



# **Vocia Text Protocol Documentation**

**Software Version 1.6**

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# Third Party Control

## VTP

Vocia Text Protocol (VTP) is a remote control protocol that provides an interface for third party control. Depending on the interface method used, this either employs a TCP connection method via the use of a unique TCP port number, or via a serial (RS-232) connection. Due to the distributed nature of the Vocia system, the VTP connections have also been designed with this in mind. Therefore there are a number of different hardware configurations supported.

In all connection methods a common message format has been employed. VTP is an ASCII, line based protocol. Commands are entered as a single command letter, followed by a string of arguments relevant to the command, and then executed by a command entered on a new line. VTP commands are not case sensitive, although arguments can be case sensitive. Commands and arguments are separated by a space. All VTP responses are in XML to facilitate parsing by third party applications.

**MS VTP** – **MS-1 Vocia Text Protocol** - A control system can connect to the IP address of a Vocia MS-1 at a specific port address (8020) and the MS-1 will accept VTP commands for the Vocia system. A RS-232 serial connection is also supported and can be used in conjunction with IP control. Up to 30 Concurrent VTP sessions are supported. If this limit is exceeded the [Logger](#) will indicate a 'no room for new client' message. Please note that an MS-1 is required for this VTP functionality in a Vocia system.

**TTS VTP** – **TTS-1 Vocia Text Protocol** - A control system can connect to the IP address of a Vocia TTS-1 at a specific port address (8020) and the TTS-1 will accept VTP commands for the Vocia system. A TTS-1 is required for this VTP functionality in a Vocia system.

**LSI VTP** – **LSI-16 and LSI-16e Vocia Text Protocol** -A control system can connect to the IP address of a Vocia LSI-16 at a specific port address (8050) or via a RS-232 serial connection to the rear of the LSI-16. The LSI-16 will accept VTP commands for the Emergency elements of a Vocia system. Please note that a LSI-16 is required for this VTP functionality in a Vocia system.

**PS VTP** – **Paging Station Vocia Text Protocol** - A control system can connect to the Auxiliary Port of a [DS-4](#), [DS-10](#), [WS-4](#), [WS-10](#), [EWS-4](#), [EWS-10](#) (configured for VTP Mode) or a [VPSI-1](#) via an RS-232 connection. The Paging Station will accept VTP commands for Paging elements of a Vocia system. EWS-10 and EWS-4 Paging Station will only reference Emergency Zones.

## XML Responses

### MS-1 or TTS-1 Responses

A response mark-up language conforming to XML will be used for all responses from the VTP service. This is intended to simplify the information parsing necessary for third party applications to interpret the data. It will take the following form.

Data elements will be identified using tags:

```
<element> element data </element>
```

There can be sub elements within elements:

```
<element>
  <subelement> subelement data </subelement>
</element>
```

Elements may also have an attribute field:

```
<element element_attribute= value> element data </element>
```

### Response Element

The response element will be as follows:

```
<?xml version="1.0"?>
<Status Command= Command character>Status data</Status>
```

The status data may consist of a number of sub elements. There will always be a State sub element if a Status request is made. If a "Query" request is made a State sub element will not be returned.

```
<State> State string </State>
```

The state string will vary depending on the command and type of response.

### Authorization command response

The response to an authorization command will be as follows:

```
<?xml version="1.0"?><Status Command="A"><State> Authorization state string
</State></Status>
```

Where Authorization state string can be:

- **AUTH\_SUCCESS:** Access granted. User has been authenticated
- **AUTH\_FAIL:** Access denied. User could not be authenticated

## PS VTP XML Responses

VTP is an ASCII, line based protocol. This makes it simple to debug and experiment without using dedicated tools. Commands are entered as a single command letter, followed by a string of arguments relevant to the command, and a newline <LF> or carriage return <CR> to terminate and execute the command. Commands are case-insensitive, and commands and arguments are separated by whitespace (space, TAB, etc).

All PS VTP responses are in XML to facilitate parsing by third party applications. Each XML Response has been detailed after the appropriate command within the [PS VTP Commands](#) section of this help file. A response markup language conforming to XML is used for all responses from the Aux Port Interface. These responses take the following form.

Data elements are identified using tags:

```
<element>element data</element>
```

There can be sub elements within elements:

```
<element>
<subelement>subelement data</subelement>
</element>
```

Elements may also have an attribute field:

```
<element attribute=value>element data</element>
```

A typical response element will be as follows:

```
<?xml version="1.0"?><Reply Command="Command character">Reply data</Reply>
```

The response echoes the Command character. The reply data may consist of a number of sub elements.

There will always be a State sub element.

```
<State>State string</State>
```

The state string will be one of the following:

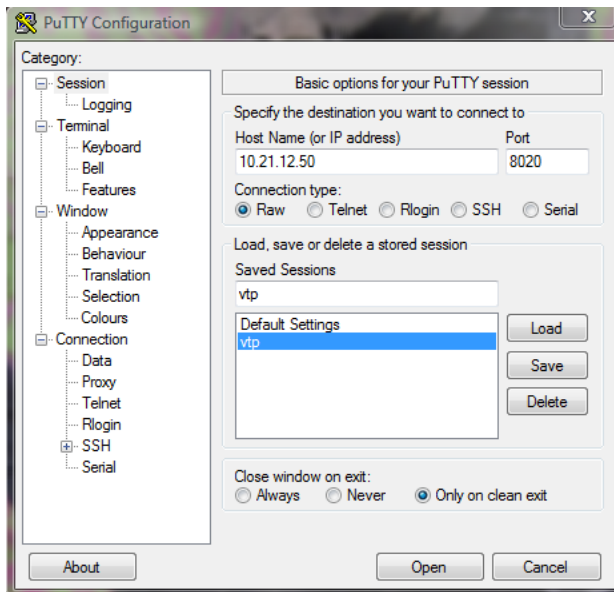
- **STATE\_OK** - indicating successful execution of the command.
- **STATE\_FAULT** - indicating some form of error occurred.
- **AUTH\_SUCCESS** - indicating that the Validate PIN (V) command successfully unlocked the paging station.
- **AUTH\_FAIL** - indicating that the command failed due to the paging station being PIN locked.

## Troubleshooting MS-VTP Connections

Example screenshots are shown that detail the connection process to an MS-1 using a terminal emulator software tool called PuTTY. PuTTY is a free implementation of Telnet and SSH for Windows and Unix platforms, along with an xterm terminal emulator. This software can be downloaded from the following link: <http://www.chiark.greenend.org.uk/~sgtatham/putty/download.html>

Instructions on its use can be found here: <http://www.chiark.greenend.org.uk/~sgtatham/putty/docs.html>.

Any terminal program can be used and configuration is very similar between each of them however we have chosen PuTTY to demonstrate the communications that would take place between a third party control system and a Vocia MS-1.



Shown above is a screenshot of the PuTTY connection configuration used to communicate with an MS-1 at IP address 10.21.12.50. The connection type has been set as a RAW socket through port 8020. Selecting Open will initiate communication with the MS-1 and VTP commands can then be sent. Note other devices (i.e. the LSI-16) may have different connection settings.



## MS-1 VTP

### MS VTP Interface

#### Connecting to MS VTP Service

To communicate with the MS-1 via VTP a [VTP User Account](#) will need to be set up. Create a New User and assign a password in the fields provided. Please note that both the User Name and Password are case sensitive, limited to 16 characters and cannot contain spaces.

All MS-1 VTP commands available to the MS-1 TCP/IP interface are also available via a RS-232 connection. Both RS-232 and TCP/IP connections can be used simultaneously.

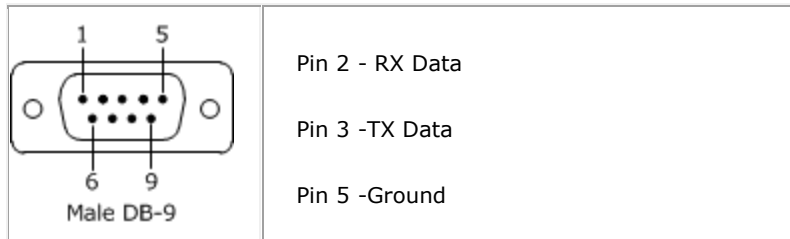
The RS-232 interface supports a command rate of 10 commands per second except where a response is expected in which case the controller must wait for the response in its entirety.

Once you have set up a VTP User Name and Password, send the configuration to the Vocia devices over the network. After this action is completed you can connect to the VTP service using:

#### Raw Socket (Ethernet)

- TCP
- Port **8020**
- IP Address of the MS-1

#### RS-232 (Serial)



- Serial
- Baud **115200**
- Stop bits **1**
- Parity **None**
- Data Bits **8**
- Flow Control **None**

The RS-232 settings listed above are default values however they are able to be customized in the [MS-1 Options](#) dialog. RS-232 must be enabled in the MS-1 Options dialog before it can be used.

If a **TTS-1** is in the system it can act as a VTP proxy for [MS-1 VTP Commands](#). If TTS-1 Sequences are triggered via VTP, the TTS-1 should be used as the primary VTP Interface for MS-1 and TTS-1 VTP Commands.

**MS VTP Glossary**

Found below is a list of all current VTP Commands. For further information on the commands please see the relevant section of this help file.

**User Authorization**

- [U](#) – specify User
- [P](#) – specify Password
- [A](#) – Authenticate the User’s password

**Internal Function**

- [K](#) – reboots a device
- [\\_](#) – terminate the session
- [?](#) – Lists glossary of MS-VTP commands

**Enable Logging and Prompts**

- [L](#) – enable/disable logging of VTP activity
- [I](#) – enable/disable console prompts confirming VTP actions
- [S](#) – enable/disable paging progress messaging
- [J](#) – enable/disable Zone status updates
- [M](#) – enable/disable System Mute status updates

**Background Control Commands**

- [B I](#) – enable/disable Page Inhibit for current Zone List
- [B L P](#) – controls Background audio level as a percentage for current Zone List
- [B L A](#) – controls Background audio level as an absolute value for current Zone List
- [B M](#) – enable/disable Background Audio Mute for current Zone List
- [B Q](#) – display a summary of the current state of the specified zone. This includes Background Level, Background Source, Page Inhibit, and Mute
- [B P](#) – enable/disable access to Page Inhibit controls of WR-1 for current Zone List
- [B S](#) – controls Background audio selection for current Zone List
- [B Z](#) – enable/disable Zone Mute for current Zone List

**Configuration Query Commands**

- [Q A](#) – display summary of available audio files
- [Q B](#) – display summary of available background sources for a Zone
- [Q C](#) – display summary of the configuration version
- [Q D](#) – display summary of the devices that are included in the current configuration
- [Q E](#) – Return details of the Emergency Paging Priority Threshold
- [Q H](#) – list available control handles
- [Q I](#) – list available user audio inputs
- [Q L](#) – list available Page Codes
- [Q M](#) – return state of System Mute
- [Q P](#) – return Page Code details
- [Q T Z](#) – Return details of the page Inhibit Priority Threshold
- [Q U](#) – list of User Audio Inputs

- [OZ](#) – list available Paging Zones

#### **Vocia Set and Execute Commands**

- [C](#) – set the state of a control handle
- [E](#) – set paging sequence elements
- [Z](#) – set the destination zone list
- [XD](#) – delete or terminate a User Audio Input request
- [XP](#) – execute a specified Page Code
- [XS](#) – execute a request to playback a sequence of announcements
- [XU](#) – execute a User Audio Input request
- [RA](#) - Cancel all repeating recorded Messages
- [RC](#) - Cancel a specified repeating recorded message
- [RI](#) - Request infinite repeat paging
- [RL](#) - list currently active repeating announcements
- [RN](#) - specify number of times a recorded message should be repeated
- [RT](#) - specify the time interval between repeated messages

**MS VTP Commands****U - Username**

Command	Argument
U	Username

Provide the Username as a string of ASCII characters. The Username is case sensitive. VTP User names are limited to a maximum of 16 characters and cannot contain spaces.

**P - Password**

Command	Argument
P	Password

Provide the password as a string of ASCII characters. The password is case sensitive. VTP User passwords are limited to a maximum of 16 characters and cannot contain spaces.

**A - Authorization**

Command	Argument
A	Authorize

Request authorization using the username/password pair previously provided. If the pair is valid the VTP service responds with "SUCCESS" otherwise it will respond with "FAILURE".

Example Sequence with XML Responses
Connection Accepted U admin P admin A <?xml version="1.0"?><Status Command="A"><State>AUTH_SUCCESS</State></Status>

**Terminate Session (.)**

A full-stop will terminate the VTP session and close the socket.

Command	Argument
.	n

**Reboot Device (K)**

The K Command is used to perform a remote reboot of a device.

Command	Argument	Argument
K	DeviceType	DeviceID

- *DeviceType* is a numerical representation of the device type.
- *DeviceID* is the ID of the particular device.

Use the [Q D Command](#) to query devices in a World.

The reboot device responses will be as follows:

```
<?xml version="1.0"?><Status Command=K><Device type="DeviceType"
id="DeviceID">DeviceName:DeviceID</Device><State> Reboot device state </State></Status>
```

*DeviceName* is a string representation of the device type.

*Reboot device state* can be :

- **REBOOT\_SUCCESS** : Device was successfully restarted
- **REBOOT\_FAIL** : Device was unable to be restarted

Note:
<ul style="list-style-type: none"> <li>• EWS-4 and EWS-10 paging stations are reported as WS-4 and WS10 respectively.</li> <li>• The Valid ID range is a hex value based on the MSB and LSB Device ID</li> </ul>

Device Type	Device Name	Valid ID Range
1	DS-4	01 - FF
2	WS-4	01 - FF
3	DS-10	01 - FF
4	WS-10	01 - FF
5	ANC-1	01 - FF
6	VI-6	01 - FF
7	VO-4	01 - FF
8	LSI-16	01 - FF
10	VO-4e	01 - FF
11	WR-1	01 - FF
12	VA-8600	01 - FF
14	GPIO-1	01 - FF
17	VA-4030(e)	01 - FF
18	VA-2060(e)	01 - FF
32	VI-8	01 - FF
33	VOIP-1	01 - FF
34	POTS-1	01 - FF

## Example including connection to socket

Connection Accepted

U admin

P 1234

A

```
<?xml version="1.0"?><Status Command="A"><State>AUTH_SUCCESS</State></Status>
```

Q D

```
<?xml version="1.0"?><Query Command="D"><Devices count="8">
```

```
<Device type="3" id="04">DS-10:04</Device>
```

```
<Device type="17" id="44">VA-4030:44</Device>
```

```
<Device type="12" id="04">VA-8600:04</Device>
```

```
<Device type="7" id="03">VO-4:03</Device>
```

```
<Device type="7" id="0F">VO-4:0F</Device>
```

```
<Device type="6" id="01">VI-6:01</Device>
```

```
<Device type="9" id="50">MS-1:50</Device>
```

```
<Device type="9" id="51">MS-1:51</Device>
```

```
</Devices></Query>
```

K 7 03

```
<?xml version="1.0"?><Status Command="K">
```

```
<Device type="7" id="03">VO-4:03</Device><State>REBOOT_SUCCESS</State></Status>
```

I ON

Interactive now on

K 3 04

Sent reset device command for DS-10:04

Reset Device command succeeded for DS-10:04

```
<?xml version="1.0"?><Status Command="K">
```

```
<Device type="3" id="04">DS-10:04</Device><State>REBOOT_SUCCESS</State></Status>
```

In this example the Device Query (Q D) command was used to discover hardware on the network. A VI-6 with Device ID 07 was reset. Then Interactive Mode was enabled and a DS-10 with a Device ID of 04 was reset.

**Zone Definition**

The system will store a list of Zones to be used with subsequent Page requests. This list of Zones remains current for all future Page requests until overridden by a future Zone list definition. All accessible Zones correspond to the Zone ID numbers shown in Vocia software for the connected Vocia system. Remote Zones in a Multi-World system cannot be accessed via this method – access to remote systems must be made through the MS-1 residing in those systems directly.

**Z n1 n2 ...**

Where n1 n2 ... is a list of Zones as decimal numbers each separated by a space.

Command	Example
Z	1 2 3

**Interactive Mode (I)**

Interactive mode defines whether informative responses are sent back to the consol. It is offered to make the system more human readable. When interactive mode is ON, feedback confirms commands have been successfully accepted and processed by the system. These responses may confuse a computer-based controller, and so are disabled by default. The ? command can be used once interactive mode is turned on to receive a list of valid VTP commands from the VTP service.

Command	Argument
I	On / Off

- **I ON** - Sets interactive mode on. A response is issued.
- **I OFF** - Sets interactive mode off.

**?** -Reports all valid VTP commands in English. (Interactive Mode must be enabled for reporting to work)

Command	Argument
?	Not Needed

Example sequence including connection to socket
<pre> Connection Accepted u admin p 1234 a &lt;?xml version="1.0"?&gt;&lt;Status Command="A"&gt;&lt;State&gt;AUTH_SUCCESS&lt;/State&gt;&lt;/Status&gt; I ON Interactive now on ? # ===== # Vocia VTP Help                     </pre>

```

# =====
#
# -----
# Login and Authentication:
# -----
# U username      - Supply the username
# P password      - Supply the password
# A              - Request authorization of the username/password pair
#
# C h s          - Set control handle state
#                h - control handle id
#                s - control handle state
#
# Z n1 n2 ...    - Make this the list of active zones. Overrides previous setting
#
# E n e/z filename data - Message element definition
#                   n - sequence number
#                   e - existing wavefilename
#                   z - end of sequence marker
#
# -----
# Query Commands:
# -----
# Query system configuration via VTP
# Q A            - List available audio files
# Q B zone       - List available background sources
# Q C            - Display the configuration version
# Q D            - List the devices in this world
# Q H            - List available control handles
# Q I            - List available user inputs
# Q L            - List available page codes
# Q M            - Query the state of System Mute
# Q P pagecode   - Display page code details
# Q S zone       - Display zone configuration details
# Q U            - Currently active user input events
# Q Z            - List available zones
#
# -----
# Background Execution Commands:
# -----
# B I ON/OFF     - Set zone page inhibit on or off
# B L A value    - Set zone background level (value = 0 - 255)
# B L P value    - Set zone background level (value = 0 - 100)
# B M ON/OFF     - Set zone background mute on or off
# B P ON/OFF     - Set allow zone page inhibit on or off
# B Q zone       - Query the state of the specified zone
# B S bundle channel - Set zone background source
# B Z ON/OFF     - Set zone mute on or off
#
# -----

```



```

# Page Execution Commands:
# -----
# X D id          - Delete user input page #id
# X P pagecode id - Execute a recorded announcement page code as page #id
# X U devtype devid chan duration priority mode id - Execute user input page #id, to preselected
zones
# X S Y/N priority id - Execute sequence page #id to preselected zones
#
# -----
# Auto Repeat Commands:
# -----
# R N count      - Set the number of repetitions for subsequent announcements
# R T interval   - Set the time interval in seconds between repeats
# R I           - Repeat until cancelled (overrides repeat count)
# R L           - List all auto repeating announcements
# R C id        - Cancel the auto repeating announcement #id
# R A           - Cancel all auto repeating announcements
#
# -----
# Session Commands:
# -----
# I ON/OFF      - Toggles interactive mode (enables verbose responses)
# L ON/OFF      - Enables/disables logging of VTP activity
# S ON/OFF      - Toggles page progress messages (allows return paging status)
#
# ?            - Display this help information
# .           - Terminates session
# # text       - Provide a comment to be ignored. Possibly an error message
# =====

```

**Activity Logging (L)**

The VTP service on the MS-1 can be made to log VTP command activity to the MS-1's system log. This can be useful for debugging a third party application or for keeping a record of system activity.

Command	Argument
L	On / Off

- **L ON** - Sets activity logging mode on.
- **L OFF** - Sets activity logging mode off.

## Show Page Progress (S)

The MS-VTP service will provide progress status for the currently active paging announcement via MS-VTP. Only pages triggered via MS-VTP are reported. This information can be used to provide the MS-VTP client with feedback as to the progress of the announcement in the paging system. This facility can be turned on and off using the 'S' command and is turned off by default.

Command	Argument
S	On / Off / ALL

- **S ON** - Enable the transmission of paging progress status.
- **S OFF** - Disable the transmission of paging progress status.
- **S ALL** - Enable detailed paging progress mode. Sequence element progress will be reported in addition to the standard page progress. See the **PAGE\_ELEMENT\_X** for formatting of the Sequence element response. Use the 'S ON' or the 'S OFF' command to disable the detailed paging progress mode.

The page progress responses will be as follows:

```
<?xml version="1.0"?>
<Status Command=X>
<Id> Page event id </Id>
<State> Page progress state </State>
</Status>
```

Where

- *Page event id* is the id number associated with the page when it was executed
- *Page progress state* will be one of the following paging states.
  - **PAGE\_NEW\_REQ** - Page request accepted
  - **PAGE\_FAILED** - Page failed for some reason
  - **PAGE\_COMPLETE** - Page completed normally
  - **PAGE\_TIMEOUT** - Page play-out delayed longer than the store duration
  - **PAGE\_ACTIVE** - Page is currently being played back the first time
  - **PAGE\_ELEMENT\_X** ('S ALL' mode only) - The Sequence element X (where X is 0-23) is currently being played back as part of this page. The preamble, if configured, is considered sequence element P.
  - **PAGE\_AR\_WAITING\_FOR\_REPEAT\_INTERVAL** - The page is currently waiting to be re-queued for playback once the repeat interval has expired.
  - **PAGE\_AR\_ACTIVE** - Repeating page is currently being played back as part of an auto repeating announcement.
  - **PAGE\_OVERRIDDEN** - Page was overridden by a higher priority announcement
  - **PAGE\_TRUNCATED** - Page was truncated because it exceeded the maximum page duration

## J - Zone Status Updates

Command	Argument
J	<i>state</i>

Zone number must be specified before sending this command using the Z n1 n2 n3 command . Where n1 n2 n3 are zone numbers

*State* shall be

- **ON** - Turns on Zone status updates (updates occur anytime the status of a Zone changes)
- **OFF** - Turns off Zone status updates
- **POLL** - Will provide the status of all of the Zones in the World

Example
<pre>&lt;?xml version="1.0"?&gt; &lt;Status Command="J"&gt; &lt;Zone id="1" state="IDLE"/&gt; &lt;Zone id="2" state="IDLE"/&gt; &lt;Zone id="3" state="IDLE"/&gt; &lt;Zone id="4" state="IDLE"/&gt; &lt;Zone id="6" state="5"/&gt; &lt;Zone id="12" state="5"/&gt; &lt;/Status&gt;</pre>

The state of a zone can either be IDLE or it will be the numeric priority that is active in that zone in the range 1 to the Emergency Paging Threshold – 1. For example if the Emergency Paging Threshold is 101, the numeric priority will be in the range 1 to 100.

The response for a Zone Status POLL command will be in the same format as a zone status update above, however it will contain all of the zones configured in a World.

It should be noted that Emergency Paging and/or Emergency Message playback can cause an audio output channel that has been assigned to both a Zone and an Emergency Zone to become unavailable for custom page code playback. As the relationship between Zone and Emergency Zone assignment is complex (Zone and Emergency Zones can overlap) any emergency activity will not be reflected in the zone status information provided (the emergency system operation is intended to occur at the highest level of priority).

**M - Enable System Mute Status Updates**

The 'M' command supports turning on/off system mute status updates. System mute status updates will be sent anytime the state of system mute changes.

Command	Argument
M	<i>state</i>

*State* shall be

- **ON** - Turns on system mute status updates
- **OFF** - Turns off system mute status updates

Example
<pre>&lt;?xml version="1.0"?&gt; &lt;Status Command=M&gt; &lt;SystemMute&gt;N&lt;/SystemMute&gt; &lt;/Status&gt;</pre>

**Background Control Commands (B)****B I - Sets Page Inhibit State for a zone**

Command	Argument
B I	<i>state</i>

Zone number must be specified before sending this command using the Z n1 n2 n3 command . Where n1 n2 n3 are zone numbers

*State* shall be

- **ON** - Turns Page Inhibit on for the list of zones specified
- **OFF** - Turns Page Inhibit off for the list of zones specified

Example including connection to socket
<pre>U Admin P Password A Z 2 B I ON</pre>

This example shows Paging Inhibit being set to ON in Zone 2

**B L P - Sets Background level using a percentage level**

Command	Argument
B L P	<i>level</i>

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Zone number must be specified before sending this command using the Z n1 n2 n3 command . Where n1 n2 n3 are zone numbers

Where *level* determines the Background Audio Level specified as a percentage value from 0 to 100.

Example including connection to socket
U Admin
P Password
A
Z 2
B L P 50

This example shows the level set in Zone 2 to 50%.

### **B L A – Set Background level using an absolute value**

Command	Argument
B L A	<i>level</i>

Zone number must be specified before sending this command using the Z n1 n2 n3 command . Where n1 n2 n3 are zone numbers

Sets the Background Audio Level to the *level* specified as an absolute value from 0 to 255.

Example including connection to socket
U Admin
P Password
A
Z 2
B L A 127

This example shows the absolute level being set to 127 in Zone 2.

### **B M - Background Music Mute**

Command	Argument
B M	<i>state</i>

Zone number must be specified before sending this command using the Z n1 n2 n3 command . Where n1 n2 n3 are zone numbers

*State* shall be

- **ON** Turns Background Music Mute on for the list of zones specified

- **OFF** Turns Background Music Mute off for the list of zones specified

Example including connection to socket
U Admin P Password A Z 2 B M ON

This example shows the Background source mute being activated in Zone 2.

### B Q zone– Queries current state of specified Zone

Command	Argument
B Q	zone

This command is only used on a per-zone basis. Therefore it requires the zone to be specified as part of the command. If no zone is specified no response will be given.

Command will respond with the current state of the specified Zone. This includes background level (specified as a percentage value), background source, page inhibit, and mute.

Use of the **Q Z** command will allow details of the current zone configuration to be confirmed

Example including connection to socket
U Admin P Password A <?xml version="1.0"?><Status Command="A"> <State>AUTH_SUCCESS</State></Status>  Q Z <?xml version="1.0"?><Status Command="Z"><Zones Count="4"> <Zone id="1">Zone 1</Zone><Zone id="2">Zone 2</Zone> <Zone id="3">Zone 3</Zone><Zone id="4">Zone 4</Zone></Query>  B Q 1 <?xml version="1.0"?><Zone Status id="1"> <AllowPageInhibit>Y</AllowPageInhibit><Bundle>3008</Bundle> <Channel>2</Channel> <ZoneLevel>45</ZoneLevel><ZoneMute>N</ZoneMute> <ZonePageInhibit>N</ZonePageInhibit> <ZoneBackgroundMute>N</ZoneBackgroundMute></ZoneStatus>

**B P - Controls WR-1 Page Inhibit access**

Command	Argument
B P	<i>state</i>

Zone number must be specified before sending this command using the Z n1 n2 n3 command . Where n1 n2 n3 are zone numbers

Controls the access to Page Inhibit for all the WR-1 panels configured for the specified zone.

*State* shall be

- **ON** Turns on access to Page Inhibit for the list of zones specified
- **OFF** Turns off access to Page Inhibit for the list of zones specified

Example including connection to socket
U Admin P Password A Z 2 4 5 B P ON

This example shows the Paging Inhibit access being activated in Zones 2,4 & 5.

**B S – Background Audio source selection**

Command	Argument	Argument
B S	bundle	channel

Request a change to the background audio source for the list of zones specified. The background source is specified using the CobraNet bundle "*bundle*" and bundle "*channel*" carrying the desired audio source. The bundle numbers and channels available for background selection in a given zone can be queried using the Q B zone command (see VTP Query Commands).

**Example sequence**

1. Connection to the socket
2. Request client seat (Enter VTP User Name and Password information, which is set in Vicia software under [VTP Users](#)). U n=User Name P n1=Password
3. Authorize the user (Use the A command)
4. Set Interactive mode to ON (i on). Interactive mode will generally not be used. It has been turned on in this example to show the commands being processed.
5. Enter the zone required for the background change using the Z command (e.g. to change to Zone 1 enter command Z 1). Once a zone command has been entered that zone/s will remain selected until a new zone command is issued. This means that multiple changes to the same zone or zones are possible without re-entering the zone information.

6. Query the list of assignable background channels for the zone. As is shown in the example screenshot below for Zone 1 enter Q B 1 (for more information on the Q B command, see VTP Query Commands). The list of available background channels for Zone 1 will be shown.
7. Enter and execute the background source change (To change to input channel four, enter the bundle number, and then the input channel number as shown in the example below B S 3008 3)
  - If Interactive Mode (I on/off) is turned on, a response should appear. This will say "Background source for 1 zones set to bundle 3008 and channel 3".
  - As the Zone information has been set, you could continue to make changes in Zone 1, or re-enter a different zone or zones using the Z command.
  - Terminate session (.) If required.

Example including connection to socket
U Admin
P Password
A
I ON
Z 2
B S 3008 3

### B Z - Zone Mute

Command	Argument
B Z	<i>state</i>

Zone number must be specified before sending this command using the Z n1 n2 n3 command . Where n1 n2 n3 are zone numbers

Will mute all audio into a specified zone.

State shall be

- **ON** Turns Zone Mute on for the list of zones specified
- **OFF** Turns Zone Mute off for the list of zones specified

Example including connection to socket
U Admin
P Password
A
Z 2
B Z ON

This example shows the Zone Mute being activated in Zone 2.



## Control Handle Change (C)

### C handle state

Make a request to set the state of a control handle. The handle is an ID number that can be queried using the Q H command, the response will be as found under Control Handle List. The term "state" defines an 8 bit scalar value (0-255 dependent on the switching threshold set in the Vocia software for the control handle).

Please note that to adjust a [Control Handle](#) state using VTP it must not be assigned to a physical Control Input. Assign the Control Handle in the Vocia software as a Scheduler/VTP driven handle for use with VTP.

Command	Argument	State
C	Handle ID	0-255

## MS VTP Query Commands (Q)

A third party application using VTP may need to access certain aspects of the MS-1s configuration. For example it may be necessary to render a list of destination zones or Page Codes on a user interface. The **VTP Configuration Query** commands can be used for this purpose. All responses are made in XML format and are detailed after the relevant command.

### Query Audio File List (Q A)

List the recorded announcement .WAV files available for playback by the MS-1.

Command	Argument
Q A	Not needed

The response to an audio file list query command will be as follows:

```
<?xml version="1.0"?>
<Query Command="A"> <AudioFiles count="FileCount">
<AudioFile id="FileID"> AudioFileName </ AudioFile >
...
<AudioFile id="FileID"> AudioFileName </ AudioFile >
</AudioFiles> </Query>
```

- "FileCount" is the number of available audio files
- "FileID" is a 16bit unique identifier for an audio file
- "AudioFileName" contains the path name of the audio file relative to the Vocia MS-1 audio file base directory /vociawavs. There will be FileCount AudioFile tagged sections in the response list.

Example with XML response included
<pre>Q A &lt;?xml version="1.0"?&gt;&lt;Query Command="A"&gt;&lt;AudioFiles count="1"&gt; &lt;AudioFile id="1"&gt;/vociawavs/6 Code Gray-15.0dB.wav&lt;/AudioFile&gt;&lt;/AudioFiles&gt;&lt;/Query&gt;</pre>

**Note:** Audio files uploaded by the FTP service to the MS-1 will not be displayed as part of this list. As FTP is the primary mechanism supported for providing dynamic (ie. post configuration) audio files from a third party system, FTP is the mechanism that will need to be used to determine if a custom audio file is present. This can be done by listing the contents of the FTP folder locations. See the MS-1 FTP Interface section for more information on viewing the files uploaded via FTP.

### Query Background Source List (Q B zone)

Return a list of the available background sources for the specified destination zone number zone. The response includes a background source label, and the CobraNet bundle and bundle channel carrying the desired background audio.

Command	Argument
Q B	Zone number

The response to a background source list query command will be as follows:

```
<?xml version="1.0"?><Query Command="B"> <Backgrounds count="BackgroundCount">
<Background id="BackgroundIndex">
<Bundle>BundleNumber</Bundle>
<Channel>BundleChannel</Channel>
<Name>BackgroundSourceName</Name>
</ Background >
<Background id="BackgroundIndex">
<Bundle>BundleNumber</Bundle>
<Channel>BundleChannel</Channel>
<Name>BackgroundSourceName</Name>
</ Background >
</AudioFiles> </Query>
```

- *BackgroundCount* is the number of available background sources for the specified zone.
- There are *BackgroundCount* Background section tags in the list.
- *BackgroundIndex* is an 8 bit decimal background source index.
- *BundleNumber* is the CobraNet bundle containing the desired audio channel.
- *BundleChannel* identifies the required channel within the bundle.
- *BackgroundSourceName* is the label string associated with the background source.

Example with XML response included - no background Channels configured

```
Q B 1
<?xml version="1.0"?><Query Command="B"><Backgrounds count="0">
</Backgrounds></Query>
```

Example with XML response included - with six background Channels configured

```
Q B 1
<?xml version="1.0"?><Query Command="B"><Backgrounds count="6">
<Background id="1"><Bundle>3028</Bundle><Channel>1</Channel>
```

```

<Name>Input Channel 1</Name></Background>
<Background id="2"><Bundle>3028</Bundle><Channel>2</Channel>
<Name>Input Channel 2</Name></Background>
<Background id="3"><Bundle>3028</Bundle><Channel>3</Channel>
<Name>Input Channel 3</Name></Background>
<Background id="4"><Bundle>3028</Bundle><Channel>4</Channel>
<Name>Input Channel 4</Name></Background>
<Background id="5"><Bundle>3028</Bundle><Channel>5</Channel>
<Name>Input Channel 5</Name></Background>
<Background id="6"><Bundle>3028</Bundle><Channel>6</Channel>
<Name>Input Channel 6</Name></Background>
</Backgrounds></Query>

```

### Query Configuration Version (Q C)

Query the current configuration ID for the MS-1 and its world. This command can be used to poll for changes to the configuration and to ensure the configuration used by the third party application is synchronized to the MS-1. In order to get a response the .

	Command	Argument
Q C	Not needed	

The response to a configuration query command will be as follows:

```

<?xml version="1.0"?>
<Query Command="C">
<ConfigID> WorldID ConfigurationVersion CreationTime BuildSequence </ ConfigID >
</Query>

```

- WorldID is a 2 digit hexadecimal number identifying the world the MS-1 belongs to,
- ConfigurationVersion is the 8 digit hexadecimal configuration version,
- CreationTime is the 8 digit hexadecimal creation time of the project and
- BuildSequence is the 8 digit hexadecimal project build sequence. (e.g. 01 249415D4 4B2F98C9 4B334F69)

Example
<pre> Connection Accepted U admin P admin A &lt;?xml version="1.0"?&gt;&lt;Status Command="A"&gt;&lt;State&gt;AUTH_SUCCESS&lt;/State&gt;&lt;/Status&gt; I on Interactive now on QC &lt;?xml version="1.0"?&gt;&lt;Query Command="C"&gt;&lt;ConfigID&gt;01 F61ED107 4DCBA831 4DD154D9&lt;/ConfigID&gt;&lt;/Query&gt; </pre>

## Query Device List (Q D)

This command queries the devices that are included in the current configuration for the MS-1 and its world.

The Q D command can be used to list the devices that the system has been configured for, for use in commands such as Reset Device.

Command	Argument
Q D	Not needed

The response to a device query command will be as follows:

```
<?xml version="1.0"?><Query Command="D"><Devices count="DeviceCount">
<Device type="DeviceType" id="DeviceID">DeviceName:DeviceID</Device>
...
<Device type="DeviceType" id="DeviceID">DeviceName:DeviceID</Device>
</Devices></Query>
```

Where:

- *DeviceCount* is the number of devices in the World.
- *DeviceType* is a numerical representation of the device type.
- *DeviceID* is the ID of the particular device
- *DeviceName* is a string representation of the device type.

Note:

- EWS-4 and EWS-10 paging stations are reported as WS-4 and WS10 respectively.
- The Valid ID range is a hex value based on the MSB and LSB Device ID

Device Type	Device Name	Valid ID Range
1	DS-4	01 - FF
2	WS-4	01 - FF
3	DS-10	01 - FF
4	WS-10	01 - FF
5	ANC-1	01 - FF
6	VI-6	01 - FF
7	VO-4	01 - FF
8	LSI-16	01 - FF
10	VO-4e	01 - FF
11	WR-1	01 - FF
12	VA-8600	01 - FF
14	GPIO-1	01 - FF

17	VA-4030(e)	01 - FF
18	VA-2060(e)	01 - FF
32	VI-8	01 - FF
33	VOIP-1	01 - FF
34	POTS-1	01 - FF

Example Sequence with XML response included
<p>Connection Accepted                      U admin                      P 1234                      A                      &lt;?xml version="1.0"?&gt;&lt;Status Command="A"&gt;&lt;State&gt;AUTH_SUCCESS&lt;/State&gt;&lt;/Status&gt;</p> <p>Q D                      &lt;?xml version="1.0"?&gt;&lt;Query Command="D"&gt;&lt;Devices count="9"&gt;                      &lt;Device type="2" id="01"&gt;WS-4:01&lt;/Device&gt;                      &lt;Device type="3" id="02"&gt;DS-10:02&lt;/Device&gt;                      &lt;Device type="4" id="01"&gt;WS-10:01&lt;/Device&gt;                      &lt;Device type="18" id="08"&gt;VA-2060:08&lt;/Device&gt;                      &lt;Device type="17" id="44"&gt;VA-4030:44&lt;/Device&gt;                      &lt;Device type="7" id="04"&gt;VO-4:04&lt;/Device&gt;                      &lt;Device type="6" id="15"&gt;VI-6:15&lt;/Device&gt;                      &lt;Device type="9" id="50"&gt;MS-1:50&lt;/Device&gt;                      &lt;Device type="8" id="02"&gt;LSI-16:02&lt;/Device&gt;                      &lt;/Devices&gt;&lt;/Query&gt;</p>

**Query Emergency Paging Priority Threshold (Q E)**

Request the current Emergency Paging Priority Threshold.

Command	Argument
Q E	Not needed

The response to a control handle list query command will be as follows:

```
<?xml version="1.0"?>
<Query Command="E">
<EmergencyPagingPriorityThreshold>Priority</EmergencyPagingPriorityThreshold>
</Query>
```

Where

- Priority is between 5 and 252

#### Example Sequence with XML response included

```
Q E
<?xml version="1.0"?><Query Command="E">
<EmergencyPagingPriorityThreshold>101</EmergencyPagingPriorityThreshold>
</Query>
```

### Query Control Handle List (Q H)

Request a list of the current Control Handles available in the system. This command provides the Control Handle ID and the label.

Command	Argument
Q H	Not needed

The response to a control handle list query command will be as follows:

```
<?xml version="1.0"?>
<Query Command="H"><Handles count="HandleCount">
<Handle id="HandleID"> HandleLabel </Handle >
<Handle id="HandleID"> HandleLabel </Handle >
</Handles></Query>
```

Where

- HandleCount is the number of available control handles.
- There will be HandleCount Handle section tags in the list.
- HandleID is a 32 bit decimal unique identifier for the control handle.
- HandleLabel is the label string associated with the control handle.

#### Example Sequence with XML response included

```
Q H
<?xml version="1.0"?><Query Command="H"><Handles count="0">
</Handles></Query>
Q H
<?xml version="1.0"?><Query Command="H"><Handles count="4">
<Handle id="1003">New Control Handle 4</Handle>
<Handle id="1001">New Control Handle 2</Handle>
<Handle id="1000">New Control Handle 1</Handle>
<Handle id="1002">New Control Handle 3</Handle>
</Handles></Query>
```

### Query User Audio Input List (Q I)

Request a list of available User Audio Inputs. In general User Audio Inputs are VI-6 inputs that are available for long term Pages to a set of destination Paging Zones. Each item in the User Audio Input list will consist of a device type, device ID and a channel number.

Command	Argument
Q I	Not needed

The response to a user audio input list query command will be as follows:

```
<?xml version="1.0"?>
<Query Command="I"><UserInputs count="InputCount">
<UserInput id="InputID">
<DeviceType>InputDeviceType</DeviceType>
<DeviceID>InputDeviceID</DeviceID>
<Input> InputChannel</Input>
</UserInput >
...
<UserInput id="InputID">
<DeviceType>InputDeviceType</DeviceType>
<DeviceID>InputDeviceID</DeviceID>
<Input> InputChannel</Input>
</UserInput >
</UserInputs></Query>
```

Where

- InputCount is the number of available user inputs.
- There will be InputCount UserInput section tags in the list.
- InputID is a 32 bit decimal unique identifier for the user input.
- InputDeviceType is a decimal representation of the host device for the input. At present this must be a VI-6 (device type = 6).
- InputDeviceID is the specific device's 8 bit device ID set on the rotary switches.
- InputChannel specifies the device's input channel used for the user input.

Example Sequence with XML response included
<pre>Q I &lt;?xml version="1.0"?&gt;&lt;Query Command="I"&gt; &lt;UserInputs count="1"&gt;&lt;UserInput id="1377793"&gt; &lt;DeviceType&gt;6&lt;/DeviceType&gt; &lt;DeviceID&gt;21&lt;/DeviceID&gt; &lt;Input&gt;2&lt;/Input&gt;&lt;/UserInput&gt;&lt;/UserInputs&gt;&lt;/Query&gt;</pre>

**Query Page Code List (Q L)**

Respond with a list of all the available Page Codes. The list will consist of items comprising a Page Code followed by its label. See Page Code List for details of the response to this command. Details of a particular Page Code can be obtained using the Q P command.

Command	Argument
Q L	Not needed

The response to a Page Code list query command will be as follows:

```
<?xml version="1.0"?>
<Query Command="L"><Pagecodes count="PagecodeCount">
<Pagecode id="PageCode"> PagecodeLabel </ Pagecode >
...
<Pagecode id="PageCode"> PagecodeLabel </ Pagecode >
</ Pagecodes ></Query>
```

Where

- PagecodeCount is the number of available Page Codes.
- There will be PagecodeCount Pagecode section tags in the list.
- PageCode is the three digit decimal Page Code number.
- PagecodeLabel is the label string associated with the Page Code.

Example with XML response included
<pre>Q L &lt;?xml version="1.0"?&gt;&lt;Query Command="L"&gt;&lt;Pagecodes count="5"&gt; &lt;Pagecode id="3"&gt;Page Code 3&lt;/Pagecode&gt; &lt;Pagecode id="2"&gt;Page Code 2&lt;/Pagecode&gt; &lt;Pagecode id="1"&gt;Page Code 1&lt;/Pagecode&gt; &lt;Pagecode id="5"&gt;Page Code 5&lt;/Pagecode&gt; &lt;Pagecode id="4"&gt;Page Code 4&lt;/Pagecode&gt; &lt;/Pagecodes&gt;&lt;/Query&gt;</pre>

**Query System Mute (Q M)**

Respond with the current state of System Mute. See System Mute for response details.

Command	Argument
Q M	Not needed

The response to a System Mute Query will be

```
<?xml version="1.0"?><SystemMute>State string</SystemMute>
```

State string will be:



- N - When system mute is inactive or not configured.
- Y - When system mute is active

Example with XML response included
Q M <?xml version="1.0"?><SystemMute>N</SystemMute>

### Query Page Code Details (Q P pagecode)

Respond with details of the specified Page Code. The information returned includes the Page Code type (live announcement or pre-recorded), the list of destination Zones, the priority of the Page and whether or not it is assigned a Preamble. See Page Code Details List for details of the XML response to this command.

Command	Argument
Q P	Page Code number

The response to a Page Code details query command will be as follows:

```

<?xml version="1.0"?>
<Query Command="P"><PageCodeDetail id=" PageCode">
<Preamble> Preamble </ Preamble >
<Priority> Priority </ Priority >
<AutoRepeat enabled=Repeatstate>
<Count>
<Min>1</Min>
<Default>1</Default>
<Max>9999</Max>
</Count>
<Interval>
<Min>0</Min>
<Default>0</Default>
<Max>43200</Max>
</Interval>
</AutoRepeat>
<Type> Type </ Type >
<Zones count=" PCZoneCount" >
<Zone> ZoneNumber </ Zone >
...
<Zone> ZoneNumber </ Zone >
</Zones>
</ PageCodeDetail ></Query>
    
```

Where

- PageCode is the three digit decimal Page Code number.
- Preamble is

- 0 for no preamble
- 1 when a preamble is required.
- Priority defines the priority value of the Page Code.
- Type can be
  - "PAGE\_TYPE\_LIVE" for a live page from a paging station microphone,
  - "PAGE\_TYPE\_DELAYED" for a delayed page from a paging station microphone
  - "PAGE\_TYPE\_PLAYBACK" for initiation of a recorded announcement playback.
- PCZoneCount specifies the number of destination paging zones for the Page Code. There will be PCZoneCount Zone section tags in the list.
- ZoneNumber is the 8 bit decimal zone number for the destination zone.

"RepeatState" can be

- true - auto repeat enabled
- false - auto repeat not enabled

If the "RepeatState" is 'true' then the <Count> and <Interval> values will show the Page Code auto repeat configured values.

- Count - *minimum, default* and *maximum* will be integers in the range 1 to 9999, or the word *infinite* to represent an infinite count.
- Interval - *minimum, default* and *maximum* will be integers in the range 1 to 43200 seconds.

#### Example Sequence with XML Responses

```

Q P 2
<?xml version="1.0"?><Query Command="P"><PageCodeDetail id="2">
<Preamble>N</Preamble>
<Priority>1</Priority>
<AutoRepeat enabled=false>
<Count>
<Min>1</Min>
<Default>1</Default>
<Max>9999</Max>
</Count>
<Interval>
<Min>0</Min>
<Default>0</Default>
<Max>43200</Max>
</Interval>
</AutoRepeat>
<PageCodeType>PAGE_TYPE_PLAYBACK</PageCodeType>
<Zones count="4">
<Zone>1</Zone>
<Zone>2</Zone>
<Zone>3</Zone>
<Zone>4</Zone>
</Zones></PageCodeDetail></Query>

```

**Q T Z z – Query Page Inhibit priority threshold**

Command	Argument
Q T Z	Zone

The response will be:

```
<?xml version="1.0"?>
<Query Command="Q T Z">
<Zone>z</Zone>
<PageInhibitPriorityThreshold>Priority</PageInhibitPriorityThreshold>
</Query>
```

**Query Active User Audio Inputs (Q U)**

Respond with a list of the currently active User Input events. The information returned includes the User Input Event ID uniquely identifying the event and supplied at the time the User Input was created using the X U command. The device type and device ID of the VI-6 used for the User Input event, and the input channel number are also provided. See Active User Audio Input List for details of the XML response to this command.

Command	Argument
Q U	Not needed

The response to an active user input event query command will be as follows:

```
<?xml version="1.0"?>
<Query Command="U"><ActiveInputs count="InputCount">
<ActiveInput id=" EventId ">
<DeviceType> InputDeviceType </DeviceType>
<DeviceID> InputDeviceID </DeviceID>
<Input> InputChannel </Input>
</ActiveInput>
<ActiveInput id=" EventId ">
<DeviceType> InputDeviceType </DeviceType>
<DeviceID> InputDeviceID </DeviceID>
<Input> InputChannel </Input>
</ActiveInput>
</ActiveInputs></Query>
```

Where

- InputCount is the number of active User Input events. There will be InputCount ActiveInput section tags in the list.
- The EventId is the 16 bit signed handle uniquely identifying the User Input event supplied at the time of creation via the X U command.
- InputDeviceType is a decimal representation of the host device for the input. At present this must be a VI-6 (device type = 6).
- InputDeviceID is the specific device's 8 bit device ID set on the rotary switches.

- InputChannel specifies the device's input channel used for the User Input.

### Query Paging Zone List (Q Z)

Return a list of the available destination paging Zones. Each item in the list consists of a Zone number followed by the Zone label. See Paging Zone List for details of the XML response to this command.

Command	Argument
Q Z	Not needed

The response to a Page Code list query command will be as follows:

```
<?xml version="1.0"?>
<Query Command="Z"><Zones count="ZoneCount">
<Zone id="ZoneID"> ZoneLabel </ Zone >
...
<Zone id="ZoneID"> ZoneLabel </ Zone >
</Zones ></Query>
```

Where

- ZoneCount is the number of available paging Zones. There will be ZoneCount Zone section tags in the list.
- ZoneID is the 8 bit decimal zone number.
- ZoneLabel is the label string associated with the paging Zone.

Example with XML response included
<pre>Q Z &lt;?xml version="1.0"?&gt;&lt;Query Command="Z"&gt;&lt;Zones count="4"&gt; &lt;Zone id="1"&gt;Zone 1&lt;/Zone&gt; &lt;Zone id="2"&gt;Zone 2&lt;/Zone&gt; &lt;Zone id="3"&gt;Zone 3&lt;/Zone&gt; &lt;Zone id="4"&gt;Zone 4&lt;/Zone&gt; &lt;/Zones&gt;&lt;/Query&gt;</pre>

### Page Execute Commands - E, X S and X P

A Page Execute Command can be used by a third party control system that is connected to an MS-1 using [MS-VTP](#). It allows the creation and triggering of a custom Recorded Page Code sequence using the E and X S commands or triggering a specific Recorded Page Code using the X P command. Live Page Codes are not able to be triggered via MS-VTP.

#### E and X S Commands

The E and X S Page execute commands are designed to be used together to define and execute a custom Recorded Page Code using VTP commands. Four different commands are used as part of the Page Code creation:

1. Element Sequence and WAV filename definition. **E n e filename** will define a sequence of Paging Elements which make up the audio content of the Page Code. Up to 24 Paging Elements can be defined before the End of Sequence Marker. The total length of the combined paging Elements must be below two minutes.
2. End of Sequence Marker. **E n z** will be an end of Sequence Marker that is used to indicate it is the last Element in the sequence.
3. Zone definition. **Z n1 n2** will define the Paging Zones. See Zone Definition for more details.
4. Repeat Number - Will define the number of repeats required
5. Repeat time - defines the amount of time the system shall wait before beginning the next repetition
6. Page execution. **X S Pre Priority ID** will define Preamble, Priority and ID of the Page and execute the Page.

**E - Set Elements for a Paging Sequence**

**E n e filename**

Command	Argument	Command	Argument
E	n	e	WAV filename

A VTP custom Recorded Page Code consists of up to 24 Elements per Paging Event. The order of the WAV audio files is defined using an Element number which must be in the range of 0 to 23, and must be in sequential order. An [End of Sequence Marker](#) is required to indicate the last Element in the sequence. The total length of the combined Paging Elements must be less than two minutes.

After defining the Element number 'n' as shown above the WAV filename needs to be defined. The WAV file must exist on the MS-1 file system by importing the required audio files using the [Audio File Manager](#) tool or uploading them via the MS-1 FTP Interface. Once Imported, the audio files must then be associated to a Recorded Announcement [Page Code](#) or [VTP Audio File](#) in the project. If an audio file is specified that does not exist on the MS-1 an error will be reported to the [logger](#) when the Page is executed.

A list of WAV files available to the project can be queried using the [O A](#) query command. The audio file folder location is specified as part of the VTP command so any audio file names will be preceded by **/vociawavs/** (and/or their corresponding directories). The filename should not be put in quotation marks, even if it contains spaces.

**End of Sequence Marker - E n z**

Command	Argument	Command
E	n	z

This Element is the end-of-sequence marker. This will be the next sequential element after the last **E n e filename** Element.

n = the next sequential Element.

**Zone Definition**

Command	Argument
Z	1 2 3

Where n1 n2 ... is a list of zones as decimal numbers each separated by a space.

**R N - specify the number of times a particular announcement will be repeated**

Command	Argument
R N	Quantity (number)

Quantity can be specified between 1 and 9999.

**R T - specify the time interval in seconds between repetitions for subsequent announcements**

Command	Argument
R I	time (seconds)

The time will be specified in seconds and must be less than or equal to 43200 (12 hours).

**X S Command**

Command	Argument	Argument	Argument	Argument
X S	pre	priority	id	queue

The X S Command is used to execute the custom Recorded Page Code. It specifies the Preamble, Priority and unique ID of the Page which will contain the previously defined Elements.

**pre** defines what the Page will be preceded by

- pre = Y Page will be preceded by preamble
- pre = N Page will not be preceded by preamble
- pre = P Page will be preceded by preamble (same as above)

**priority** = This parameter defines the priority of the page (used for resolution of access to zones) and is in the range 1 and the numerical value below the **Emergency Priority Threshold** specified in the Universe dialog. The [Q E](#) command can be used to query the threshold.

Example:

Emergency Priority Threshold	Normal Paging	Emergency Paging
101 (default)	(Low) 1-100 (High)	(Low) 101 - 255 (High)
5	(Low) 1-4 (High)	(Low) 5 - 255 (High)
252	(Low) 1-251 (High)	(Low) 252 - 255 (High)

**id** = This is an id number provided by the client which the system will use to identify individual page requests when informing the client of progress of an individual page. A number range from 0 to 32767 is supported and each ID sequence should be unique.

**queue** = This is an optional argument and can either be **Y** to allow the message to be queued if the destination zones are busy, or **N** if the message should not be queued and should fail immediately if any of the destination zones are busy. It will default to Y when it hasn't been specified.

Example of a complete VTP triggered Custom Sequence
E 0 e /vociawavs/baggagebelt+0.0db.wav
E 1 e /vociawavs/pleaseleavenow.wav
E 2 z
Z 1 2
R N 5
R N 120
X S Y 1 3456 Y
R N 0
R T 0

This would play at Priority level 1, using the standard Preamble for Priority level 1 (low) as defined in the Vocia software configuration, followed by the announcement "baggagebelt+0.0db.wav" followed by "pleaseleavenow.wav" to zones 1 and 2 with Page Progress ID of 3456 and will be queued. This would be repeated 5 times every 2 minutes (120 seconds). The Repeat time and Repeat Number are then reset to 0.

**X P Execute the specified Page Code**

Command	Argument	Argument
X P	PageCode	<i>id</i>

Execute the specified Page Code. If Auto Repeat settings are configured in the Page Code they will be used. Note that this command will replace any previously issued VTP paging commands in memory such as Zone assignment, Auto Repeat, Priority, Preamble etc.

**PageCode** must refer to a configured Recorded Announcement Page Code.

**id** = is an id number provided by the client which the system may use to identify individual page requests when informing the client of progress of an individual page. A number range from 0 to 32767 is supported and each ID sequence should be unique.

Example of a complete VTP triggered Custom Sequence
X P 1 1001

**Auto Repeat options**

If the selected page code has pre-configured auto-repeat parameters these will override those specified using VTP commands.

By default the number of repeats will be set to 0 implying no repetition of announcements. The repeat count will persist for all subsequent pages. It would be necessary to set the repeat count back to 0 if repetition was no longer required.

**R A - used to cancel all repeating recorded messages or paging.**

Command	Argument
R A	Not needed

The "R A" command will be used to cancel all repeating announcements. Any announcement appearing in the list obtained using the "R L" command will be terminated once the current play-out has finished.

**R C - used to cancel a repeating message or Page.**

Command	Argument
R C	id

Announcements will be identified using the event ID specified at the time of execution of the . A list of currently repeating announcements can be obtained using the "R L" command.

**R I - used to request infinite playback of announcements.**

Command	Argument
R I	Not needed

These announcements can only be stopped using the 'R C id' command or the 'R A' Command.

**R L - List currently repeating announcements**

Command	Argument
R L	Not needed

The "R L" command will list the currently repeating announcements. Announcements will be identified using the 16 bit event ID specified as part of the XS or X P command.

Example of a RL and R C Sequence
<pre> R L &lt;?xml version="1.0"?&gt;&lt;AutoRepeatMessageList count="2"&gt; &lt;AutoRepeatMessage id="1234"&gt; &lt;RepeatCount&gt;2&lt;/RepeatCount&gt; &lt;RepeatInterval&gt;120&lt;/RepeatInterval&gt; &lt;PlaybackCount&gt;1&lt;/PlaybackCount&gt; &lt;/AutoRepeatMessage&gt; &lt;AutoRepeatMessage id="12345"&gt; &lt;RepeatCount&gt;2&lt;/RepeatCount&gt; &lt;RepeatInterval&gt;120&lt;/RepeatInterval&gt; &lt;PlaybackCount&gt;1&lt;/PlaybackCount&gt; &lt;/AutoRepeatMessage&gt; </pre>



```

</AutoRepeatMessageList>

R C 1234

R C 12345
    
```

**R N - specify the number of times a particular announcement will be repeated**

Command	Argument
R N	Quantity (number)

Quantity can be specified between 1 and 9999.

If the selected page code has pre-configured auto-repeat parameters these will override those specified using VTP commands.

The repeat count will persist for all subsequent pages. It would be necessary to set the repeat count back to 0 if repetition was no longer required.

**R T - specify the time interval in seconds between repetitions for subsequent announcements**

Command	Argument
R T	time (seconds)

The time will be specified in seconds and must be less than or equal to 43200 (12 hours).

**Creating a User Audio Input Event (X U) and Deleting (X D)**

A User Audio Input is assigned to a Vocia Input 6 (VI-6) input channel in the Vocia software interface in the [VI-6 dialog window](#). Once a VI-6 input channel is configured as a user audio input channel then it can be used for a user audio input event. This user audio input event can be enabled and disabled through the VTP service.

The following parameters are used to create a user audio input event, and an example follows below.

**X U device\_type device\_id channel duration prio mode id**

Command	Argument	Argument	Argument	Argument	Argument	Argument	Argument
X U	device_type	device_id	channel	duration	prio	mode	id

- **device\_type** and **device\_id** = These parameters specify the device whose audio input will be used to make the page. At present the device type must be a VI-6, so the device type number will always be 6 (device type = 6). The device id number is determined by the hexadecimal Device ID switches found on the back of the VI-6 hardware.
- **channel** = This parameter defines which of the device’s audio input channels will be used for the user audio input event (This list can be queried using the Q I command).

- **duration** = This parameter specifies the duration of the user audio input event page in seconds. Enter 0 for an always active event. The maximum allowable value for a user audio input page that is not always active is 59940 seconds.
- **prio** = This parameter defines the priority of the page (used for resolution of access to zones) and is between 1 and the numerical value below the **Emergency Priority Threshold** specified in the Universe dialog. The [Q E](#) command can be used to query the threshold.

Example:

Emergency Priority Threshold	Normal Paging	Emergency Paging
101 (default)	(Low) 1-100 (High)	(Low) 101 - 255 (High)
5	(Low) 1-4 (High)	(Low) 5 - 255 (High)
252	(Low) 1-251 (High)	(Low) 252 - 255 (High)

- **mode** = Mode that defines what happens to the background audio during the user input event.
  - Mute Mode - ( m = 0 ) mutes the background audio
  - Duck Mode - ( m = 1 ) will lower the background audio to a predefined level for the duration of the Audio Input Event.
  - Vox Mode - ( m = 2 ) will lower the background audio but only when paging audio is present and exceeds a predefined threshold.

The Duck and Vox modes share a user configurable threshold which is set on a per audio output channel basis in the [Ducker](#) settings in the Vocia software.

- **id** = nnnn Is an id number provided by the client which the system will use to identify individual page requests when informing the client of progress of an individual page. The ID is also important when deleting a User Audio Input as it must be entered with the X D command. Must be a four or more digit number between 2001 & 32767.

Example sequence

- Connection to the socket
- Request client seat (Enter [Username](#) and [Password](#) information) U n=User Name P n1=Password
- Authorize the user (Use the [A command](#))
- Set Interactive mode to ON using the I ON Command if required. Interactive mode will generally not be needed to be used. It has been turned on in this example to show the commands being processed.
- Enter the zone/s required to be affected by the user audio input by using the Z command.
- Query the list of assignable user audio input channels for the zone (Using the [Q I Command](#)).
- Enter the command formatted as shown in the table above **X U device\_type device\_id channel duration prio mode id**. For this example the command would be **X U 6 9 3 100 2 2 2001**.

As the Zone information has been set, you could continue to make changes in Zones 1, 2 & 3 or re-enter a different zone or zones using the Z command.

Terminate session (.) If required.

This user audio input event will route the audio from the VI-6 with Device ID 1, from input channel 2 for 100 seconds to zones 1, 2 and 3 at priority level 2. It will also duck the background audio when signal is received (see VOX in the Vocia Software Help File), and report an ID number of 2001.

```
Example
Connection Accepted
U admin
P 1234
A
<?xml version="1.0"?><Status Command="A"><State>AUTH_SUCCESS</State></Status>

Q I
<?xml version="1.0"?><Query Command="I"><UserInputs count="3">
<UserInput
id="131334"><DeviceType>6</DeviceType><DeviceID>1</DeviceID><Input>2</Input></UserInput>
<UserInput
id="65798"><DeviceType>6</DeviceType><DeviceID>1</DeviceID><Input>1</Input></UserInput>
<UserInput
id="196870"><DeviceType>6</DeviceType><DeviceID>1</DeviceID><Input>3</Input></UserInput>
</UserInputs></Query>

I ON
Interactive now on

Z 1 2 3
Destination zones: 1 2 3

X U 6 1 2 100 2 2 2001
# User input 2001 setup to 3 zones

Q U
<?xml version="1.0"?><Query Command="U"><ActiveInputs count="1">
<ActiveInput
id="2001"><DeviceType>6</DeviceType><DeviceID>1</DeviceID><Input>2</Input></ActiveInput>
</ActiveInputs></Query>
```

### Deleting a User Audio Input Event (X D)

Once created using VTP a User Audio Input Event can be deleted or terminated using VTP command X D id.

#### **X D id**

Delete (or terminate) a user input page identified using the id which is the id number provided at the time the X U command was issued (see above for information on the X U command). Must be a number between 2001 & 32767.

## TTS-1 VTP

### TTS-1 Interface

#### Connecting to TTS-1 VTP Service

To communicate with the TTS-1 via VTP a [VTP User Account](#) will need to be set up. Create a New User and assign a password in the fields provided. Please note that both the User Name and Password are case sensitive, limited to 16 characters and cannot not contain spaces.

Once you have set up a VTP User Name and Password, send the configuration to the Vocia devices over the network. After this action is completed you can connect to the VTP service using:

- TCP
- Port 8020
- IP Address of the TTS-1

The TTS-1 will act as a VTP proxy for [MS-1 VTP Commands](#). If TTS Sequences are triggered via VTP, the TTS-1 should be used as the primary VTP Interface for MS-1 and TTS VTP Commands.

The RS-232 port is used to connect Nurse Call systems on TTS-1nc units and is not used for VTP control. Please refer to the wiring and interfacing information in the [TTS-1 General](#) section

#### Unique TTS-1 VTP Commands include

- [X I](#) – Execute a specified TTS-1 Sequence
- [Q I](#) – Return list of configured Text to Speech sequences
- [E n s text](#) – Element s will convert the specified text into a wav file

## **TTS-1 Glossary**

Below is a list of all current TTS-1 supported VTP Commands. For further information on the commands please see [TTS-1 VTP Commands](#) and [MS-1 VTP](#).

### **User Authorization**

- [U](#) – Specify user
- [P](#) – Specify password
- [A](#) – Authenticate the user's password

### **Internal Function**

- [K](#) – Reboots a device
- [.](#) – Terminate session and close socket

### **Enable Logging and Prompts**

- [L](#) – Enable/ Disable logging of VTP activity
- [S](#) – Enable/ Disable paging progress messaging
- [J](#) - enable/disable Zone status updates
- [M](#) - enable/disable System Mute status updates

### **Background Control Commands**

- [B I](#) – enable/ Disable Page Inhibit for current zone list
- [B L P](#) – controls Background audio level as a percentage for current zone list
- [B L A](#) – controls Background audio level as an absolute value for current zone list
- [B M](#) – enable/ Disable Background audio mute for current zone list
- [B Q](#) – will respond with the current state of the specified zone. This includes background level, background source, page inhibit, and mute.
- [B P](#) – enable/disable access to Page Inhibit controls of WR-1 for current zone list
- [B S](#) – controls Background audio selection for current zone list
- [B Z](#) – enable/ disable Zone Mute for current zone list

### **Configuration Query Commands via MS-1**

- [Q A](#) – List available audio files
- [Q B](#) – List available background sources for a zone
- [Q C](#) – Return the configuration version
- [Q D](#) – display summary of the devices that are included in the current configuration
- [Q E](#) – Return details of the Emergency Paging Priority Threshold
- [Q H](#) – List available control handles
- [Q I](#) – List available user audio inputs
- [Q L](#) – List available Page Codes
- [Q M](#) – return state of System Mute
- [Q P](#) – Return Page Code details
- [Q T Z](#) – Return details of the page Inhibit Priority Threshold
- [Q U](#) – List of user audio inputs
- [Q Z](#) – List available paging zones

### Configuration Query Commands Specific to TTS-1

- [QT](#) - Return list of configured Text to Speech sequences
- [QV](#) - Query List of Installed Voices

### Control Handle Status

- [C](#) - Request state of control handle

### TTS-1 Set and Execute Commands

- [E](#) - Set paging sequence elements
- [V](#) - Set TTS-1 Voice Language
- [Z](#) - Set the destination zone list
- [XT](#) - Execute a specified TTS-1 Sequence
- [XS](#) - Execute a request to playback a sequence of announcements

#### Auto Repeat Commands via MS-1

- [RA](#) - used to cancel all repeating recorded messages or paging.
- [RC](#) - used to cancel a repeating message or Page.
- [RI](#) - used to request infinite playback of announcements.
- [RL](#) - List currently repeating announcements
- [RN](#) - specify the number of times a particular announcement will be repeated
- [RT](#) - specify the time interval in seconds between repetitions for subsequent announcements

**TTS-1 Commands**

To communicate with the TTS-1 via VTP a [VTP User Account](#) will need to be set up. Create a New User and assign a password in the fields provided. When creating a VTP User in the [Universe Properties](#) the user name and password fields are limited to 16 characters, are case sensitive and must not contain spaces.

**Login Commands**

**U – Username**

Command	Argument
U	Username

Provide the username as a string of ASCII characters. Case sensitive.

**P – Password**

Command	Argument
P	Password

Provide the password as a string of ASCII characters. Case sensitive.

**A – Authorization**

Command	Argument
A	Authorize

Request authorization using the username/password pair previously provided. If the pair is valid the response will be "SUCCESS" otherwise it will respond with "FAILURE".

Example Sequence with XML Responses
Connection Accepted U admin P admin A <?xml version="1.0"?><Status Command="A"><State>AUTH_SUCCESS</State></Status>

**V – Voice Language**

Command	Argument	Argument
V	voice	language

Specify the voice and language used to convert the text elements. A list of installed voices can be queried using the **Q V Command**.

**Page Execute Commands (E, X)**

Any page that is activated via VTP is comprised of a sequence of paging elements. A TTS-1 paging element must be an audio file (.WAV), a text element or an end of sequence marker. A Repeat number and time is also able to be specified. Live pages are not able to be triggered via VTP, only audio files or text elements are permissible.

In addition to the paging elements, a VTP triggered page must have a zone/s allocation, as well as preamble and priority level selection, and finally an ID number. The method for defining elements is shown below, zone allocation is shown under **Zone Definition** and **Page Execute** commands are shown under the **X S command**.

**E n – Element definition**

As a VTP triggered page consists of elements, we must define the order of the audio files using an element number. This must be in the range 0-23, and must be in sequential order. This by default means the maximum number of file elements that can be triggered as a single VTP paging event is 24.

Prior to sending an Elements command, the Voice and language need to be defined using the **V Command**.

**Note: A single Vocia page has a maximum system limit of two minutes. Any part of a message that exceeds this time will be lost.**

**E n e filename**

Command	Argument	Command	Argument
E	n	e	Wav filename

Where n is the element number, a value of 0 to 23

*Wav filename* – should be preceded by the vociawavs/ file marker. This audio filename exists already on the MS-1 file system otherwise an error will occur when the page is executed. The filename should not be quoted even if it contains spaces. A list of available wav files can be queried using the Q A command (see VTP Query Commands). The filename should not be put in quotation marks, even if it contains spaces. See the example below for a valid demonstration of this command.

**E S – Element converted from specified text**

Command	Argument	Command	Argument
E	n	S	text

The S command will convert the specified text into an audio file. This file is then sent to the MS-1 as part of the paging sequence to be executed.

Where n is the element number, a value of 0 to 23

Where *text* is the text that needs to be converted into a audio file and played by the MS-1 as part of the page sequence.



**E n z**

Command	Argument
E n	z

This element is the end-of-sequence marker. There is no need to send this command if all elements (0->24) have been defined, however it must be included if all 24 elements are not defined. Obviously in all but the rarest of cases an end of sequence marker will be required.

**Zone Definition**

Command	Argument
Z	1 2 3

Where n1 n2 ... is a list of zones as decimal numbers each separated by a space.

**R N - specify the number of times a particular announcement will be repeated**

Command	Argument
R N	Quantity (number)

Quantity can be specified between 1 and 9999.

**R T - specify the time interval in seconds between repetitions for subsequent announcements**

Command	Argument
R I	time (seconds)

The time will be specified in seconds and must be less than or equal to 43200 (12 hours).

**Page Execute Commands (X)**

**X S Command**

Command	Argument	Argument	Argument	Argument
X S	pre	priority	id	queue

The X S Command is used to execute the custom Recorded Page Code. It specifies the Preamble, Priority and unique ID of the Page which will contain the previously defined Elements.

**pre** defines what the Page will be preceded by

- pre = Y Page will be preceded by preamble
- pre = N Page will not be preceded by preamble
- pre = P Page will be preceded by preamble (same as above)

**priority** = This parameter defines the priority of the page (used for resolution of access to zones) and is in the range 1 and the numerical value below the **Emergency Priority Threshold** specified in the Universe dialog. The [Q E](#) command can be used to query the threshold.

Example:

Emergency Priority Threshold	Normal Paging	Emergency Paging
101 (default)	(Low) 1-100 (High)	(Low) 101 - 255 (High)
5	(Low) 1-4 (High)	(Low) 5 - 255 (High)
252	(Low) 1-251 (High)	(Low) 252 - 255 (High)

**id** = This is an id number provided by the client which the system will use to identify individual page requests when informing the client of progress of an individual page. A number range from 0 to 32767 is supported and each ID sequence should be unique.

**queue** = This is an optional argument and can either be **Y** to allow the message to be queued if the destination zones are busy, or **N** if the message should not be queued and should fail immediately if any of the destination zones are busy. It will default to Y when it hasn't been specified.

#### **X T - Execute a specified TTS-1 sequence**

Command	Argument
X T	sequence id

*sequence id* must refer to a configured TTS-1 sequence. It is a three digit number and can be queried by using a Q T query.

#### **Auto Repeat options**

If the selected page code has pre-configured auto-repeat parameters these will override those specified using VTP commands.

By default the number of repeats will be set to 0 implying no repetition of announcements. The repeat count will persist for all subsequent pages. It would be necessary to set the repeat count back to 0 if repetition was no longer required.

- [R A](#) - used to cancel all repeating recorded messages or paging.
- [R C](#) - used to cancel a repeating message or Page.
- [R I](#) - used to request infinite playback of announcements.
- [R L](#) - List currently repeating announcements
- [R N](#) - specify the number of times a particular announcement will be repeated
- [R T](#) - specify the time interval in seconds between repetitions for subsequent announcements

**Internal Function (relayed to MS-1)**

- [K](#) – Reboots a device

**Control Handle Status**

- [C](#) – Request state of control handle

**Enable Logging and Prompts (relayed to MS-1)**

- [L](#) – Enable/ Disable logging of VTP activity

**Background Control Commands (relayed to MS-1)**

- [B I](#) – enable/ Disable Page Inhibit for current zone list
- [B L P](#) – controls Background audio level as a percentage for current zone list
- [B L A](#) – controls Background audio level as an absolute value for current zone list
- [B M](#) – enable/ Disable Background audio mute for current zone list
- [B Q](#) – will respond with the current state of the specified zone. This includes background level, background source, page inhibit, and mute.
- [B P](#) – enable/disable access to Page Inhibit controls of WR-1 for current zone list
- [B S](#) – controls Background audio selection for current zone list
- [B Z](#) – enable/ disable Zone Mute for current zone list

**Query Commands (Q)**

A third party application using VTP may need to access certain aspects of the MS-1 /TTS-1 configuration. For example it may be necessary to render a list of destination zones or Page Codes on a user interface. The VTP Configuration Query commands can be used for this purpose. All other commands are listed in the MS-1 VTP protocol documentation. Commands unique to the TTS-1 are listed below.

**TTS-1 Query commands (relayed to MS-1)**

- [Q A](#) – list available audio files
- [Q B](#) – list available background sources for a zone
- [Q C](#) – return the configuration version
- [Q D](#) – display summary of the devices that are included in the current configuration
- [Q E](#) – Return details of the Emergency Paging Priority Threshold
- [Q H](#) – list available control handles
- [Q I](#) – list available user audio inputs

- [Q L](#) – list available Page Codes
- [Q M](#) - return state of System Mute
- [Q P](#) – return Page Code details
- [Q T Z](#) -Return details of the page Inhibit Priority Threshold
- [Q U](#) – list of user audio inputs
- [Q Z](#) – list available paging zones

### TTS-1 Specific Query Commands

#### Q T Command

Command	Argument
Q T	not needed

Returns a list of the available configured text to speech sequences on the TTS-1. Each item in the list consists of a sequence ID followed by the sequence name.

The response to an audio file list query command will be as follows:

```
<?xml version="1.0"?><Query Command="T"><TTSSequences count="SequenceCount">
<TTSSequence id="SequenceId">SequenceName</TTSSequence>
...
<TTSSequence id="SequenceId">SequenceName</TTSSequence>
</TTSSequences></Query>
```

- "SequenceCount" is the number of available TTS sequences,
- "SequenceName" is the name of the sequence.

#### Q V Returns a list of voices installed on the TTS-1

Command	Argument
Q V	not needed

The response will be:

```
<?xml version="1.0"?><Query Command="V"><TTSVoices count="VoiceCount">
<TTSVoice><Name>VoiceName/Name</Name><Language>VoiceLanguage</Language></TTSVoice>
...
</TTSVoices></Query>
```

- "VoiceCount" is the number of available tts voices,
- "VoiceName" is the name of the sequence
- "VoiceLanguage" is the language.

## Show Page Progress (S)

The VTP service will provide progress status for the currently active paging announcement via TTS-1 VTP. This information can be used to provide the VTP client with feedback as to the progress of the announcement in the paging system. The Page Progress Responses section defines the allowable page progress responses. This facility can be turned on and off using the 'S' command and is turned off by default.

### S - Show Page Progress

Command	Argument
S	On/Off

- **S ON** - Enable the transmission of paging progress status.
- **S OFF** - Disable the transmission of paging progress status.
- **S ALL** - Enable detailed paging progress mode. Sequence element progress will be reported in addition to the standard page progress. See the **PAGE\_ELEMENT\_X** for formatting of the Sequence element response. Use the 'S ON' or the 'S OFF' command to disable the detailed paging progress mode.

The page progress responses will be as follows:

```
<?xml version="1.0"?>
<Status Command=X>
<Id> Page event id </Id>
<State> Page progress state </State>
</Status>
```

Where

- *Page event id* is the id number associated with the page when it was executed
- *Page progress state* will be one of the following paging states.
  - **PAGE\_NEW\_REQ** - Page request accepted
  - **PAGE\_FAILED** - Page failed for some reason
  - **PAGE\_COMPLETE** - Page completed normally
  - **PAGE\_TIMEOUT** - Page play-out delayed longer than the store duration
  - **PAGE\_ACTIVE** - Page is currently being played back the first time
  - **PAGE\_ELEMENT\_X** ('S ALL' mode only) - The Sequence element X (where X is 0-23) is currently being played back as part of this page. The preamble if configured is considered sequence element P.
  - **PAGE\_AR\_WAITING\_FOR\_REPEAT\_INTERVAL** - The page is currently waiting to be re-queued for playback once the repeat interval has expired.
  - **PAGE\_AR\_ACTIVE** - Repeating page is currently being played back as part of an auto repeating announcement.
  - **PAGE\_OVERRIDDEN** - Page was overridden by a higher priority announcement
  - **PAGE\_TRUNCATED** - Page was truncated because it exceeded the maximum page duration

**J - Zone Status Updates**

Command	Argument
J	<i>state</i>

Zone number must be specified before sending this command using the Z n1 n2 n3 command . Where n1 n2 n3 are zone numbers

*State* shall be

- **ON** - Turns on Zone status updates (updates occur anytime the status of a Zone changes)
- **OFF** - Turns off Zone status updates
- **POLL** - Will provide the status of all of the Zones in the World

Example
<pre>&lt;?xml version="1.0"?&gt; &lt;Status Command="J"&gt; &lt;Zone id="1" state="IDLE"/&gt; &lt;Zone id="2" state="IDLE"/&gt; &lt;Zone id="3" state="IDLE"/&gt; &lt;Zone id="4" state="IDLE"/&gt; &lt;Zone id="6" state="5"/&gt; &lt;Zone id="12" state="5"/&gt; &lt;/Status&gt;</pre>

The state of a zone can either be IDLE or it will be the numeric priority that is active in that zone in the range 1 to the Emergency Paging Threshold – 1. For example if the Emergency Paging Threshold is 101, the numeric priority will be in the range 1 to 100.

The response for a Zone Status POLL command will be in the same format as a zone status update above, however it will contain all of the zones configured in a World.

It should be noted that Emergency Paging and/or Emergency Message playback can cause an audio output channel that has been assigned to both a Zone and an Emergency Zone to become unavailable for custom page code playback. As the relationship between Zone and Emergency Zone assignment is complex (Zone and Emergency Zones can overlap) any emergency activity will not be reflected in the zone status information provided (the emergency system operation is intended to occur at the highest level of priority).

**M - Enable System Mute Status Updates**

The 'M' command supports turning on/off system mute status updates. System mute status updates will be sent anytime the state of system mute changes.

Command	Argument
M	<i>state</i>

*State* shall be

- **ON** - Turns on system mute status updates
- **OFF** - Turns off system mute status updates

Example
<pre>&lt;?xml version="1.0"?&gt; &lt;Status Command=M&gt; &lt;SystemMute&gt;N&lt;/SystemMute&gt; &lt;/Status&gt;</pre>

### Zone List Definition (Z)

The system will store a list of zones to be used with subsequent page requests. This list of zones remains current for all future page requests until overridden by a future zonelist definition. All zones are zone numbers in the system to which you are connected. Remote zones of interlinked systems cannot be accessed via this method – access to remote systems must be made to the RPI of those systems directly.

#### Z n1 n2 ...

Where n1 n2 ... is a list of zones as decimal numbers each separated by a space.

Command	Argument
Z	1 2 3

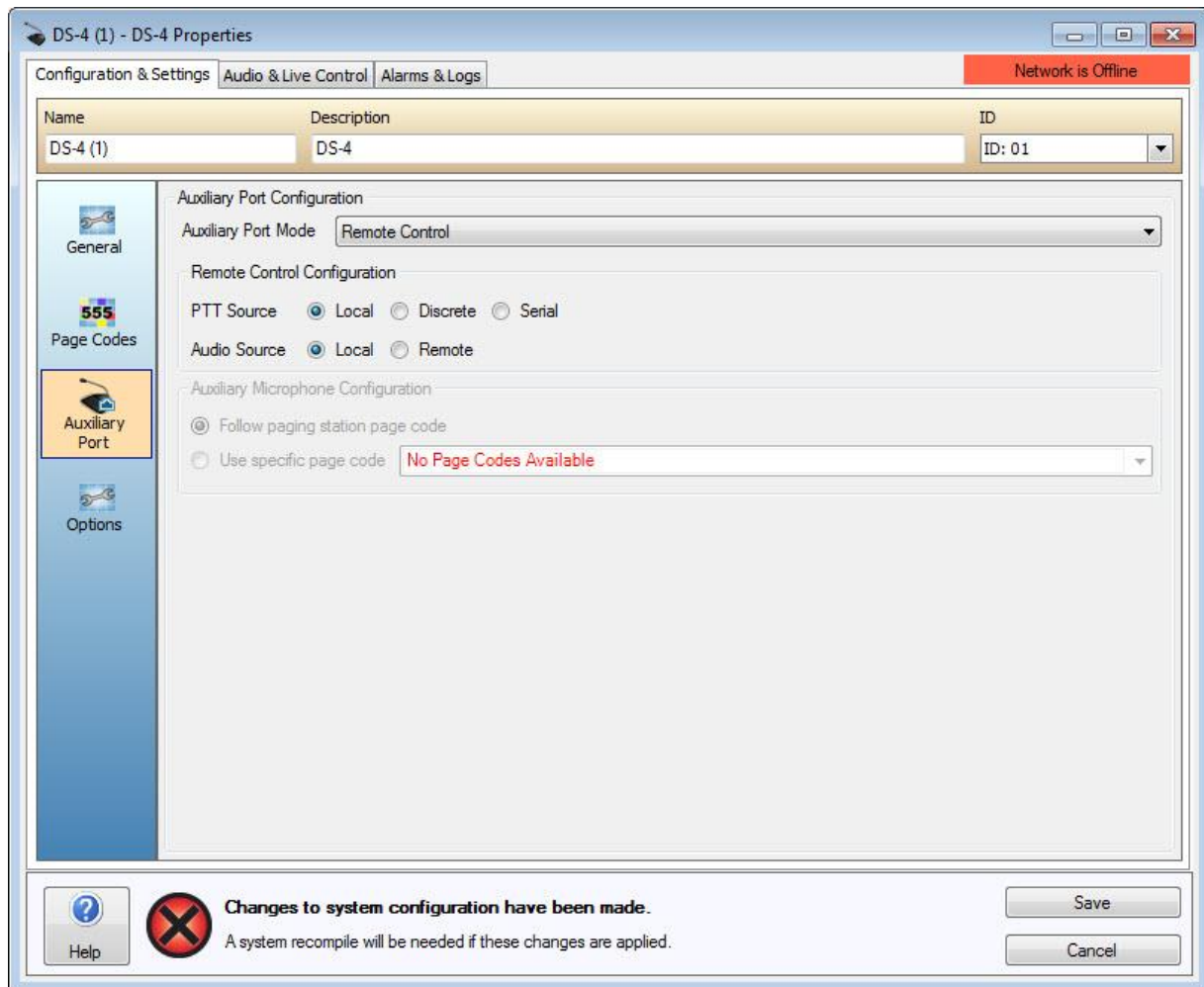
### Terminate Session (.)

A full-stop will terminate the VTP session and close the socket.

Command	Argument
.	not needed

**PS VTP****PS VTP Interface**

The Auxiliary port on the Vocia DS-4, DS-10, WS-4, WS-10, EWS-4 and EWS-10 allows for the ability to expand the uses of the paging station. Please note the WS Paging Stations will only reference Non Emergency Paging Zones. EWS paging stations will only reference Emergency Paging Zones.



**Fig 1 DS-4 Auxiliary Port dialog window**

For suitable hardware to interface to the Paging Station Auxiliary port please also refer to the [VPSI-1 Hardware](#) and [VPSI-1 Wiring Topologies](#) sections.

The Auxiliary Port provides:

- **A balanced Audio Line Input** – this will bypass the paging station microphone.
- **An RS-232 input**- This will allow a third party control system to send VTP commands to configure page zones. Paging station VTP Commands can be found [here](#).
- **A PTT relay** – for remote triggering of the currently configured paging zones.
- **A 12v DC out** –can be used for local power if required.



The paging station operates as a slave to the third party controller and as a result will only respond to commands sent to it.

The Vocia software is used to enable and configure the RS-232 connections to the paging station. Once the paging station is placed in the configuration, settings can be configured in the **General Settings** tab for the relevant paging station.

- The Auxiliary Port Mode can be selected as **Disabled**, **Remote Control** mode or **Auxiliary Microphone** mode.
- When Remote Control Mode is selected, the Remote Control Configuration options become available. The Paging station PTT Source and Audio Source can then be chosen.
- The PTT Source can be configured to operate as either **Local** (the paging station PTT button), **Discrete** (the option port relay) or via **RS-232 Serial control**.
- The Audio source can be selected as either **Local** (the paging station microphone) or **Remote** (the Option port line level input).
- The PTT and Audio Source operate in a mutually exclusive manner. For example if PTT Source is set to Local then the Discrete and Serial modes are not operational.

RS-232 Connection
Baud Rate - 57600
Data Bits - 8
Parity- None
Stop Bits - 1
Flow Control - None

### **PS VTP Glossary**

The commands below will follow the same format if you are connected to a WS-4 /10 or a EWS-4/10. Due to the different operational requirements, a WS will not page or reference any emergency zones and a EWS will not reference any normal paging zones.

### **Access Commands**

- [V](#) – Validate Pin – Unlocks a paging station if PIN access has been enabled
- [L](#) – Locks the paging station so that a PIN code will be required to access it

### **Configuration Query Commands**

- [QE](#) - Return details of the Emergency Paging Priority Threshold
- [QTZ](#) -Return details of the page Inhibit Priority Threshold
- [QL](#) – Return a list of Page Codes that have been assigned to the paging station
- [QP](#) – Return the configuration of the specified Page Code
- [QZ](#) – Return a list of available zones in a world
- [QS](#) – Return the current operating state of the paging station

### **Page Code Commands**

- [P](#) – allows the selection of a Page Code from one of those in the configured codes (See 'Q L')

### Zone Page Commands

- [ZZ](#) – Specify paging destinations zones using a zone number format.
- [ZA](#) – Specify that all available paging zones be used as a destination for the next page.

### Set Page Options Command (Must be used after ZZ or ZA Command)

- [O](#)– Command used to specify a 'zone page command' priority, preamble and live or delayed page.

### Page Code Repeat Commands

- [RC](#) - used to cancel a repeating Page.
- [RN](#) - specify the number of times a particular announcement will be repeated
- [RI](#) - used to request infinite playback of announcements. These announcements can only be stopped using the 'R C' command.
- [RT](#) - specify the time interval in seconds between repetitions for subsequent announcements

### Other Page Command

- [I](#)– Command used to 'press' or 'release' the PTT
- [D](#)– Command used to send or cancel a delayed page

### Emergency Paging Station control via LSI-16(e)

- [@](#)– Relay a specific VTP command to an Emergency Paging Station in the local World

### PS VTP Commands

#### Access Commands

#### V – Validate Pin

Command	Argument
V	Four Digit Pin

This command is used to supply a PIN to unlock the paging station in the case where PIN access has been configured by use of a [PIN Group](#) in the Vocia software. The paging station will validate the supplied PIN then unlock the station if the PIN is OK.

If the PIN is valid and the station has been unlocked the response will be:

```
<?xml version="1.0"?><Status Command= "V">
<State>AUTH_SUCCESS</State></Status>
```

If the PIN is not valid, the paging station will be locked and the response will be:

```
<?xml version="1.0"?><Status Command= "V"> <State>AUTH_FAIL</State></Status>
```

Example Sequence with XML Responses
V 1234 <?xml version="1.0"?><Status Command="V"><State>AUTH_SUCCESS</State></Status>

**L – Lock Paging Station**

Command	Argument
L	Not needed

The "L" command can be used by the third party application to lock the paging station after it has been unlocked using the "V" command.

When the paging station is configured for serial control, the paging station default time out lock feature is disabled. If a timeout lock is required this would need to be provided by a third party control system.

The Lock Command is disabled if there is active paging occurring on the paging station. Therefore a paging station will not lock while the PTT button is enabled. Also If serial PTT is enabled and the PTT has been enabled (with a 'T Y' command). A 'T N' command should be used immediately before a Lock command.

The response will be:

```
<?xml version="1.0"?><Status Command= "L"> <State>state string</State></Status>
```

Where *state string* will be one of:

- **STATE\_OK** – if the paging station was successfully locked.
- **STATE\_FAULT** – if the paging station could not be locked due to an error.

Example Sequence with XML Responses
V 1234 <?xml version="1.0"?><Status Command="V"><State>AUTH_SUCCESS</State></Status>
L <?xml version="1.0"?><Status Command="L"><State>STATE_OK</State></Status>

**Query configuration command (Q)**

The "Q" command can be used to query aspects of the paging station's configuration. Commands are provided to display a list of available Page Codes, details of a particular Page Code's configuration, and a list of available Local World zones. In addition the query command can be used to request the current paging station status.

The "Q" command can be executed whether or not the paging station is PIN locked.

In the case of EWS emergency paging stations the list of Page Codes will include only emergency Page Codes (those that page to Emergency Zones).

#### Q E - Query Emergency Paging Priority Threshold

Command	Argument
Q E	Not needed

The response will be:

```
<?xml version="1.0"?>
<Query Command="E">
<EmergencyPagingPriorityThreshold>Priority</EmergencyPagingPriorityThreshold>
</Query>
```

Where

- Priority is between 5 and 252

#### Q T Z z – Query Page Inhibit priority threshold

Command	Argument
Q T Z	Zone

The response will be:

```
<?xml version="1.0"?>
<Query Command="Q T Z">
<Zone>z</Zone>
<PageInhibitPriorityThreshold>Priority</PageInhibitPriorityThreshold>
</Query>
```

#### Q L- Query List of assigned Page Codes Command

Command	Argument
Q L	Not needed

The response will be:

```
<?xml version="1.0"?>
<Query Command= "L"><State>STATE_OK</State><Pagecodes count="Number of codes">
<Pagecode id="Pagecode">Pagecode label</Pagecode>
<Pagecode id="Pagecode">Pagecode label</Pagecode>
...
<Pagecode id="Pagecode">Pagecode label</Pagecode>
</Pagecodes></Query>
```

Example Sequence with XML Responses
<pre> Q L &lt;?xml version="1.0"?&gt;&lt;Query Command="L"&gt;&lt;State&gt;STATE_OK&lt;/State&gt; &lt;Pagecodes count="4"&gt; &lt;Pagecode id="1"&gt;Page code 1&lt;/Pagecode&gt; &lt;Pagecode id="2"&gt;Page code 2&lt;/Pagecode&gt; &lt;Pagecode id="3"&gt;Page code 3&lt;/Pagecode&gt; &lt;Pagecode id="4"&gt;Page code 4&lt;/Pagecode&gt; &lt;/Pagecodes&gt;&lt;/Query&gt;                     </pre>

In this example, four Page Codes are been returned following a Q L Command.

**Q P - Return the configuration of a specified Page Code.**

Command	Argument
Q P	Pagecode id

The response will be:

```

<?xml version="1.0"?>
<Query Command="P"><State>State string</State><PageCodeDetail id="Pagecode">
<Preamble>Preamble</Preamble>
<Priority>priority</Priority>
<PageCodeType>Type</PageCodeType>
<PageCodeLabel>label</PageCodeLabel>
<AutoRepeat enabled=Repeatstate>
<Count>
<Min>1</Min>
<Default>1</Default>
<Max>9999</Max>
</Count>
<Interval>
<Min>0</Min>
<Default>0</Default>
<Max>43200</Max>
</Interval>
</AutoRepeat>
<Zones count="Number of zones">
<Zone id="Id">"Zone name string"</Zone>
<Zone id="Id">"Zone name string"</Zone>
<Zone id="Id">"Zone name string"</Zone>
</Zones></PageCodeDetail></Query>
    
```

Where:

"State string" will be one of:

- **STATE\_OK** – if the command completed successfully.
- **STATE\_FAULT** – if an error occurred.

"Pagecode" is a decimal number between 1 and 999

"Preamble" will be

- Y preamble will be used.
- N preamble will not be used.

"Type" can be one of the following:

- **PAGE\_TYPE\_LIVE** – audio from the paging microphone will go live to the destination zones.
- **PAGE\_TYPE\_DELAYED** – audio from the paging microphone will be stored before a delayed release.
- **PAGE\_TYPE\_PLAYBACK** – initiate a pre-recorded announcement.

"RepeatState" can be

- true
- false

If the "RepeatState" is 'true' then the <Count> and <Interval> values will show the Page Code auto repeat configured values.

Example Sequence with XML Responses	
<pre> Q P 1 &lt;?xml version="1.0"?&gt;&lt;Query Command="P"&gt;&lt;State&gt;STATE_OK&lt;/State&gt;&lt;PageCodeDetail id="1"&gt; &lt;Preamble&gt;N&lt;/Preamble&gt; &lt;Priority&gt;1&lt;/Priority&gt; &lt;PageCodeType&gt;PAGE_TYPE_LIVE&lt;/PageCodeType&gt; &lt;PageCodeLabel&gt;Page Code 1&lt;/PageCodeLabel&gt; &lt;AutoRepeat enabled=false&gt; &lt;Count&gt; &lt;Min&gt;1&lt;/Min&gt; &lt;Default&gt;1&lt;/Default&gt; &lt;Max&gt;9999&lt;/Max&gt; &lt;/Count&gt; &lt;Interval&gt; &lt;Min&gt;0&lt;/Min&gt; &lt;Default&gt;0&lt;/Default&gt; &lt;Max&gt;43200&lt;/Max&gt; &lt;/Interval&gt; &lt;/AutoRepeat&gt; &lt;Zones count="1"&gt; &lt;Zone id="1"&gt;Zone 1&lt;/Zone&gt;&lt;/Zones&gt;&lt;/PageCodeDetail&gt;&lt;/Query&gt;                     </pre>	

**Q S - Return the current operating state of the paging station.**

Command	Argument
Q S	Not needed

The response will be:

```
<?xml version="1.0"?><Query Command="S"><State>State string</State>
```

```
<PagingStationState>State</PagingStationState></Query>
```

"State" will be one of the following:

- **PXY\_DEST\_IDLE** – The paging station is currently idle and the current destination is also idle.
- **PXY\_DEST\_BUSY** – The paging station is currently idle and the current destination is busy at a priority less than the current pagecode.
- **PXY\_DEST\_DELAY** – The paging station is currently idle and the current destination is busy at a priority greater than or equal to the current pagecode.
- **PXY\_NOT\_AVAIL** – The paging station is not available for use (most likely because it has no configuration).
- **PXY\_PLEASE\_WAIT** – The station is waiting for the audio path to be established and the preamble to finish.
- **PXY\_REQUEST\_FAILED** – The last recorded announcement request failed.
- **PXY\_PLEASE\_TALK\_NOW** – The station is paging and is transmitting microphone audio to the destination zones.
- **PXY\_REQUEST\_QUEUED** – The recorded announcement request has been accepted and queued for playback.
- **PXY\_CANCEL\_REQUEST** – A delayed page has been recorded. The operator now has an opportunity to cancel it.
- **PXY\_PAGE\_WILL\_END** – The current page is about to time out.
- **PXY\_SECURITY** – The paging station has been locked for security reasons. A PIN is required to unlock it.
- **PXY\_NO\_DEST** – The station currently has no current valid destination.
- **PXY\_REQUEST\_TIMEOUT** – The current page has now timed out and has been terminated.
- **PXY\_NO\_DEST\_REQUESTED** – The page failed because there were no destination devices to receive the page.

State string will be one of:

- **STATE\_OK** – if the command completed successfully.
- **STATE\_FAULT** – if an error occurred.

Example Sequence with XML Responses
Q S <?xml version="1.0"?><Query Command="S"><State>STATE_OK</State> <PagingStationStatus>PXY_SECURITY</PagingStationStatus></Query>
V 1234 <?xml version="1.0"?><Status Command="V"> <State>AUTH_SUCCESS</State></Status>
Q S <?xml version="1.0"?><Query Command="S"><State>STATE_OK</State> <PagingStationStatus>PXY_DEST_IDLE</PagingStationStatus></Query>

**Q Z - Return a list of all the available zones in the world.**

Command	Argument
Q Z	Not needed

The response will be:

```
<?xml version="1.0"?><Query Command= "Z"><State>State string</State><Zones
count="Number of zones"><Zone id="Id">"Zone name string"</Zone><Zone id="Id">"Zone
name string"</Zone>...<Zone id="Id">"Zone name string"</Zone><Zone id="Id">"Zone
name string"</Zone></Zones></Query>
```

Where *State string* will be one of:

- **STATE\_OK** – if the command completed successfully.
- **STATE\_FAULT** – if an error occurred.

**Note:** The zone "Id" corresponds directly with the Zone numbers configured in the Vocia Configuration.

In the case of EWS emergency paging stations the list of zones will include only emergency zones.

Example Sequence with XML Responses
<pre>Q Z &lt;?xml version="1.0"?&gt;&lt;Query Command="Z"&gt;&lt;State&gt;STATE_OK&lt;/State&gt; &lt;Zones count="4"&gt; &lt;Zone id="1"&gt;Zone 1&lt;/Zone&gt; &lt;Zone id="2"&gt;Zone 2&lt;/Zone&gt; &lt;Zone id="3"&gt;Zone 3&lt;/Zone&gt; &lt;Zone id="4"&gt;Zone 4&lt;/Zone&gt; &lt;/Zones&gt;&lt;/Query&gt;</pre>

**Pagecode Command (P)**

The P command allows the third party application to select a Page Code from one of those in the list of configured codes (see **Q L command**). This Page Code will then be used for subsequent pages until another Page Code is selected or modified. The page code defines the type of page, its priority, the destination zones, whether or not a preamble will be played prior to the announcement and the default number of repeats and repeat time. The Page Code repeat parameters will always be available via VTP - these can be customized and defined separately using the [R N](#), [R I](#) and [R T](#) commands. See the [Auto Repeat options](#) section for more details

Command	Argument
P	<i>Pagecode id</i>

The response will be:

```
<?xml version="1.0"?><Status Command= "P"> <State>State string</State></Status>
```

*State string* will be one of:



- **STATE\_OK** – if the command completed successfully.
- **STATE\_FAULT** – if an error occurred or the requested Page Code does not exist.
- **AUTH\_FAIL** – if the paging station was PIN locked.

Example Sequence with XML Responses	
P 1	<?xml version="1.0"?><Status Command="P"><State>STATE_OK</State></Status>
P 2	<?xml version="1.0"?><Status Command="P"><State>STATE_OK</State></Status>

**Examples of Page Codes with Custom Repeat settings**

PageCode Command with Auto Repeat User adjustable repetition count and Interval defined

Command and Sequence	Argument
P	<i>Pagecode id</i>
R N	Quantity
R T	Time

Example Sequence with XML Responses - Specifying 5 repeats every 100 seconds	
P 1	<?xml version="1.0"?><Status Command="P"><State>STATE_OK</State></Status>
R N 5	<?xml version="1.0"?><Status Command="R"><State>STATE_OK</State></Status>
R T 100	<?xml version="1.0"?><Status Command="R"><State>STATE_OK</State></Status>

**Zone Commands (Z)**

Use the "Z" command to specify a set of custom destination paging zones for subsequent Live or Pre-recorded pages. This will override the current destination zone selection.

**Z Z zones -Specify destination zones using a space delimited list of zone numbers.**

Command	Argument
Z Z	zone/s id

The response will be:

```
<?xml version="1.0"?><ZonesStatus Command= "Z"><State>State
string</State></ZonesStatus>
```

*State string* will be one of:

- **STATE\_OK** – if the command completed successfully.
- **STATE\_FAULT** – if an error occurred.
- **AUTH\_FAIL** – if the paging station was PIN locked.

#### Example Sequence with XML Responses

Z Z 1 2 3 55

```
<?xml version="1.0"?><ZonesStatus Command="Z"><State>STATE_OK</State></ZonesStatus>
```

Sets zone allocation for zones 1,2,4 & 55.

#### **Z A - Request that all available zones be used as a destination for the next page.**

Command	Argument
Z A	Not needed

Note that for EWS emergency paging stations this command will select only emergency paging zones.

The response will be:

```
<?xml version="1.0"?><ZonesStatus Command= "A"><State>State
string</State></ZonesStatus>
```

*State string* will be one of:

- **STATE\_OK** – if the command completed successfully.
- **STATE\_FAULT** – if an error occurred.
- **AUTH\_FAIL** – if the paging station was PIN locked.

#### Example Sequence with XML Responses

Z A

```
<?xml version="1.0"?><ZonesStatus Command="A"><State>STATE_OK</State></ZonesStatus>
```

#### **Set Page Options command (O)**

The O command is used to "lock in" the zones specified in a previous Z Z or Z A command, as well as specify the priority of the page, whether or not it will use a preamble, and whether it is a live or delayed page. The Page Code repeat parameters will always be available via VTP - these can be customized and defined

separately using the [R N](#), [R I](#) and [R T](#) commands. See the [Auto Repeat options](#) section for more details. The priority parameter will only accept a priority in the appropriate paging priority range for the paging station (ie. in the regular paging priority range for the DS-4, DS-10, WS-4 and WS10 and in the emergency paging priority range for the EWS-4 and EWS-10). The 'O' command will respond with a STATE\_FAULT type response if the priority is outside the appropriate paging priority range for the paging station.

Command	Argument
O	pre pri delay

- *preamble (pre)* is Y if a preamble is required and N otherwise.
- *priority (pri)* is required to be a number within the page priority threshold (regular paging range and emergency paging range depending on device role).
- *delayed (delay)* is N for a live page, or Y for a delayed page.

The response will be:

```
<?xml version="1.0"?><Status Command="S"><State>State string</State></Status>
```

State string will be one of:

- **STATE\_OK** – if the command completed successfully.
- **STATE\_FAULT** – if an error occurred.
- **AUTH\_FAIL** – if the paging station was PIN locked.

Example Sequence with XML Responses
Z Z 1 2 3
<?xml version="1.0"?><ZonesStatus Command="Z"><State>STATE_OK</State></ZonesStatus>
O N 4 N
<?xml version="1.0"?><Status Command="S"><State>STATE_OK</State></Status>

### Examples of Page Codes with Custom Repeat settings

Set Page Options Command with Auto Repeat User adjustable repetition count and Interval defined.

Command and Sequence	Argument
Z	Zone number
O	pre pri delay
R N	Quantity
R T	Time

#### Example Sequence with XML Responses - Specifying 5 repeats every 100 seconds

```
Z Z 1 2 3
<?xml version="1.0"?><ZonesStatus Command="Z"><State>STATE_OK</State></ZonesStatus>

O N 4 N
<?xml version="1.0"?><Status Command="S"><State>STATE_OK</State></Status>

R N 5
<?xml version="1.0"?><Status Command="R"><State>STATE_OK</State></Status>

R T 100
<?xml version="1.0"?><Status Command="R"><State>STATE_OK</State></Status>
```

#### **Auto Repeat options (R)**

Auto repeat options are configurable via PS-VTP per paging station and operate regardless of the selected [Page Code](#) pre-configured auto-repeat parameters. Repeat parameters must be defined via VTP to suit the required operation. Consideration should be given to track the current active repeat mode of the paging station.

#### **R C - used to cancel a repeating Page.**

Command	Argument
R C	Not needed

Cancels any active repeating pages.

#### **R N - specify the number of times a particular announcement will be repeated**

Command	Argument
R N	Quantity (number)

Quantity can be specified between 1 and 9999.

The ability to specify the number of repeats via VTP will never be inhibited. The number of repeats will default to zero, so no repetition of announcements will occur. If a repeat count has been defined on an earlier VTP command this will persist for all subsequent pages and page codes. Set the repeat count back to zero ( R N 0 ) if repetition is no longer required.

#### **R I - used to request infinite playback of announcements.**

Command	Argument
R I	Not needed

Active Infinite page announcements can only be stopped using the 'R C' command.

The ability to specify infinite playback via VTP will never be inhibited. The infinite playback setting will persist for all subsequent pages and page codes. After being enabled the R I command can be disabled with the [R N command](#).

**R T - specify the time interval in seconds between repetitions for subsequent announcements**

Command	Argument
R T	time (seconds)

The time will be specified in seconds and must be less than or equal to 43200 (12 hours).

The ability to specify the repeat interval via VTP will never be inhibited. The repeat interval will default to zero seconds. If the repeat interval has been defined on an earlier VTP command this will persist for all subsequent pages and page codes. Set the repeat interval back to zero ( R T 0 ) if repetition is no longer required.

**Examples of Page Codes with Custom Repeat settings**

PageCode Command with Auto Repeat User adjustable repetition count and Interval defined

Command and Sequence	Argument
P	<i>Pagecode id</i>
R N	Quantity
R T	Time

Example Sequence with XML Responses - Specifying 5 repeats every 100 seconds

```

P 1
<?xml version="1.0"?><Status Command="P"><State>STATE_OK</State></Status>

R N 5
<?xml version="1.0"?><Status Command="R"><State>STATE_OK</State></Status>

R T 100
                    
```

```
<?xml version="1.0"?><Status Command="R"><State>STATE_OK</State></Status>
```

### **Push to Talk command (T)**

The T command is used to “press” or “depress” the push-to-talk button.

#### **T state**

Command	Argument
T	state

Where *state* is **Y** to depress the push-to-talk, or **N** to release it. If the Push To Talk has been enabled with a T Y it must be reset with a T N before sending any new Paging commands.

The response will be:

```
<?xml version="1.0"?><Status Command="T"><State>State string</State></Status>
```

*State string* will be one of:

- **STATE\_OK** – if the command completed successfully.
- **STATE\_FAULT** – if an error occurred.
- **AUTH\_FAIL** – if the paging station was PIN locked.

#### Example Sequence with XML Responses

T Y

```
<?xml version="1.0"?><Status Command="T"><State>STATE_OK</State></Status>
```

T Y

```
<?xml version="1.0"?><Status Command="T"><State>STATE_OK</State></Status>
```

### **Delayed Page Send/Cancel command (D)**

The “D” command is used to send or cancel a delayed page.

#### **D action**

Command	Argument
D	<i>action</i>

Where *action* is **S** to send the delayed page, or **C** to cancel the delayed page.

The response will be:

```
<?xml version="1.0"?><DelayedPageStatus Command= "S"><State>State string</State></DelayedPageStatus>
```

State string will be one of:

- **STATE\_OK** – if the command completed successfully.
- **STATE\_FAULT** – if an error occurred.
- **AUTH\_FAIL** – if the paging station was PIN locked.

### Set Page Options command (S)

Note
<p>The 'S' command has been deprecated in Vocolite release 1.6. Please refer to the <a href="#">O - Set Page Options command</a> .</p> <p>The paging station firmware will include support for it in order to provide backwards compatibility with existing systems. It will continue to accept a paging priority in the range 1-4, provided the Emergency Paging Priority threshold is set to the legacy value = 5. This will mean that for emergency paging stations, the priority used for a page that is setup via PS VTP will be equal to the value of priority supplied via PS VTP plus the Emergency Paging Priority Threshold minus one. For example:</p> <ul style="list-style-type: none"> <li>• Emergency Paging Priority Threshold = 5</li> <li>• Value of priority supplied via PS VTP = 2 (i.e. Emergency Medium)</li> <li>• Actual priority used for an emergency page = 2 + 5 - 1 = 6</li> </ul> <p>The Vocolite logger will also note a '<b>command has been deprecated</b>' error whenever this command is used.</p>

The S command is used to "lock in" the zones specified in a previous Z Z or Z A command, as well as specify the priority of the page, whether or not it will use a preamble, and whether it is a live or delayed page. The Page Code repeat parameters will always be available via VTP - these can be customized and defined separately using the [R N](#), [R I](#) and [R T](#) commands. See the [Auto Repeat options](#) section for more details

Command	Argument
S	pre pri delay

- *preamble (pre)* is Y if a preamble is required and N otherwise.
- *priority (pri)* is required to be a number between 1 and 4 (4 being the highest priority).
- *delayed (delay)* is N for a live page, or Y for a delayed page.

The response will be:

```
<?xml version="1.0"?><Status Command= "S"><State>State string</State></Status>
```

State string will be one of:

- **STATE\_OK** – if the command completed successfully.
- **STATE\_FAULT** – if an error occurred.
- **AUTH\_FAIL** – if the paging station was PIN locked.

#### Example Sequence with XML Responses

Z Z 1 2 3

```
<?xml version="1.0"?><ZonesStatus Command="Z"><State>STATE_OK</State></ZonesStatus>
```

S N 4 N

```
<?xml version="1.0"?><Status Command="S"><State>STATE_OK</State></Status>
```

#### Examples of Page Codes with Custom Repeat settings

Set Page Options Command with Auto Repeat User adjustable repetition count and Interval defined.

Command and Sequence	Argument
Z	Zone number
S	pre pri delay
R N	Quantity
R T	Time

#### Example Sequence with XML Responses - Specifying 5 repeats every 100 seconds

Z Z 1 2 3

```
<?xml version="1.0"?><ZonesStatus Command="Z"><State>STATE_OK</State></ZonesStatus>
```

S N 4 N

```
<?xml version="1.0"?><Status Command="S"><State>STATE_OK</State></Status>
```

R N 5

```
<?xml version="1.0"?><Status Command="R"><State>STATE_OK</State></Status>
```

R T 100

```
<?xml version="1.0"?><Status Command="R"><State>STATE_OK</State></Status>
```



## LSI-16 VTP

### LSI-16(e) VTP Interface

#### Hardware Connection

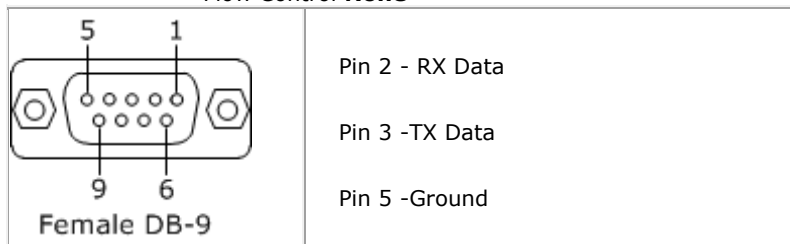
To communicate with the LSI-16 a connection can be made using a TCP/IP socket on port 8050, or by connecting to the physical RS-232 connector on the back of the LSI-16.

#### Raw Socket (Ethernet)

- TCP
- Port **8050**
- IP Address of the LSI-16/e

#### RS-232 Connection

- Serial
- Baud **57600**
- Stop bits **1**
- Parity **None**
- Data Bits **8**
- Flow Control **None**



The LSI-16 operates as a slave to the third party controller and as a result will only respond to commands sent to it.

The Vicia software is used to enable and configure the TCP or RS-232 connections to the LSI-16. Once the LSI-16 is placed in the configuration, settings can be configured in the [LSI-16 General Settings](#) tab.

#### LSI-16 External Control Configuration

- **IP Address** -This IP address is used by the third party control system to connect over IP. This port is on the CobraNet network. If control is required from a different network, a router port will need to be configured and the LSI-16 gateway would need to be specified to facilitate this.
- **Security**-User name and password will be used to authenticate a TCP session. The User Name and Password are case sensitive and must not contain any spaces. VTP Users are limited to a 16 character user name and password. Authentication is not required for a RS-232 session.
- **Connection Type** – the RS-232 and TCP connection method can be selected here.
- **TCP Connections** (appear if TCP is enabled as a connection type) Up to four connections can be specified. These connections can be enabled or disabled as required. The connection name is a

customizable field that is used as the 'connection id' when using the H (Handshake) command. Each connection name has to be unique and if the connection is enabled, the connection must have a name.

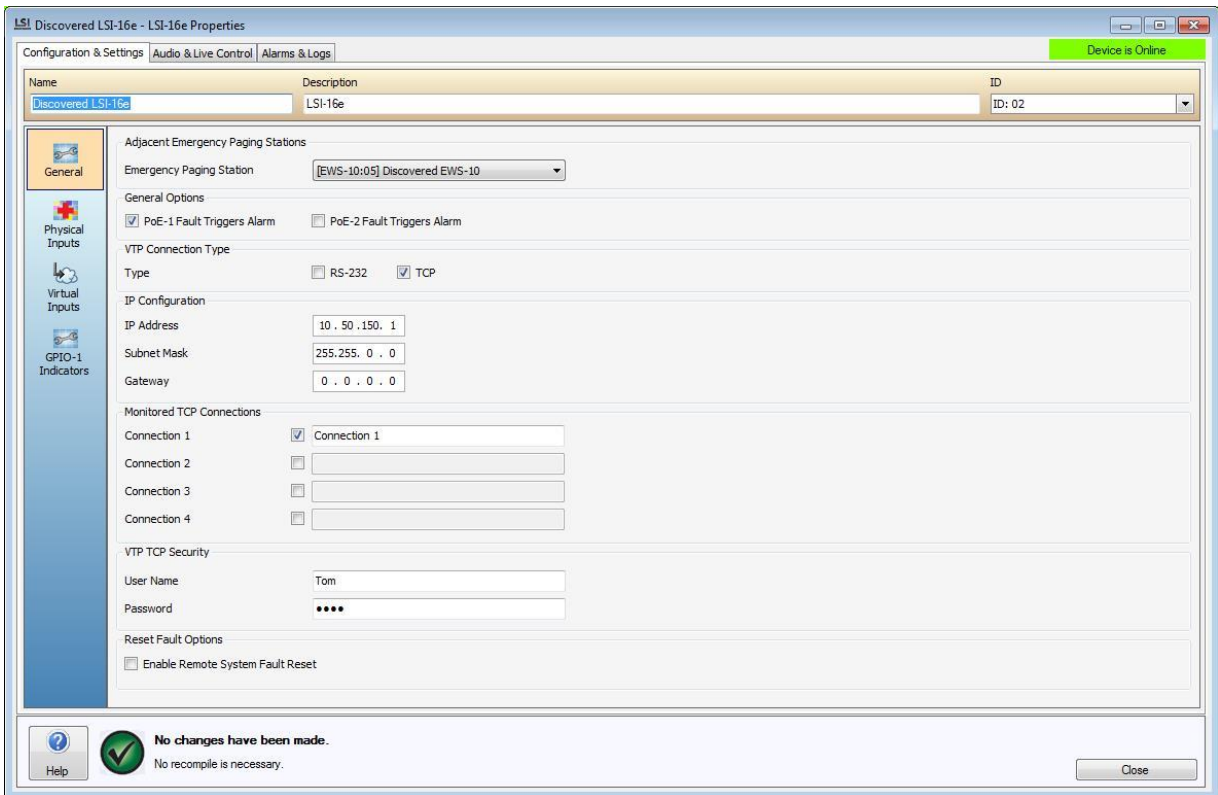


Fig 2 – Screenshot of LSI-16 General Settings Tab

## **LSI-16 VTP Glossary**

### **User Authorization**

- [U](#) – specify user.
- [P](#) – specify password.
- [A](#) – authenticate the user’s password.

### **Handshake Command**

- [H](#) – enable TCP handshaking using a token.

### **Set and Get Commands**

- [I](#) – set the state of a virtual Input.
- [RS](#) – Reset System Fault
- [ZZ](#) – Return the status of a specified emergency zone.
- [ZA](#) – Return the status of all emergency zones.

### **Configuration Query Commands**

- [QD](#) – Return a list of all emergency mode devices in a world.
- [QI](#) – Query the type of Virtual Input in the World.
- [QL](#) – Query a list of all Virtual Inputs assigned on a LSI-16.
- [QZ](#) – Return a list of all emergency zones in a world.

### **Fault Status Commands**

- [FS](#) – Fault status summary of the LSI-16.
- [FD](#) – Fault listing for the specified device being monitored by the LSI-16.
- [FF](#) – Returns a summary of all active faults.
- [FA](#) – Acknowledge faults. Will de-activate the fault sounder.

### **Emergency Paging Station control via LSI-16(e)**

- [@](#) – Relay a specific VTP command to an Emergency Paging Station in the local World

## **LSI-16 VTP Commands**

### **Login Commands**

The U, P and A commands will be the only commands available until the remote LSI-16 VTP user has been authorized.

#### **U – Username**

Command	Argument
U	Username

The U command will be used to supply a Username in order to gain access to the LSI-16 TCP/IP interface. This command must be executed prior to sending the P command. The U, P and A commands will be only ones available until the remote LSI VTP user has been authorized.

If connecting Via RS-232 no authentication is required

#### P – Password

Command	Argument
P	Password

The P command will be used to supply a password in order to gain access to the LSI-16 RS-232 or TCP/IP interface. This command must be executed prior to sending the A command. The U, P and A commands will be only ones available until the remote LSI VTP user has been authorized.

If connecting Via RS-232 no authentication is required

#### A – Authorization

Command	Argument
A	Not needed

The A command will be used to authorize a **LSI-16 VTP User** with the LSI-16 and gain access to the protected VTP control via the LSI-16 VTP interface. It is necessary to first send a Username and password using the U and P commands respectively. The U, P and A commands will be only ones available until the remote LSI-16 VTP user has been authorized. Responses will be of the form specified in [XML Responses](#).

If connecting Via RS-232 no authentication is required

Example Sequence with XML Responses
<pre>### Welcome to the Vocia LSI  U admin &lt;?xml version="1.0"?&gt;&lt;Status Command="U"&gt;&lt;State&gt;STATE_OK&lt;/State&gt;&lt;/Status&gt;  P admin &lt;?xml version="1.0"?&gt;&lt;Status Command="P"&gt;&lt;State&gt;STATE_OK&lt;/State&gt;&lt;/Status&gt;  A &lt;?xml version="1.0"?&gt;&lt;Status Command="A"&gt;&lt;State&gt;AUTH_SUCCESS&lt;/State&gt;&lt;/Status&gt;</pre>

**Handshake Commands (H)**

**H – Handshake**

Connection	Command	Argument	State
TCP	H	connection id ( 1, 2, 3, 4 )	token then next token
RS-232	H	connection id ( 0 - 10000)	token then next token

The H command is used by the LSI-16 to ascertain the integrity of a RS-232 or TCP/IP connection. A token is passed between the LSI-16 VTP user and the LSI-16. This token is an unsigned integer that the LSI-16 compares with a stored copy of the last token transmitted. If these match then the connection will be reported as good. If a matching token is not received by the LSI-16 within 15 seconds of the last good token received the connection will be declared bad and a path fault generated. A valid handshake command should be sent to the LSI-16 every five seconds.

For TCP and RS-232 Connections the remote LSI-16 VTP user will be required to supply a connection ID. For TCP connections this is a numerical value (1-4) and should correspond with one of the four enabled monitored TCP Connections configured in the [LSI-16 General Settings](#) tab. For RS-232 connections this is always the number 0.

If handshake communications are lost, a **Path Fault** will be indicated on the front panel of the LSI-16, and the LSI-16 Alarms and Log tab will show a bad transmission path alarm. If connected via TCP/IP an LSI-16 TCP/IP transmission path will indicate as BAD. If connected via RS-232 a LSI-16 RS-232 transmission path will indicate as BAD.

- The **TCP connectionid** is a numerical value of 1 to 4.
- The **RS-232 connectionid** is assigned by the 3rd party application.
- The **Token** will always start at 0 (zero).
- The LSI-16 responds with the next token to be used for the next handshake. **This needs to be sent as the new token.**

```

Example Sequence with XML Responses

H 1 0
<?xml version="1.0"?><Status
Command="H"><State>STATE_OK</State><Token>1<Token></Status>

H 1 1
<?xml version="1.0"?><Status
Command="H"><State>STATE_OK</State><Token>2<Token></Status>

H 1 2
<?xml version="1.0"?><Status
Command="H"><State>STATE_OK</State><Token>3<Token></Status>
    
```

**Input Command (I)**

**I - Input State**

Command	Argument	Argument
I	Input number	<i>state</i>

The I command will be used by the LSI-16 VTP User to set the state of a virtual input. Virtual inputs behave much like the inputs of an IM-16. They can be configured in the Vocia GUI in the [LSI-16 Virtual Inputs](#) tab to perform one of the following functions:

- Disabled
- Alarm
- Fault
- Reset
- Reset All
- Silence All

Fault inputs are level sensitive. If the input is ON then the fault is active. If the input is OFF the fault is inactive. All other virtual input types are positive edge triggered – they will enable on a low to high transition. So a command to set the input to ON will enable the associated function (the zone virtual input will go active), whereas a command to turn the input OFF will be ignored.

To enable Virtual Input 1 the command will be: **I 1 1**

To disable Virtual Input 1 the command will be: **I 1 0**

The Virtual Input Channel Number is the channel number as listed in the Vocia GUI under LSI-16 properties/ Virtual Inputs.

*State* sets the specified input ON (state = 1) or OFF (state = 0). The response will be:

**<?xml version="1.0"?><Status Command= "I"> <State> STATE\_OK</State></Status>**

Example Sequence with XML Responses
<pre>I 1 0 &lt;?xml version="1.0"?&gt;&lt;Status Command="I"&gt;&lt;State&gt;STATE_OK&lt;/State&gt;&lt;/Status&gt;</pre>
<pre>I 1 0 &lt;?xml version="1.0"?&gt;&lt;Status Command="I"&gt;&lt;State&gt;STATE_OK&lt;/State&gt;&lt;/Status&gt;</pre>

### **Reset System Fault**

The R S command will allow the System Fault alarm to be reset if the LSI-16(e) has been configured to support remote resetting of system fault via VTP.

Command	Argument
R S	Not needed

The [FS](#) command can be used to obtain the current fault status from the LSI-16.

The XML Response if successful will be
<pre>&lt;?xml version="1.0"?&gt; &lt;Reset Command="S"&gt; &lt;State&gt;STATE_OK&lt;/State&gt; &lt;/Reset&gt;</pre>

The XML Response if there is an error will be
<pre>&lt;?xml version="1.0"?&gt; &lt;Reset Command="S"&gt; &lt;State&gt;STATE_FAULT&lt;/State&gt; &lt;/Reset&gt;</pre>

### **Emergency Zone Status Commands (Z)**

#### **Z – Zone status command**

Command	Argument
Z Z	zone id

The Z Z command will be used to obtain the current status of a particular emergency zone. The [O Z](#) Command can be used to get a listing of current configured Emergency Zones.

The status of a zone can be Inactive, Muted, or Announcing. If the zone is in the Announcing state, the response will contain the name of the announcement currently playing in that zone.

The **Zone Id** will be the emergency zone id number assigned in the Vocia configuration. One Emergency Zone can be specified at a time.

- The *ZoneState* tag will return the default state of the zone as defined by the LSI-16. This state does not incorporate emergency paging in any form. It will report as **Inactive, Muted, Announcing**
  - **Inactive** : Normal mode paging, background music and emergency pages will be heard in the zone.
  - **Muted** : All normal mode paging, background music and emergency recorded announcements are muted. Only emergency pages will be allowed.
  - **Announcing**: The emergency zone will continually play an emergency announcement in a looping fashion. All normal mode paging, background music will be muted. Emergency pages take priority.

The *ZoneAvailable* tag indicates if there are available operational output channels for the Emergency Zone. Supported Output devices include the [VA-8600](#), [VA-2060](#), [VA-4030](#) and [VO-4e](#).

Will be either

- Yes - At least one output channel with the specified Emergency Zone is available.
- No - There are no operational emergency output channels available.

The **<ZoneMessage>** tag is only present if the zone state is Announcing.

**The XML response will be:**

```
<?xml version="1.0"?><ZoneStatus Command= "Z"><State> STATE_OK</State><Zone
Id=zone><ZoneState>Zone state</
ZoneState><ZoneAvailable>Yes/No</ZoneAvailable><ZoneMessage>"Message Name"</
ZoneMessage></ZoneStatus>
```

### Z A- Specify Zone status of all emergency zones

Command	Argument
Z A	not needed

The Z A command will be used to obtain the current status of a all emergency zones in a World. The status of a zone can be Inactive, Muted, or Announcing. If the zone is in the Announcing state, the response will contain the name of the announcement currently playing in that zone.

The **Zone Id** will be the emergency zone id number assigned in the Vocia configuration.

- The *ZoneState* tag will return the default state of the zone as defined by the LSI-16. This state does not incorporate emergency paging in any form. It will report as **Inactive, Muted, Announcing**
  - **Inactive** : Normal mode paging, background music and emergency pages will be heard in the zone.
  - **Muted** : All normal mode paging, background music and emergency recorded announcements are muted. Only emergency pages will be allowed.
  - **Announcing**: The emergency zone will continually play an emergency announcement in a looping fashion. All normal mode paging, background music will be muted. Emergency pages take priority.

The *ZoneAvailable* tag indicates if there are available operational output channels for the Emergency Zone. Supported Output devices include the [VA-8600](#), [VA-2060](#), [VA-4030](#) and [VO-4e](#).

Will be either

- Yes - At least one output channel with the specified Emergency Zone is available.
- No - There are no operational emergency output channels available.

The **<ZoneMessage>** tag is only present if the zone state is Announcing.

The XML Response will be



```
<?xml version="1.0"?><ZoneStatus Command= "A"><State> STATE_OK</State><Zones
count=number of zones>
<Zone Id=zone1><ZoneState>Zone1 state</ ZoneState >
<ZoneAvailable>Yes/No</ ZoneAvailable >
<ZoneMessage>"Message Name"</ ZoneMessage></Zone>
<Zone Id=zone2><ZoneState>Zone2 state</ ZoneState >
<ZoneAvailable>Yes/No</ ZoneAvailable >
<ZoneMessage>"Message Name"</ ZoneMessage></Zone>
<Zone Id=zoneM><ZoneState>ZoneM state</ ZoneState >
<ZoneAvailable>Yes/No</ ZoneAvailable >
<ZoneMessage>"Message Name"</ ZoneMessage></Zone>
<Zone Id=zoneN><ZoneState>ZoneN state</ ZoneState >
<ZoneAvailable>Yes/No</ ZoneAvailable >
<ZoneMessage>"Message Name"</ ZoneMessage></Zone></Zones</ZoneStatus>
```

**Query configuration command (Q)**

The Q command is used to query aspects of the LSI-16’s configuration. Commands are provided to display a list of all emergency mode devices and a list of all emergency zones.

**Q D Return a list of all the emergency devices in the world.**

Command	Argument
Q D	not needed

The response will be:

```
<?xml version="1.0"?><Query Command= "D"><State> STATE_OK</State>
<Devices count="Number of devices">
<Device type="Type" id="Id">"TypeString": "Id"</Device>
<Device type="Type" id="Id">" TypeString": "Id"</Device>
...
<Device type="Type" id="Id">" TypeString": "Id"</Device>
<Device type="Type" id="Id">" TypeString": "Id"</Device>
</Devices></Query>
```

**"Type" and "Typstring" Values**

Valid "Type" and "TypeString" are as follows:

Note:
<ul style="list-style-type: none"> <li>• The response relates to emergency equipment only. EWS-4 and EWS-10 paging stations are reported as WS-4 and WS10 respectively.</li> <li>• The VI-8, VOIP-1 and POTS-1 will only be included if configured for emergency paging functions</li> </ul>

- The Valid ID range is a hex value based on the MSB and LSB Device ID. For a device that has a MSB of 0 and LSB of 5, the value returned will be 0x05.

Device Type	Device Name	Valid ID Range
2	WS-4	01 - FF
4	WS-10	01 - FF
8	LSI-16	01 - FF
10	VO-4e	01 - FF
12	VA-8600	01 - FF
14	GPIO-1	01 - FF
17	VA-4030(e)	01 - FF
18	VA-2060(e)	01 - FF
32	VI-8	01 - FF
33	VOIP-1	01 - FF
34	POTS-1	01 - FF

#### Q I – Query the type of Virtual Input.

Command	Argument
Q I	InputID

*InputID* is a numerical value of the Virtual Input. This can be obtained using the 'Q L' Command. A response with the details of a specific virtual input configuration will be provided. The response format will depend on how the virtual Input is configured.

#### Possible Virtual Input Configurations with XML Responses

##### Virtual Input configured as a Fault Input:

The response will be:

```
<?xml version="1.0"?> <Query Command= "I"><State> STATE_OK</State>
< VirtualInputDetail id="Input Id"><Name>"Input name string"</ Name >
<Description>"Input description string"</ Description>
<Function>"Fault"</Function>
<FaultType>"Input Fault Type"</ FaultType >
</VirtualInputDetail ></Query>
```

The *input fault type* can be one of the following:

- PSU

- Ethernet
- Protection
- Transmission Path

#### Virtual Input configured as a Alarm Input:

The response will be:

```
<?xml version="1.0"?><Query Command= "I"><State> STATE_OK</State>  
< VirtualInputDetail id="Input Id"><Name>"Input name string"</ Name >  
<Description>"Input description string"</ Description>  
<Function>"Alarm"</Function> <Zone id="Id">"Zone name string"</Zone>  
<ZoneMessage>"Zone message string"</ ZoneMessage >  
</VirtualInputDetail ></Query>
```

The *zone message string* will be the Virtual Input label as configured in the Vocia software or:

- **Mute** - indicating that this input will mute the associated zone.
- **Unknown** - indicating a configuration parsing error.

#### Virtual Input configured as a Zone Silence Input:

The response will be:

```
<?xml version="1.0"?><Query Command= "I"><State> STATE_OK</State>  
< VirtualInputDetail id="Input Id"><Name>"Input name string"</ Name >  
<Description>"Input description string"</ Description>  
<Function>"Silence"</Function>  
<Zone id="Id">"Zone name string"</Zone>  
</VirtualInputDetail ></Query>
```

#### Virtual Input configured as a Zone Reset Input:

The response will be:

```
<?xml version="1.0"?><Query Command= "I"><State> STATE_OK</State>  
< VirtualInputDetail id="Input Id"><Name>"Input name string"</ Name >  
<Description>"Input description string"</ Description>  
<Function>"Reset"</Function>  
<Zone id="Id">"Zone name string"</Zone>  
</VirtualInputDetail ></Query>
```

#### Virtual Input configured as an All Zone Silence Input:

The response will be:

```
<?xml version="1.0"?> <Query Command= "I"><State> STATE_OK</State>  
< VirtualInputDetail id="Input Id"><Name>"Input name string"</ Name >  
<Description>"Input description string"</ Description>  
<Function>"All silence"</Function>  
</VirtualInputDetail ></Query>
```

**Virtual Input configured as a All Zone Reset Input:**

The response will be:

```
<?xml version="1.0"?><Query Command= "I"><State> STATE_OK</State>
< VirtualInputDetail id="Input Id"><Name>"Input name string"</ Name >
<Description>"Input description string"</ Description>
<Function>"All reset"</Function>
</VirtualInputDetail ></Query>
```

**LSI-16 Virtual Inputs configured as follows**

Channel	Name	Description	Function	Fault Type	Emergency Zone	Emergency Message
1	Virtual Input Channel 1	Virtual Input Channel	Fault	PSU		
2	Virtual Input Channel 2	Virtual Input Channel	Fault	Ethernet		
3	Virtual Input Channel 3	Virtual Input Channel	Fault	Protection		
4	Virtual Input Channel 4	Virtual Input Channel	Fault	Transmission Path		
5	Virtual Input Channel 5	Virtual Input Channel	Alarm		Emergency Zone 1	Mute
6	Virtual Input Channel 6	Virtual Input Channel	Reset		Emergency Zone 1	
7	Virtual Input Channel 7	Virtual Input Channel	Reset All			
8	Virtual Input Channel 8	Virtual Input Channel	Silence All			

**Example Sequence with XML Responses**

```
### Welcome to the Vocia LSI
```

```
U admin
```

```
<?xml version="1.0"?><Status Command="U"><State>STATE_OK</State></Status>
```

```
P admin
```

```
<?xml version="1.0"?><Status Command="P"><State>STATE_OK</State></Status>
```

```
A
```

```
<?xml version="1.0"?><Status Command="A"><State>AUTH_SUCCESS</State></Status>
```

```
Q I 1
```

```
<?xml version="1.0"?><Query Command="I"><State>STATE_OK</State><VirtualInputDetail id="1">
<Name>Virtual Input Channel 1</Name><Description>Virtual Input Channel</Description>
<Function>Fault</Function><FaultType>PSU</FaultType></VirtualInputDetail></Query>
```

```
Q I 2
```

```
<?xml version="1.0"?><Query Command="I"><State>STATE_OK</State><VirtualInputDetail id="2">
<Name>Virtual Input Channel 2</Name><Description>Virtual Input Channel</Description>
<Function>Fault</Function><FaultType>Ethernet</FaultType></VirtualInputDetail></Query>
```

```
Q I 3
```

```
<?xml version="1.0"?><Query Command="I"><State>STATE_OK</State><VirtualInputDetail id="3">
<Name>Virtual Input Channel 3</Name><Description>Virtual Input Channel</Description>
<Function>Fault</Function><FaultType>Protection</FaultType></VirtualInputDetail></Query>
```

Q I 4

```
<?xml version="1.0"?><Query Command="I"><State>STATE_OK</State><VirtualInputDetail id="4">
<Name>Virtual Input Channel 4</Name><Description>Virtual Input Channel</Description>
<Function>Fault</Function><FaultType>TransmissionPath</FaultType></VirtualInputDetail></Query>
```

Q I 5

```
<?xml version="1.0"?><Query Command="I"><State>STATE_OK</State><VirtualInputDetail id="5">
<Name>Virtual Input Channel 5</Name><Description>Virtual Input Channel</Description>
<Function>Alarm</Function><Zone id="1">Emergency Zone 1</Zone>
<ZoneMessage>Mute</ZoneMessage></VirtualInputDetail></Query>
```

Q I 6

```
<?xml version="1.0"?><Query Command="I"><State>STATE_OK</State><VirtualInputDetail id="6">
<Name>Virtual Input Channel 6</Name><Description>Virtual Input Channel</Description>
<Function>Reset</Function><Zone id="1">Emergency Zone 1</Zone></VirtualInputDetail></Query>
```

Q I 7

```
<?xml version="1.0"?><Query Command="I"><State>STATE_OK</State><VirtualInputDetail id="7">
<Name>Virtual Input Channel 7</Name><Description>Virtual Input Channel</Description>
<Function>All reset</Function></VirtualInputDetail></Query>
```

Q I 8

```
<?xml version="1.0"?><Query Command="I"><State>STATE_OK</State><VirtualInputDetail id="8">
<Name>Virtual Input Channel 8</Name><Description>Virtual Input Channel</Description>
<Function>All silence</Function></VirtualInputDetail></Query>
```

**Q L - Return a list of all the virtual inputs configured for this LSI-16.**

Command	Argument
Q L	not needed

The response will be:

```
<?xml version="1.0"?>
<Query Command= "L"><State> STATE_OK</State>
<VirtualInputs count="Number of inputs">
<VirtualInput id="Id">"Input name string"</VirtualInput>
<VirtualInput id="Id">"Input name string"</VirtualInput>
...
<VirtualInput id="Id">"Input name string"</VirtualInput>
</ VirtualInputs></Query>
```

The input "Id" is a 1 based input number.

**Q Z Return a list of all the emergency zones in the World.**

Command	Argument
Q Z	not needed

The response will be:

```
<?xml version="1.0"?><Query Command= "Z"><State> STATE_OK</State>
<Zones count="Number of zones">
<Zones id="Id">"Zone name string"</Zone>
<Zones id="Id">"Zone name string"</Zone>
...
<Zones id="Id">"Zone name string"</Zone>
<Zones id="Id">"Zone name string"</Zone>
</Zones></Query>
```

The zone "Id" is the zone number.

Example Sequence with XML Responses
<p>QZ</p> <pre>&lt;?xml version="1.0"?&gt;&lt;Query Command="Z"&gt;&lt;State&gt;STATE_OK&lt;/State&gt;&lt;Zones count="3"&gt;  &lt;Zone id="1"&gt;Emergency Zone 1&lt;/Zone&gt; &lt;Zone id="2"&gt;Emergency Zone 2&lt;/Zone&gt; &lt;Zone id="3"&gt;Emergency Zone 3&lt;/Zone&gt;  &lt;/Zones&gt;&lt;/Query&gt;</pre>

**Fault status command (F)**

The F command will be used to obtain the current fault status from the LSI-16. Commands are provided to display a summary list of emergency faults, device specific faults all current faults.

**F S - Requests the emergency fault summary status from the LSI-16.**

Command	Argument
F S	not needed

Example Sequence with XML Responses
<p>F S</p> <pre>&lt;?xml version="1.0"?&gt;&lt;Faults Command="S"&gt;&lt;State&gt;STATE_OK&lt;/State&gt;&lt;EmergencyFaults &gt; &lt;Fault type="Voice Alarm Active"&gt;STATE_OK&lt;/Fault&gt;</pre>

```

<Fault type="System Fault">STATE_FAULT</Fault>
<Fault type="General Fault">STATE_FAULT</Fault>
<Fault type="VACIE Power Fault">STATE_FAULT</Fault>
<Fault type="Protection Fault">STATE_OK</Fault>
<Fault type="Transmission Path Fault">STATE_OK</Fault>
<Fault type="System Available">STATE_OK</Fault>
<Fault type="System Configuration">STATE_OK</Fault>
<Fault type="Multiple LSI-16 Masters">STATE_OK</Fault>
<Fault type="Audio Path Fault">STATE_OK</Fault>
<Fault type="Fault Sounder Active">STATE_FAULT</Fault>
<Fault type="Software Fault">STATE_OK</Fault>
<Fault type="Device Memory Failure">STATE_OK</Fault>
<Fault type="Device Offline">STATE_OK</Fault>
<Fault type="Unknown Device Detected">STATE_OK</Fault>
<Fault type="Excessive Device Restarts">STATE_OK</Fault>
<Fault type="Emergency Detection System Fault">STATE_FAULT</Fault>
<Fault type="LSI-16 Master Restart">STATE_FAULT</Fault>
<Fault type="Network Fault">STATE_OK</Fault>
</EmergencyFaults></Faults>

```

**F D - Return a fault listing for the specified device.**

Command	Argument	Argument
F D	DevType	Devid

The F D command will return a fault listing for all Emergency Devices excluding the LSI-16(e)

The nature of the response will depend on the specified device and will include all information provided by the device to the LSI-16.

The response will be:

```

<?xml version="1.0"?>
<Faults Command= "D"><State> STATE_OK</State>
<DeviceFaults type=" Type" Id= "Id">

<Fault type="System Fault">STATE_FAULT</Fault>
<Fault type="General Fault">STATE_FAULT</Fault>
<Fault type="Protection Fault">STATE_OK</Fault>
<Fault type="System Configuration">STATE_OK</Fault>
<Fault type="Audio Path Fault">STATE_FAULT</Fault>
<Fault type="Device Memory Failure">STATE_OK</Fault>
<Fault type="Device Offline">STATE_OK</Fault>
</DeviceFaults></Faults>

```

Valid *type* and *id* strings are as follows:

**Note:**

- The response relates to emergency equipment only. EWS-4 and EWS-10 paging stations are reported as WS-4 and WS10 respectively.
- The VI-8, VOIP-1 and POTS-1 will only be included if configured for emergency paging functions
- The Valid ID range is a hex value based on the MSB and LSB Device ID. For a device that has a MSB of 0 and LSB of 5, the value returned will be 0x05.

Device Type	Device Name	Valid ID Range
2	WS-4	01 - FF
4	WS-10	01 - FF
8	LSI-16	01 - FF
10	VO-4e	01 - FF
12	VA-8600	01 - FF
14	GPIO-1	01 - FF
17	VA-4030(e)	01 - FF
18	VA-2060(e)	01 - FF
32	VI-8	01 - FF
33	VOIP-1	01 - FF
34	POTS-1	01 - FF

**Example Sequence with XML Responses**

```

F D 18 1
<?xml version="1.0"?><Faults Command="D"><State>STATE_OK</State>
<DeviceFaults type="18" id="01">
<Fault type="Device Offline">STATE_OK</Fault>
<Fault type="Audio input 1">STATE_OK</Fault>
<Fault type="Audio input 2">STATE_OK</Fault>
<Fault type="Audio output 1">STATE_FAULT</Fault>
<Fault type="Audio output 2">STATE_OK</Fault>
<Fault type="System Fault">STATE_OK</Fault>
<Fault type="General Fault">STATE_OK</Fault>
<Fault type="Protection Fault">STATE_OK</Fault>
<Fault type="System Configuration">STATE_OK</Fault>
<Fault type="LSI-16 Master Timeout">STATE_OK</Fault>
<Fault type="Audio Path Fault">STATE_FAULT</Fault>
<Fault type="Device Memory Failure">STATE_OK</Fault>

```



```
</DeviceFaults>
</Faults>
```

**F F - Return a summary of all active faults.**

Command	Argument
F F	not needed

This includes any active emergency faults and a summary of active device faults. The device fault summary is intended to indicate that there is a fault associated with a particular device without providing any detail. An "F D" command could then be used to find out which particular fault had been detected. Only devices that have faults will be listed.

The response will be:

```
<?xml version="1.0"?>
<Faults Command= "F"><State> STATE_OK</State><EmergencyFaults>
<Fault type="General Fault">STATE_FAULT</Fault>
...
<Fault type="Transmission Path Fault">STATE_FAULT</Fault></EmergencyFaults>
<DeviceFaults type=" Type " Id= Id ><Fault
type="Summary">STATE_FAULT</Fault></DeviceFaults>
<DeviceFaults type=" Type " Id= Id ><Fault
type="Summary">STATE_FAULT</Fault></DeviceFaults>
...
<DeviceFaults type=" Type " Id= Id ><Fault
type="Summary">STATE_FAULT</Fault></DeviceFaults>
</Faults>
```

Valid *type* and *type strings* are as follows:

**Note:**

- The response relates to emergency equipment only. EWS-4 and EWS-10 paging stations are reported as WS-4 and WS10 respectively.
- The VI-8, VOIP-1 and POTS-1 will only be included if configured for emergency paging functions
- The Valid ID range is a hex value based on the MSB and LSB Device ID. For a device that has a MSB of 0 and LSB of 5, the value returned will be 0x05.

Device Type	Device Name	Valid ID Range
2	WS-4	01 - FF
4	WS-10	01 - FF
8	LSI-16	01 - FF
10	VO-4e	01 - FF
12	VA-8600	01 - FF
14	GPIO-1	01 - FF
17	VA-4030(e)	01 - FF
18	VA-2060(e)	01 - FF
32	VI-8	01 - FF
33	VOIP-1	01 - FF
34	POTS-1	01 - FF

#### Example Sequence with XML Responses

```

F F
<?xml version="1.0"?><Faults Command="F"><State>STATE_OK</State><EmergencyFaults>
<Fault type="General Fault">STATE_FAULT</Fault>
<Fault type="Transmission Path Fault">STATE_FAULT</Fault>
<Fault type="System Available">STATE_FAULT</Fault>
<Fault type="Audio Path Fault">STATE_FAULT</Fault>
<Fault type="Fault Sounder Active">STATE_FAULT</Fault>
</EmergencyFaults>
<DeviceFaults type="18" id="01"><Fault type="Summary">STATE_FAULT</Fault>
</DeviceFaults>
</Faults>

```

#### F A – Fault Acknowledge

Command	Argument
F A	not needed

This command operates as a virtual 'local Silence'. So performs the same way as physically pressing the 'Local Silence' on a CI-1 front panel.

The response will be:

```

<?xml version="1.0"?>
<Faults Command="A">
<State>STATE_OK</State></Faults>

```

**Emergency Paging Station control via LSI-16(e)**

The "@" command is used to relay a specific VTP command to an emergency paging station in the local World via an LSI-16(e).

Command	Argument
@	<i>Dev_Type</i> <i>Dev_ID</i> <i>Command</i>

- *Device Type (Dev\_Type)* is '2' for an EWS-4 or '4' for an EWS-10.
- *Device ID (Dev\_ID)* is the unique identifier the device has been assigned formatted as a hex number. Valid ID range is 01 - FF.
- *Command* is a PS VTP string as specified. See the [PS VTP Glossary](#) for available commands.

The response will be:

```
<?xml version="1.0"?>
<VTPRelay Command="@">
<Device type="2" id="05">EWS-4:05</Device>
<State>STATE_OK</State>
<Response>[Response From EWS-4/EWS-10]</Response>
</VTPRelay>
```

Where *[Response From EWS-4/EWS-10]* is the PS-VTP response from the remote device.

A **<State>STATE\_FAULT</State>** response will be returned if the device specified is unable to be communicated with.

Example Sequence with XML Responses
-------------------------------------

```
@ 2 66 Q L

<?xml version="1.0"?>
<VTPRelay Command="@">
<Device type="2" id="66">EWS-4:66</Device>
<State>STATE_OK</State>
<Response>
<Query Command="L"><State>STATE_OK</State><Pagecodes count="2">
<Pagecode id="1">Emergency Code 1</Pagecode>
<Pagecode id="2">Emergency Code 2</Pagecode>
</Pagecodes></Query>
</Response>
</VTPRelay>
```