Protocol Example

```
[Client->Server]
GET /-wvaudio-01-/info HTTP/1.1¥r¥n
Host: client.hogehoge.com¥r¥n
Connection: keep-alive¥r¥n
Content-Type: application/x-wva-100¥r¥n
¥r¥n

[Server->Client]
HTTP/1.1 200¥r¥n
Server: VBaudio/1.00¥r¥n
Content-type: application/x-wva-100¥r¥n
Content-Length: 50
¥r¥n
2[CR][LF]
(Server Transportable Codec Information Chunk)[CR][LF]
1[CR][LF]
(End Chunk)[CR][LF]
0[CR][LF]
[CR][LF]
```

* For VB-C300 and other models, which require User authentication, following line needs to be added.

Authorization: Basic XXXXXXX¥r¥n

Authorization: Basic XXXXXXX\r\n

2.2.2 Client-bound Audio Transport Command (send)

Function

Requests the transmission of a server -> client (client-bound) audio stream. This command does not require administrator privileges. When connecting as an administrator, l=100 needs to be specified as a client user level in the URL parameters and the Authorization field needs to be added in the headers when the call is made.

* For VB-C300, User authentication using Basic authentication is required for both Administrator and regular clients (guest user). User authentication is also required for other models, if audio tranmission to guest users is prohibited.

Protocol

ex) GET /-wvaudio-01-/send?t=win-n-100&c=g711ulaw HTTP/1.1

Call URL Parameters

Parameter Name	Meaning	Value
c	codectype/ Specifies the codec name	Can be set to g711ulaw. The default value is g711ulaw. Multiple codecs can be specified if concatenated by commas. (Note: Only g711ulaw is supported with current models.)
s	streamtype/ Specifies the protocol name	Can be set to "x-wva-100". The default value is "x-wva-100".
p	playtime/ The playing time of the data to be sent	Specify when you want to specify a particular length of audio stream to receive. Specify in units of [10 msec]. A value of 0 indicates infinite length. The default value is 0.
t	clienttype/ The type of the client software	Use when you want to specify a particular type of client software. Can specify arbitrary character strings, representings the client type.
l	userlevel/ Specifies the user level of the client	Specifies a numerical value between 0 and 100. 0: guest user 100: Administrator

Call Headers

Header Name	Meaning	Value
Authorization	Basic authentication string	Encrypted string. Mandatory for administrators. #For VB-C300, authorization is required for both Administrator and guest users.
Host	Name of the server to access	The host name or the IP address of the server to access.
Connection	Continuity of the connection	Set to "keep-alive" to maintain the connection to the server

Response Headers

Header Name	Meaning	Value
Content-type	Stream type	The data type is indicated by the Mime-Type specified in the "Response Mime-Type".
Content-Length	Stream length	Specified in units of bytes. The Content-Length may be omitted.
Connection	Continuity of the connection	Set to "keep-alive" to maintain the connection.
Server	Server software name	Defined for each model as follows: VB-C50i/VB-C50iR/VB-C50FSi: VB-C50iAudio/1.00" VB-C300: "VB-C300Audio/1.00" VB-C500/VB-C60: "VBaudio/1.00"

Response Mime-Type

Mime-type	Description
application/x-wva-100	Stream as specified by the WebView Audio Transport Protocol

Response HTTP Result Codes

HTTP Result Code	Meaning
200	OK
401	Authentication required. Generated when access is attempted without authentication

Note)

- Followings are sample protocols of VB-C500/VB-C60. Please understand that the position of 'Server:Head' differs in other models' protocols.
- In those models released before VB-C300, the first line is " HTTP/1.0 200¥r¥n", not "

HTTP/1.1 200¥r¥n".

○ OK

```
HTTP/1.1 200¥r¥n
Server: VBaudio/1.00¥r¥n
Content-type: application/x-wva-100¥r¥n
Connection: close¥r¥n
¥r¥n
2[CR][LF]
(Transport Protocol Information Chunk)[CR][LF]
8[CR][LF]
(Time Information Chunk)[CR][LF]
56[CR][LF]
(Audio Chunk)[CR][LF]
56[CR][LF]
(Audio Chunk)[CR][LF]
56[CR][LF]
(Audio Chunk)[CR][LF]
56[CR][LF]
(Audio Chunk)[CR][LF]
  .....
1[CR][LF]              <-Actually will soon be
Closed
(End Chunk)[CR][LF]
0[CR][LF]
[CR][LF]
```

○ Error

```
HTTP/1.0 200¥r¥n                    Note: This is not an HTTP
error
Server: VB-audio/1.00¥r¥n
Content-type: application/x-wva-100¥r¥n
Content-Length: 24¥r¥n
Connection: close¥r¥n
¥r¥n
2[CR][LF]
0x01 ....   (Only returns x-wva-100 stream resultcode_packets.)
0[CR][LF]
[CR][LF]
```

Protocol Example

```
[Client->Server]
GET /-wvaudio-01-/send?t=win-n-300 HTTP/1.1¥r¥
Host: server.hogehoge.com¥r¥n
¥r¥n

[Server->Client]
HTTP/1.1 200¥r¥n
Server: VBaudio/1.00¥r¥n
Content-type: application/x-wva-100¥r¥n
Connection: close¥r¥n
¥r¥n
2[CR][LF]
(Transport Codec Information Chunk)[CR][LF]
8[CR][LF]
(Time Information Chunk)[CR][LF]
56[CR][LF]
(Audio Chunk)[CR][LF]
56[CR][LF]
(Audio Chunk)[CR][LF]
56[CR][LF]
(Audio Chunk)[CR][LF]
56[CR][LF]
(Audio Chunk)[CR][LF]
   .....
1[CR][LF]
(End Chunk)[CR][LF]
0[CR][LF]
[CR][LF]
```

* For VB-C300 and other models, which require User authentication, following line needs to be added.

Authorization: Basic XXXXXXX¥r¥n

Authorization: Basic XXXXXXX\r\n

2.2.3 Server-bound Audio Transport Command (recv)

Function

Requests the transmission of a client -> server (server-bound) audio stream. This command is required to request administrator privileges. When the call is made, l=100 needs to be specified as a URL parameter, and the Authorization field is required in the call headers. Since it should be connected on the administrator privilege, multiple clients cannot transmit audio at the same time using a recv command.

Protocol

ex) POST /-wvaudio-01-/recv?l=100&t=win-a-100 HTTP/1.1

Call URL Headers

Parameter Name	Meaning	Value
i	packetid/ Specifies the packet ID	The ID is a 32-bit positive decimal number, which is assigned by the server when sending a command. The assigned packet ID is notified to the client using packetid_packet (-> see “Packet ID Information Chunk”). [Note] ✓ You don’t need to specify i parameter, since a packet ID isn’t yet assigned when first senging a recv vommand. ✓ Please remember that a packet ID is changed each time you send a recv command. ✓ Current models’ servers prohibit that multiple clients send the recv commands at the same time. For the reason, the server might mistake a re-sent recv command for a command from another client and refuse the connection, if you re-send a recv command after recv command connection is disconnected. In such case, you just need to specify the packet ID, so that the server can recognize that the recv command was resent from the same client.
c	Codectype/ Specifies the code name	Can be set to g711ulaw. The default value is g711ulaw. Multiple codecs cannot be specified.
s	streamtype/ Specifies the protocol name	Can be set to "x-wva-100". The default value is "x-wva-100".
t	clienttype/ The type of the client software	Use when you want to specify a particular type of client software. Can specify arbitrary character strings, representings the client type.
l	userlevel/ Specifies the user level of the client	Specifies a numerical value. For recv command, only 100 (Administrator) can be specified.

Call Headers

Header Name	Meaning	Value
Authorization	Basic authentication string	An encrypted string. Mandatory.
Content-type	Stream type	Specifies the data type that determines the current mime-type.
Content-Length	Stream length	Specified in units of bytes. This is mandatory if there is data. The maximum size if 2048 bytes.
Connection	Continuity of the connection	Set to "keep-alive" to maintain the connection.
Host	Name of the server to access	The host name or the IP address of the server to access.

Response Headers

Header Name	Meaning	Value
Content-type	Stream type	The data type is indicated by the Mime-Type specified in the "Response Mime-Type".
Content-Length	Stream length	Specified in units of bytes. The Content-Length may be omitted.
Connection	Continuity of the connection	Set to "keep-alive" to maintain the connection.
Server	Server software name	Defined for each model as follows: VB-C50i/VB-C50iR/VB-C50FSi: VB-C50iAudio/1.00" VB-C300: “VB-C300Audio/1.00” VB-C500/VB-C60: “VBaudio/1.00”

Response Mime-Type

Mime-type	Description
application/x-wva-100	Stream as specified by the WebView Audio Transport Protocol

Response HTTP Result Codes

HTTP Result Code	Meaning
200	OK
401	Authentication required. Generated when access is attempted without authentication * Please understand that if the user authentication failed due to wrong user name or password, 0x41 error using the result chunk (section 2.3.2) will be replied, not the HTTP 401 error.

Payload

The payload contains multiple packets that indicate the state of the x-wva-100 stream server.

Note)

- Followings are sample protocols of VB-C500/VB-C60. Please understand that the position of 'Server:Head' differs in other models' protocols.
- In those models released before VB-C300, the first line is " HTTP/1.0 200¥r¥n", not " HTTP/1.1 200¥r¥n".

○ OK

```
HTTP/1.1 200¥r¥n
Server: VBaudio/1.00¥r¥n
Content-type: application/x-wva-100¥r¥n
Content-Length: 29¥r¥n
¥r¥n
2[CR][LF]
0x01 ....    (x-wva-100 stream resultcode_packet)
6[CR][LF]
0x09 ....    (x-wva-100 stream packetid_packet)
1[CR][LF]
0x05 ....    (x-wva-100 stream
endofstream_packet)
0[CR][LF]
[CR][LF]
```

○ Error

```
HTTP/1.1 200¥r¥n                    Note: This is not an HTTP
error
Server: VBaudio/1.00¥r¥n
Content-type: application/x-wva-100¥r¥n
Content-Length: xxx¥r¥n
Connection: close¥r¥n
¥r¥n
2[CR][LF]
0x01 ....    (Only returns x-wva-100 stream resultcode_packets.)
0[CR][LF]
[CR][LF]
```

Protocol Example

```
[Client->Server]
 POST /-wvaudio-01-/recv?t=win-n-300&c=g711ulaw&l=100 HTTP/1.1¥r¥n
 Host: server.hogehoge.com¥r¥n
  Authorization: Basic  XXXXXXXXXX¥r¥n
 Content-type: application/x-wva-100¥r¥n
 Content-Length: 1201¥r¥n
 ¥r¥n
 56[CR][LF]
 (Audio Chunk)[CR][LF]
 56[CR][LF]
 (Audio Chunk)[CR][LF]
  :
  :
0[CR][LF]
 [CR][LF]

[Server->Client]
 HTTP/1.1 200¥r¥n
 Server: VBaudio/1.00¥r¥n
 Content-type: application/x-wva-100¥r¥n
 Content-Length: 29¥r¥n
 Connection: close¥r¥n
 ¥r¥n
2[CR][LF]
0x01 ....    (x-wva-100 stream resultcode_packet)
6[CR][LF]
0x09 ....    (x-wva-100 stream pakcetid_packet)
1[CR][LF]
0x05 ....    (x-wva-100 stream endofstream_packet)
0[CR][LF]
[CR][LF]

[Client->Server]
 POST /-wvaudio-01-/recv?i=45345434 HTTP/1.1¥r¥n
 Host: server.hogehoge.com¥r¥n
  Authorization: Basic  XXXXXXXXXX¥r¥n
Content-type: application/x-wva-100¥r¥n
 Content-Length: 1201¥r¥n
 ¥r¥n
56[CR][LF]
 (Audio Chunk)[CR][LF]
 56[CR][LF]
(Audio Chunk)[CR][LF]
 56[CR][LF]
(Audio Chunk)[CR][LF]
  :
0[CR][LF]
 [CR][LF]
```

Note: Information that is required for server audio delivery, such as the transport codec information and time information, is attached to the beginning.

Note: packetid=45345434 was retrieved by a previous connection

Note: The client side can collect together and transmit an arbitrary number of packets

```
***

[Server->Client]
 HTTP/1.1 200¥r¥n
 Server: VBaudio/1.00¥r¥n
 Content-type: application/x-wva-100¥r¥n
 Content-Length: 24¥r¥n
 Connection: close¥r¥n
 ¥r¥n
2[CR][LF]
0x01 ....    (x-wva-100 stream resultcode_packet)
2[CR][LF]
0x09 ....    (x-wva-100 stream packetid_packet)
0[CR][LF]
[CR][LF]

[Client->Server]
 POST /-wvaudio-01-/recv?i=45345434 HTTP/1.1¥r¥n
 Host: server.hogehoge.com
 Content-type: application/x-wva-100¥r¥n
 Content-Length: 256¥r¥n
 ¥r¥n
 56[CR][LF]
 (Audio Chunk)[CR][LF]
 56[CR][LF]
 (Audio Chunk)[CR][LF]
  : 56[CR][LF]
 (Audio Chunk)[CR][LF]
  :
0[CR][LF]
 [CR][LF]
 (Repeat from *** to here)
```

Note: packetid=45345434 was retrieved by a previous connection

2.3 Audio Stream Protocol (x-wva-100)

This section explains the specifications of the audio stream, which is sent and received in send, recv and ohter commands.

The audio stream is based on the HTTP/1.1chunked transfer encoding, and consists of multiple “chunks”. The structure of each chunk is the same as that of HTTP/1.1 chunked encoding. The actual body part takes the structure as shown in the following example.

```
* Sample streaming part (Refer to RFC2616 for details)

Note: [ ] indicates control codes.
   ( ) contains the body of the chunks as described later
   All numerical values are in hexadecimal.

 2[CR][LF]
 (Transport Codec Information Chunk)[CR][LF]
 8[CR][LF]
 (Time Information Chunk)[CR][LF]
 56[CR][LF]
 (Audio Chunk)[CR][LF]
 56[CR][LF]
 (Audio Chunk)[CR][LF]
 56[CR][LF]
 (Audio Chunk)[CR][LF]
 56[CR][LF]
 (Audio Chunk)[CR][LF]
    .....
 1[CR][LF]
 (End Chunk)[CR][LF]
 0[CR][LF]
 [CR][LF]
```

2.3.1 NULL Chunk (null_packet:0x00)

Represents a chunk that does nothing.

Field Name	Byte Width	Value
id	8bit	0x00

2.3.2 Results Chunk (resultcode_packet:0x01)

This chunk is transmitted as a header packet that contains information required during connection.

Field Name	Byte Width	Value
id	8bit	0x01
resultcode	8bit	Indicates an error code for the request.

The resultcode takes the following values.

Error Code	Description	Note
0x20	OK. Audio can be retrieved normally.	
0x40	General error. Occur when some abnormal circumstances happens.	#For VB-C300, None
0x41	Authentication data error. Rejected by user restrictions.	# If a send command fails the user authentication, this error will be replied, not the HTTP 401 error.
0x42	Time information error. Reject specified time.	#For VB-C300, None
0x43	Resource error. Insufficient memory.	
0x45	The specified codec was rejected.	
0x46	The specified stream was rejected.	
0x47	Reject at specified user level.	#For VB-C300, None
0x48	Rejected by host restriction.	#For VB-C300, None
0x49	Rejected due to restriction on number of clients.	
0x4a	Rejected due to server mode.	
0x4b	Abnormal file name.	#For VB-C300, None
0x4d	HTTP body error.	#For VB-C300, None

2.3.3 Audio Chunk (audio_packet:0x02)

This packet contains audio data.

Field Name	Byte Width	Value
id	8bit	0x02
reserve	8bit	Reserved. Set to 0.
difftime	32bit	Represents the relative time from the time of the last time information chunk. This time is the absolute time of the audio, so it can be used to detect skipped audio. In units of "10 msec".
data	80byte	Contains the audio data.

2.3.4 Audio Chunk 2 (audio2_packet:0x03)

Audio Chunk2 is not used for current models, but reserved for future products.

2.3.5 Silent Chunk (silentnoise_packet:0x04)

This chunk shows silence. This is mainly used when changing from audio to silence, or when the silence level is changed.

Field Name	Byte Width	Value
Id	8bit	0x04
cngpower	8bit	Relative value from 0 to 255. Specifies the noise level.
difftime	32bit	Indicates the relative time since the last Time Information Chunk. Because this time is the absolute time of the audio, it can be used to detect skipped audio. In units of "10 msec".

2.3.6 End Chunk (endofstream_packet:0x05)

This chunk shows the end of audio stream. Declared separately from the HTTP/1.1 end of chunked encoding.

Field Name	Byte Width	Value
id	8bit	0x05

2.3.7 Time Information Chunk (time_packet:0x06)

This chunk contains time information. This provides a basis for timestamping the audio transport from the audio sender to the receiver.

Field Name	Byte Width	Value
id	8bit	0x06
reserve	8bit	Reserved
time_msec	16bit	The time field gives the audio time in units of seconds, and the time_msec field specifies the fractional part in units of "10 msec"
time	32bit	The time when the audio was captured. Expressed as the number of seconds elapsed since midnight (00:00:00) on 1st January, 1970 UTC

2.3.8 Transport Codec Information Chunk (codec_packet:0x07)

Specifies the audio codec of the audio source.

Field Name	Byte Width	Value
id	8bit	0x07
codec	8bit	Indicates the codec type that is used for delivery from this time.

The codec codes are as follows. (The codec strings are used in URL parameters, etc.)

Codec Code Number	Codec String
0x0	non
0x1	G711
0x2	G711μlaw
0x3	G711alaw

2.3.9 Server Transportable Codec Information Chunk (codeclist_packet:0x08)

Transmits a list of audio transport codecs from the audio source. The list described here displays the codecs that can be used by the audio receiver.

Field Name	Byte Width	Value
id	8bit	0x08
server_support_list	16byte	Contains a list of numbers that represent the supported codecs (one byte per codec). Audio systems that only support the G.711 family of codecs give the three bytes 0x00 0x01 0x02. A maximum of 16 codecs can be supported. The value 0xff indicates undefined. If less than 16 codecs are supported, the list is filled with 0xff.

The codec codes are as follows. (The codec strings are used in URL parameters, etc.)

Codec Code Number	Codec String
0x00	(No codec specified)
0x01	G711
0x02	G711μlaw
0x03	G711alaw

2.3.10 Packet ID Information Chunk (packetid_packet:0x09)

Field Name	Byte Width	Value
id	8bit	0x09
reserve	8bit	Reserved
packet_id	4byte	A packet ID that is attached to ensure connectivity between method calls at the layer above HTTP. The value of this ID can be set by the server arbitrarily and randomly. The ID is issued on the first call, and method calls that contain this ID on the second connection are judged to be connected method calls. As a result of the second connection, a new ID is passed from the server to the client, and the client attaches this new value as a parameter to the third method call. By repeatedly performing this procedure, uniqueness is given to a series of method calls.

2.3.11 Protocol Version Information Chunk (protocolversion_packet:0x0a)

Field Name	Byte Width	Value
id	8bit	0x0a
reserve	8bit	Reserved
protocol_version	2byte	Contains a value that represents the protocol version. For current models including VB-C500/VB-C60, returns 100 (in decimal).

2.3.12 Server Mode Information Chunk (servermode_packet:0x0b)

Indicates whether the server is capable of audio transport. (ON: Transport Available, OFF: Transport Unavailable)

Field Name	Byte Width	Value
id	8bit	0x0b
mode	8bit	MSB = audio reception OFF/ON (1 is ON). The 2nd MSB = audio transmission OFF/ON (1 is ON).

Example)

mode=0x00 Transmission and reception both OFF

mode=0x80 Reception only ON

mode=0x40 Transmission only ON

mode=0xc0 Transmission and reception both ON

3 Comments

3.1.1 Authentication Method

HTTP BASIC authentication

3.1.2 Keep-Alives

Because a large number of POSTs are used to transport audio from a client to the server, it is desirable for persistent connection by Keep-Alives.

3.1.3 HTTP Response Errors

An error (4xx) is returned in the HTTP response status code only if there is a format error in the HTTP request headers. If the format complies with the rules contained in these specifications, the HTTP response status code returns 200 OK.

It is necessary to check using the result chunk if the audio server accepted the request.

3.1.4 Connection Client

Requirements for the use of each command are as follows.

- Server Information Retrieval Command (info)
  User authority: Unrestricted
- Client-bound Audio Transport Command (send)
  User authority: Unrestricted
  Number of simultaneous connections: Maximum client number (Refer to camera's setting page)
  * VB-C300 setting page doesn't include settings for the maximum number of clients, so the following specs are applied.
    Total 15 clients including
    Administrator1 (requires l=100 and Authorization field) and
    14 guest users
- Server-bound Audio Transport Command (recv)
  User authority: Administrators only (The Authorization field is required to contain l=100)
  Number of simultaneous connections: 1 administrator

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