Zenty

API DOCUMENT:
Z-NET (IP200, IP300, IP600)

VERSION: 1
DATE: MAY 23, 2019

CONTENTS

1. INTRODUCTION:

This document will contain the API (Application Programming Interface) for Zenty's Z-Net A/V over IP system. The applicable devices for this system are below. It is recommended to read this document, in its entirety, before attempting any communication with the Z-Net devices.

1.1 SUPPORTED DEVICES:

Model Number
ZT-IP100C
ZT-IP200(E/D/MV)
ZT-IP300(E/D/WE)
ZT-IP600

2. COMMUNICATION:

All communication to the Z-Net system will be through the ZT-IP100C controller. The ZT-IP100C controller will then send out the proper commands to the encoders and decoders. This is to allow ease of use for our clients when sending commands to the Z-Net system. The ZT-IP100C controller will have 2 different, IP assignable, LAN ports, that can independently accept commands. Each port will have its own default IP address:

AV LAN	169.254.1.1	Port 23
Control LAN	192.168.11.243	Port 23

3. COMMANDS/SYNTAX:

The commands for the Z-Net system will use the Telnet protocol; this is why the IP addresses mentioned above are using port 23.

3.1 COMMAND LIST:

Command	Function
config	Used to manage and configure the IP100C based on the requirements of the system.
matrix	Performs switching of the inputs on the encoder (TX) to a decoder (RX).
Scene	Activates a scene created on the IP100C using the Z-Net Configuration Tool.
Vw	Configures and/or selects a pre-configured video wall operation.
Mv/scene	Configures and/or selects a pre-configured multi view scene.
Serial	Allows for passing a command to a device connected to the IP100C's RS-232 port.
Notify	Sends serial response and status about the system to 3rd Party control device.

3.2 TERMINOLOGY:

Command	Description
Hostname	Fixed name stored in the devices FW that is hard coded based on the model and the Mac Address Example: ZT-IP300D-AABBDDCCEEFF
Alias	Custom name given to a device in the system for easy management. These names are provided to the system using the Z-Net Configuration Tool.
TX	Z-Net Encoder (TX)
RX	Z-Net Decoder (RX)
Z-Net Device	Z-Net Encoder (TX) or Decoder (RX)
VideoWall	Name of Video Wall
VWLayout	Video Wall Layout Name
Scene	Scene Name
Online	Z-Net Device is connected, working properly, and ready to receive commands.
Offline	Z-Net Device cannot be controlled and may be powered down or disconnected.

4. SYSTEM CONFIGURATIONS COMMANDS:

The following commands are provided to be an enhancement to a preconfigured system. Before using these commands all Z-Net devices should be configured using Z-Net Configuration Tool within the Management Suite.

4.1 NETWORK SETTINGS:

Note: The ZT-IP100C only supports one default route. Thus, the Default Gateway IP can only be assigned to one interface, either the AV port or the CONTROL port. The unused Default Gateway field should be specified as 0.0.0.0

CONFIGURE IP100C AV PORT IP ADDRESS:

Command: config set ip4addr [prm1] netmask [prm2] gateway [prm3]	**Parameters:** prm1 = IP Address prm2 = Subnet Mask prm3 = Gateway Address
Example: config set ip4addr 192.168.1.150 netmask 255.255.255.0 gateway 192.168.1.1	
Response: ip4addr 192.168.1.150 netmask 255.255.255.0 gateway 192.168.1.1	

CONFIGURE IP100C CONTROL PORT IP ADDRESS:

Command: config set ip4addr2 [prm1] netmask [prm2] gateway [prm3]	**Parameters:** prm1 = IP Address prm2 = Subnet Mask prm3 = Gateway Address
Example: config set ip4addr2 192.168.1.150 netmask 255.255.255.0 gateway 192.168.1.1	
Response: ip4addr2 192.168.1.150 netmask 255.255.255.0 gateway 192.168.1.1	

CONFIGURE IP100C WEB UI PASSWORD:

Command: config set webloginpasswd [Password]	**Parameters:** Password = Password to log into the web UI
Example: config set webloginpasswd p@ssword	
Response: password for web modified	

CONFIGURE TX/RX IP ADDRESS:

Command:	**Parameters:**
config set device IP [Z-NET Device] [IP Address Method] ip4addr [IP Address] netmask [Netmask] gateway [Gateway] **Note**: Commands can be sent to multiple Z-NET Devices simultaneously by separating with a **comma**.	Z-NET Device=Alias or Host NameAlias or Host Name IP Address Method =autoip | dhcp | static Note: AutoIP is not available on the ZT-IP600 devices. IP Address =IP Address Netmask =Subnet Mask Gateway =Default Gateway
Example: config set device ip IN1 static ip4addr 192.168.1.150 netmask 255.255.255.0 gateway 192.168.1.1, OUT1 autoip	
Response: Device's ipsetting will change to: IN1 static 192.168.1.150 255.255.255.0 192.168.1.1, OUT1 autoip	

4.2 Z-NET DEVICE ALIAS NAMING:

Alias names require a particular syntax and cannot contain certain characters and cannot be duplicate of an existing name.

4.2.1 CHARACTERS NOT ALLOWED IN ALIAS NAME:

Character Description	Character
Comma	“,”
Space	“ “
Semi Colon	“;”
At Symbol	“@”
Asterisk	“*”
Ampersand	“&”
Not Case Sensitive	“NULL”

4.2.2ALIAS NAMING COMMANDS:

CONFIGURE TX/RX ALIAS:

Command: config set device alias [Hostname] [Alias]	**Parameters:** Hostname=Hostname Alias=Alias Name
Example: config set device alias ZT-IP200E-AABBCCDDEEFF IN1-SetTopBox	

REMOVE TX/RX ALIAS:

Command: config set device remove [Z-NET Device]	**Parameters:** Z-NET Device=Alias or Hostname
Example: config set device remove IN3-MediaPlayer1 **Note**: Commands can be sent to multiple Z-NET Devices simultaneously by separating with a **space**.	
Example: config set device remove IN3-MediaPlayer1 OUT3-KitchenAudio	
Response: the following device's record will be removed: IN3-MediaPlayer1 OUT3-KitchenAudio	

QUERY Z-NET DEVICE NAME:

Command: config get name [Z-NET Device]	**Parameters:** Z-NET Device=Alias or Hostname
Example: config get name ZT-IP200E-AABBCCDDEEFF	
Response: ZT-IP200E-AABBCCDDEEFF's alias is IN1-SetTopBox **Note** that if no name is sent with the command, all Z-NET Device names will be returned.	

5. CONTROLLING SOURCE (TX)/DECODER (RX) SWITCHING:

5.1 AUDIO/VIDEO MATRIX SWITCHING:

SWITCHING AUDIO AND VIDEO:

Command: matrix set [TX] [RX]	**Parameters:** TX=TX Alias or Host Name RX=RX Alias or Host Name
Example: matrix set IN1-SetTopBox OUT2-KitchenTV	
Response: matrix set IN1-SetTopBox OUT2-KitchenTV **Note**: Commands can be sent to multiple Z-NET Devices simultaneously by separating with a **comma**.	
Example: matrix set IN1-SetTopBox OUT2-KitchenTV, IN2-BluRay OUT1-TheaterTV	

SWITCHING AUDIO SEPARATELY:

This command is not supported on the IP200 series.

Command: matrix audio set [TX] [RX]	**Parameters:** TX=TX Alias or Host Name RX=RX Alias or Host Name
Example: matrix audio set IN3-MediaPlayer1 OUT3-KitchenAudio	
Response: matrix audio set IN3-MediaPlayer1 OUT3-KitchenAudio **Note**: Commands can be sent to multiple Z-NET Devices simultaneously by separating with a **comma**.	
Example: matrix audio set IN3-MediaPlayer1 OUT3-KitchenAudio, IN3-MediaPlayer1 OUT4-PatioAudio	

SWITCHING VIDEO SEPARATELY:

This command is not supported on the IP200 series.

Command: matrix video set [TX] [RX]	**Parameters:** TX=TX Alias or Host Name RX=RX Alias or Host Name
Example: matrix video set IN1-SetTopBox OUT2-KitchenTV	
Response: matrix video set IN1-SetTopBox OUT2-KitchenTV **Note**: Commands can be sent to multiple Z-NET Devices simultaneously by separating TXs and RXs with a **comma**.	
Example: matrix video set IN1-SetTopBox OUT2-KitchenTV, IN1-SetTopBox OUT5PatioTV	

QUERY CURRENT MATRIX ASSIGNMENTS:

Command: matrix get
Response: List of device matrix routing ZT-IP200E-E4CE0200083D ZT-IP200D-70B3D5D59600 ZT-IP200E-E4CE0200083D ZT-IP200D-E4CE0200046B

5.1.1 ZT-IP300 SWITCHING AND AUDIO CONTROL:

The following commands are used to switch the various inputs available to the ZT-IP300 running firmware v0.9.4 or higher. These commands are not available on other Z-Net devices and can only be used on the ZT-IP300 running firmware v0.9.4 or higher.

ADJUSTING AUDIO VOLUME:

Command: config set device audio volume [Action] [Output] [RX]	**Parameters:** Action= up | down Output=analog RX=RX Alias or Host Name
Example: config set device audio volume analog OUT2-Kitchen	
Response: config set device audio volume hdmi1 OUT2-Kitchen **Note:** Commands can be sent to multiple RXs simultaneously by adding RXs separated by a **space**.	
Example: config set device audio volume up hdmi1 OUT2-Kitchen OUT3-Patio	

LINKING TX USB TO AN RX:

Command: matrix usb set [TX] [RX]	**Parameters:** TX=TX Alias or Host Name RX=RX Alias or Host Name
Example: matrix usb set IN1-SetTopBox OUT2-KitchenTV	
Response: matrix usb set IN1-SetTopBox OUT2-KitchenTV **Note:** Commands can be sent to multiple RXs simultaneously by adding RXs separated by a **space**	
Example: matrix usb set IN1-SetTopBox OUT2-Kitchen OUT3-Patio **Note:** Commands can be sent to multiple TXs by using a **comma** before each consecutive TX.	
Example: matrix usb set IN1-SetTopBox OUT2-Kitchen OUT3-Patio, IN3-MediaPlayer1 OUT3-KitchenAudio	

QUERY TX USB TO AN RX LINKING:

Command: matrix usb get	**Parameters:** TX#=TX Alias or Host Name RX#=RX Alias or Host Name
Example: matrix usb get	
Response: matrix usb information [TX1] [RX1] [TX2] [RX2] [TX3] [RX3] …….	

LINK RX INFRARED (IR) TO TX:

Command: matrix infrared set [TX] [RX]	**Parameters:** TX=TX Alias or Host Name RX=RX Alias or Host Name
Example: matrix infrared set IN1-SetTopBox OUT2-KitchenTV	
Response: matrix infrared set IN1-SetTopBox OUT2-KitchenTV **Note:** Commands can be sent to multiple RXs simultaneously by adding RXs separated by a **space**.	
Example: matrix infrared set IN1-SetTopBox OUT2-Kitchen OUT3-Patio	

QUERY RX TO TX INFRARED (IR) LINK:

Command: matrix infrared get	**Parameters:** TX#=TX Alias or Host Name RX#=RX Alias or Host Name
Example: matrix infrared get	
Response: matrix infrared information [TX1] [RX1] [TX2] [RX2] [TX3] [RX3] …….	

LINK RX SERIAL (RS-232) TO TX:

Command: matrix serial set [TX] [RX]	**Parameters:** TX=TX Alias or Host Name RX=RX Alias or Host Name
Example: matrix serial set IN1-SetTopBox OUT2-KitchenTV	
Response: matrix serial set IN1-SetTopBox OUT2-KitchenTV **Note:** Commands can be sent to multiple RXs simultaneously by adding RXs separated by a **space**.	
Example: matrix serial set IN1-SetTopBox OUT2-Kitchen OUT3-Patio	

QUERY RX TO TX SERIAL (RS-232) LINK:

Command: matrix serial get	**Parameters:** TX#=TX Alias or Host Name RX#=RX Alias or Host Name
Example: matrix serial get	
Response: matrix serial information [TX1] [RX1] [TX2] [RX2] [TX3] [RX3] …….	

5.1.2 ZT-IP600 INPUT SWITCHING:

The following commands are used to switch the various inputs available to the ZT-IP600. These commands are not available on other Z-Net devices and can only be used on the ZT-IP600

CONFIGURE ENCODER (TX) VIDEO SOURCE:

Command: config set device videosource [TX] [Input] **Note**: Commands can be sent to multiple Z-NET Devices simultaneously by separating with a **comma**.	**Parameters:** TX=Z-NET Device Alias or Host Name Input=auto | hdmi | dp
Example: config set device videosource ZT-IP600E-MMAACCAADDRR auto, IN1-DVD hdmi, IN2-LAPTOP dp	

CONFIGURE DECODER (RX) HDMI AUDIO SOURCE:

Command: config set device audiosource [RX] [Input] **Note**: Commands can be sent to multiple Z-NET Devices simultaneously by separating with a **comma**.	**Parameters:** RX=RX Alias or Host Name Input= analog | dmix
Example: config set device audiosource ZT-IP600D-MMAACCAADDRR analog, OUT1TV dmix, OUT2-MONITOR dmix	

CONFIGURE DECODER (RX) ANALOG AUDIO SOURCE:

Command: config set device audio2source [RX] [Input] **Note**: Commands can be sent to multiple Z-NET Devices simultaneously by separating with a **comma**.	**Parameters:** RX=RX Alias or Host Name Input= analog | dmix
Example: config set device audio2source ZT-IP600D-MMAACCAADDRR analog, OUT1TV analog, OUT2-MONITOR dmix	

SWITCH AUDIO2:

Command: matrix audio2 set [TX] [RX]	**Parameters:** TX= TX Alias or Host Name RX= RX Alias or Host Name
Example: matrix audio2 set ZT-IP600E-MMAACCAADDRR OUT1-TV OUT2PROJECTOR ZT-IP600D-MACADRMACADR	
This command will only be effective if the RX device already has the Analog Audio input stream option selected for the analog audio output on the device. This can be altered in the Analog Audio Settings in the Console software or via the Configure Decoder (RX) Analog Audio Source API command.	

QUERY MATRIX AUDIO ASSIGNMENTS:

Command: matrix audio get	**Parameters:** TX= TX Alias or Host Name RX= RX Alias or Host Name
Example: matrix audio get	
Response: matrix audio information: ZT-IP600E-MACADRMAC001 ZT-IP600D-MMAACCAADDRR ZT-IP600E-MACADRMAC001 ZT-IP600D-AABBCCDDEEFF ZT-IP600E-MACADRMAC002 ZT-IP600D-AABBCCDD0000	

5.2 CONTROLLING DISPLAY POWER ON/OFF (CEC):

Note: CEC functionality is not available on the ZT-IP600 upon initial release. Functionality will be added via a future firmware update.

CEC POWER ON DISPLAY:

Command: config set device cec onetouchplay [RX]	**Parameters:** RX=RX Alias or Host Name
Example: config set device cec onetouchplay OUT5-PatioTV	
Response: config set device cec onetouchplay OUT5-PatioTV	

CEC POWER OFF DISPLAY:

Command: config set device cec standby [RX]	**Parameters:** RX=RX Alias or Host Name
Example: config set device cec standby OUT5-PatioTV	
Response: config set device cec standby OUT5-PatioTV	

5.3 CONTROLLING CONNECTED DEVICES VIA IR:

A device connected to and TX or RX can be controlled via IR by sending an IR command. An IR emitter must be connected to the IR TX port on the TX or RX in order for the command to function. Commands listed below are in Pronto HEX format.

Note: This command only applies to ZT-IP300 series running firmware v0.9.4 or higher and the 600 Series products.

SENDING IR COMMANDS TO CONNECTED DEVICE:

<table>
<tr><td><u>Command:</u>
infrared [IRData] [Z-NET Device]</td><td rowspan="3"><u>Parameters:</u>
IRData=Infrared command string

Note: String uses double inverted commas [“] 0x22 in place of quotes. Command can be copied and pasted as defined to the left.

Z-NET Device=TX/RX Alias or Host Name</td></tr>
<tr><td>infrared “0000 006D 0022 0002 0155 00AA 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0040 0015 0040 0015 0040 0015 0040 0015 0040 0015 0040 0015 0040 0015 0040 0015 0015 0015 0015 0015 0040 0015 0015 0015 0040 0015 0015 0015 0015 0015 0015 0015 0040 0015 0040 0015 0015 0015 0040 0015 0015 0015 0040 0015 0040 0015 0040 0015 05ED 0155 0055 0015 0E47“ OUT2-MONITOR</td></tr>
<tr><td><u>Response</u>:
infrared “0000 006D 0022 0002 0155 00AA 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0040 0015 0040 0015 0040 0015 0040 0015 0040 0015 0040 0015 0040 0015 0040 0015 0015 0015 0015 0015 0040 0015 0015 0015 0040 0015 0015 0015 0015 0015 0015 0015 0040 0015 0040 0015 0015 0015 0040 0015 0015 0015 0040 0015 0040 0015 0040 0015 05ED 0155 0055 0015 0E47“ OUT2-MONITOR</td></tr>
</table>

6. CONFIGURING AND CONTROLLING VIDEO WALLS:

Note: Video Wall functionality is not available on the ZT-IP600 upon initial release. Functionality will be added via a future firmware update.

6.1 ACTIVATING AND CONFIGURING VIDEO WALL SCENES:

ACTIVATING A SCENE:

Command: scene active [VideoWall]-[Scene]	**Parameters:** VideoWall=Video Wall Name Scene=Scene Name
Example: scene active OfficeVW-Scene2	
Response: scene OfficeVW-Scene2 success	

ASSIGN SOURCE TO RX WITHIN A SCENE:

Command: scene set [VideoWall]-[Scene] [Quadrant x/y] [Source]	**Parameters:** VideoWall=Video Wall Name Scene=Scene Name Source=TX Alias or Host Name Quadrant x/y=
Example: scene active OfficeVW-Scene2 1 2 IN1-SetTopBox	
Response: scene OfficeVW-Scene2's source in [1 2] change to IN1-SetTopBox	

x1 y1	x1 y2
x2 y1	x2 y2

ASSIGN SOURCE TO RX SEQUENTIALLY WITHIN A SCENE:

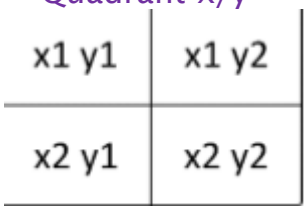
Command: scene connect [VideoWall]-[Scene] [Source1] [Source2]	**Parameters:** VideoWall=Video Wall Name Scene=Scene Name Source#=TX Alias or Host Name
Example: scene connect OfficeVW-Scene2 IN1-SetTopBox IN2-BluRay IN3-MediaPlayer1	
Response: scene OfficeVW-Scene2's tx connect to IN1-SetTopBox IN2-BluRay IN3-MediaPlayer1	

QUERY SCENE NAMES:

Command: scene get
Response: List of scenes Scene1 Scene2 Scene3

6.2 CREATING AND CONTROLLING VIDEO WALLS:

CREATING A VIDEO WALL:

Command: vw add [VideoWall] [Quadrant x/y] [Source]	**Parameters:** VideoWall=Video Wall Name Source=TX Alias or Host Name Quadrant x/y= 
Example: vw add OfficeVW 2 2 IN1-SetTopBox	
Response: videowall item OfficeVW create and assign IN1-SetTopBox to it	

CREATING A VIDEO WALL LAYOUT:

Command: vw add [VideoWall] [Rows] [Columns] [Source]	**Parameters:** VideoWall=Video Wall Name Source=TX Alias or Host Name Rows=Number of rows (max of 4) Columns=Number of columns (max of 4)
Example: vw add OfficeVW 2 2 IN1-SetTopBox	
Response: videowall item OfficeVW create and assign IN1-SetTopBox to it	

ASSIGNING A SOURCE TO A VIDEO WALL:

Command: vw change [VideoWall]-[Scene]_[VWLayout] [Source]	**Parameters:** VideoWall=Video Wall Name Scene=Scene Name VWLayout=Video Wall Layout Name Source=TX Alias or Host Name
Example: vw change OfficeVW-Scene2_2x2 IN1-SetTopBox	
Response: videowall OfficeVW tx connect to IN1-SetTopBox to it	

REMOVING AN RX FROM A VIDEO WALL:

Command: vw rm [VideoWall] [RX]	**Parameters:** VideoWall=Video Wall Name RX=RX Alias or Host Name
Example: vw rm OfficeVW OUT2-KitchenTV	
Response: videowall config change: remove OUT2-KitchenTV	

REMOVING A VIDEO WALL:

Command: vw rm [VideoWall]	**Parameters:** VideoWall=Video Wall Name
Example: vw rm OfficeVW	
Response: videowall item OfficeVW removed	

QUERY CURRENT VIDEO WALL STATUS:

Command: vw get	**Parameters:** VideoWall#=Video Wall Name Source#=TX Alias or Host Name
Example: vw get	
Response: [VideoWall1] [Source1] Row 1: Rx1-11 Rx1-12 Row 1: Rx1-21 Rx1-22 …… [VideoWall2] [Source2] Row 1: Rx2-11 Rx2-12 Row 1: Rx2-21 Rx2-22 …..	

7. CONFIGURING AND CONTROLLING MULTI VIEW LAYOUTS:

The following commands are only available on the ZT-IP200DM. Functionality will be added to the ZT-IP600 via a future firmware update.

7.1 ACTIVATING MULTI VIEW LAYOUTS:

ACTIVATE A MULTI VIEW LAYOUT:

Command: mscene active [RX] [MVLayout]	**Parameters:** RX=RX Alias or Host Name MVLayout=Layout Name
Example: mscene active OUT2-KitchenTV 3-2	
Response: mscene active OUT2-KitchenTV 3-2 success	

QUERY MULTI VIEW LAYOUT NAMES:

Command: mscene get [RX]	**Parameters:** RX=RX Alias or Host Name
Example: mscene get OUT2-KitchenTV	
Response: mscene list OUT2-KitchenTV 1-1 1-3 1-4 3-1	

7.2 CONFIGURING MULTI VIEW LAYOUTS:

CHANGE MULTI-VIEW TX ASSIGNMENTS:

Command: mscene change [RX] [MVLayout] [MVLoc1] [Source1] [MVLoc2] [Source2]	**Parameters:** RX=RX Alias or Host Name MVLayout=Layout Name MVLoc#=Location on display for MVLayout Source#=TX Alias or Host Name
Example: mscene change OUT2-Projector 4-1 1 IN5 2 IN3 3 IN1 4 IN8	
Response: mscene change OUT2-Projector 4-1 1 IN5 2 IN3 3 IN1 4 IN8 success	

Zenty

CONFIGURE ACTIVE AUDIO SOURCE:

<table>
<tr><td><u>Command:</u>
mscene set audio [RX] [MVLayout] [Action] [AudioSource]

Note: This command must be proceeded by an TX assignment command for proper operation. See Change Multi-View TX Assignments.</td><td rowspan="3"><u>Parameters:</u>
RX=RX Alias or Host Name
MVLayout=Layout Name
Action=follow | window | separate
AudioSource=WindowName | TX
See notes for more on Action and AudioSource</td></tr>
<tr><td><u>Example</u>:
mscene change OUT2-KitchenTV 4-1 1 IN1 IN2 IN3 IN4
mscene set audio OUT2-KitchenTV 4-1 window 3</td></tr>
<tr><td><u>Response</u>:
mscene change OUT2-KitchenTV 4-1 1 IN1 IN2 IN3 IN4
success
mscene set audio OUT2-KitchenTV 4-1 window 3
success</td></tr>
<tr><td colspan="2">Notes Follow - Audio mode that only functions when RX is in a 1-1 layout. Window - Audio mode that is allowed to pass in any RX layout. Can only be from a specific window location or TX. Separate – Audio that can be passed from any TX regardless of RX layout or assignments. WindowName – Numeric value of the TX stream in an RX layout. For example, in a 4-1 layout the values would be 1, 2, 3, and 4 from left to right and top to bottom. TX – Source TX Alias or Host Name</td></tr>
</table>

QUERY MULTI-VIEW JSON INFORMATION:

Command:
mscene getjson [RX]

Example:
getjson OUT2-KitchenTV

Response:
Note: String uses double inverted commas [“] 0x22 in place of quotes. Command can be copied and pasted as defined below.
mscene json string:

[
{
“group“ : [
{
]
“hsize“ : 1920,
“aliasName“ : “MVDisplay“,
“trueName“ : “ZT-IP200DM-341B228000BB“,
“sequence“ : 0,
“layouts“ : [
{
“name“ : “2-1“,
“layoutseq“ : 1,
“windows“ : [
{
“hsize“ : 960,
“hstart“ : 0,
“mode“ : “fit“,
“name“ : “1“,
“tx“ : “ZT-IP200E-AABBCCDDEEFF“, “vsize“ : 540,
“vstart“ : 270
}.
{
“hsize“ : 960,
“hstart“ : 960,
“mode“ : “fit“,
“name“ : “2“,
“tx“ : “ZT-IP200E-11AABB2233CC“, “vsize“ : 540,
“vstart“ : 270
}
]
},
{
“name“ : “1-1“,
“layoutseq“ : 2,
“windows“ : [

Parameters:
RX=RX Alias or Host Name

{
“hsize“ : 1920,
“hstart“ : 0,
“mode“ : “fit“,
“name“ : “1“,
“tx“ : “ZT-IP200E-341B228010BD“, “vsize“ : 1080,
“vstart“ : 0
}
]
}	

8. 3RD PARTY DEVICE COMMANDS:

8.1 CONTROLLING 3RD PARTY DEVICES:

<table>
<tr><td><u>Command:</u>
serial -b [Port Settings] -r [CR y/n] -h [HEX/ASCII] “[Device String]“ [RX]</td><td rowspan="2"><u>Parameters:</u>
Port Settings=Device Serial Port settings
Syntax for Port Settings: [Baud Rate]-[Data Bits][Parity][Stop Bits]
Example: 115200-8n1
CR y/n=on {Send Carriage Return} | off {Don’t send carriage return}
HEX/ASCII=HEX {Command in HEX} | ASCII {Command in ASCII}
Device String=Serial Command
RX=RX Alias or Hostname</td></tr>
<tr><td><u>Example</u>:
HEX: serial -b 115200-8n1 -r on -h on “AA 02 C1 48 03 2A“ OUT1
ASCII: serial -b 115200-8n1 -r on -h off “POWR“ OUT1</td></tr>
<tr><td><u>Response</u>:
serial -b 115200-8n1 -r on -h on “AA 02 C1 48 03 2A“ OUT1

Note: String uses double inverted commas [“] 0x22 in place of quotes. Command can be copied and pasted as defined above.</td><td></td></tr>
<tr><td colspan="2">Note: It is essential any “-“ remains as a dash and does not convert into a hyphen as the command will not be sent correctly. Ensure the cable pinout from the Z-Net Encoder or Decoder to the device being controlled is correct per the manufacturer’s documentation.</td></tr>
</table>

8.2 NOTIFYING 3RD PARTY DEVICES OF CHANGES:

Notify commands are actively sent to a 3rd party control device from the ZT-IP100C allowing the ZT-IP100C to give the control device a response. Notify commands are commonly used to poll a device’s online status or successful receipt of a serial pass-through command. These commands cannot be sent manually through the ZT-IP100C and the below information is for reference only.

Z-NET DEVICE ONLINE STATUS:

<table>
<tr><td><u>Command:</u>
notify endpoint [Status] [Z-NET Device]</td><td rowspan="2"><u>Parameters:</u>
Status=
+=Z-NET Device has come online
-=Z-NET Device has gone offline
Z-NET Device=TX/RX Alias or Hostname</td></tr>
<tr><td><u>Notify Example</u>:
notify endpoint + OUT2</td></tr>
</table>

SERIAL DATA RECEIVED:

Command: notify serialinfo [Z-NET Device] [DataType] [Data]	**Parameters:** Z-NET Device=TX/RX Alias or Hostname DataType=hex | ascii Data=Serial Data sent
Notify Example: notify serialinfo OUT1 hex 56: 68 65 6C 11 6C 6F 11 22 33 44 00 55 66 77 99 AA CC DD FF notify serialinfo OUT1 ascii 5: 12345	

9. DIAGNOSTIC TROUBLESHOOTING:

9.1 QUERY GENERAL Z-NET INFORMATION:

QUERY ZT-IP100C FIRMWARE VERSION:

Command: config get version
Example: config get version
Response: API version: v#.# System version: v#.#.# (v#.#.#)

QUERY Z-NET DEVICE LIST:

Command: config get devicelist
Example: config get devicelist
Response: devicelist is ZT-IP200E-AABBCCDDEEFF ZT-200D-112233445566

QUERY ZT-IP100C AV PORT IP ADDRESS:

Command: config get ipsetting
Example: config get ipsetting
Response: ipsetting is: ip4addr 169.254.1.1 netmask 255.255.0.0 gateway 169.254.1.254

QUERY ZT-IP100C CONTROL PORT IP ADDRESS:

Command: config get ipsetting2
Example: config get ipsetting2
Response: ipsetting is: ip4addr 169.254.1.1 netmask 255.255.0.0 gateway 169.254.1.254

QUERY Z-NET DEVICE NAME(S):

Command: config get name [Z-NET Device]	**Parameters:** Z-NET Device= Alias or Hostname
Example: config get name ZT-IP200E-AABBCCDDEEFF If Z-NET Device is left blank, a list of all Z-NET Devices and their names will be returned.	
Response: ZT-IP200E-AABBCCDDEEFF's alias is IN1-SetTopBox	

9.2 QUERY JSON INFORMATION:

QUERY INDIVIDUAL Z-NET DEVICE JSON INFORMATION:

Command: config get device info [Z-NET Device] **Note** that this command be sent to multiple Z-NET Devices simultaneously by separating names with a space.	**Parameters:** Z-NET Device= Alias or Hostname
Example: config get device info ZT-IP200E-AABBCCDDEEFF	
Response: Refer to Appendix A: config get device info [Device] JSON Response for responses.	

QUERY ALL JSON INFORMATION:

Command: config get devicejsonstring
Example: config get devicejsonstring
Response: Refer to Appendix B: config get devicejsonstring JSON Response for responses

9.3 REBOOTING AND RESTORING FACTORY DEFAULTS:

REBOOT AN Z-NET CONTROLLER (ZT-IP100C) :

Command: config set reboot
Example: config set reboot
Response: system will reboot now

REBOOT A Z-NET TX OR RX:

<table>
<tr><td>Command:
config set device reboot [Z-NET Device]</td><td rowspan="4">Parameters:
Z-NET Device= Alias or Hostname</td></tr>
<tr><td>Example:
config set device reboot IN1-SetTopBox

Note that this command be sent to multiple Z-NET Devices simultaneously by separating names with a space</td></tr>
<tr><td>Example:
config set device reboot IN1-SetTopBox OUT2-KitchenTV</td></tr>
<tr><td>Response:
the following device will reboot now:
IN1-SetTopBox OUT2-KitchenTV</td></tr>
</table>

RESTORE FACTORY DEFAULTS FOR AN Z-NET CONTROLLER (ZT-IP100C) :

<table>
<tr><td><u>Command:</u>
config set device restorefactory [Z-NET Device]</td><td rowspan="4"><u>Parameters:</u>
Z-NET Device= Alias or Hostname</td></tr>
<tr><td><u>Example</u>:
config set device restorefactory IN1-SetTopBox

Note that this command be sent to multiple Z-NET Devices simultaneously by separating names with a space.</td></tr>
<tr><td><u>Example</u>:
config set device restorefactory IN1-SetTopBox OUT2-KitchenTV</td></tr>
<tr><td><u>Response</u>:
the following device will restore to factory setting now: IN1-SetTopBox OUT2-KitchenTV</td></tr>
</table>

APPENDIX A: CONFIG GET DEVICE INFO Z-NET JSON RESPONSE:

A.1 200/300 SERIES DEVICE JSON RESPONSE:

The following is returned when config get device info [Device] is sent to a device in the 200/300 Series.

Note: String uses double inverted commas [“] 0x22 in place of quotes. Command can be copied and pasted as defined below.

devices json info

{
“devices“:
[
{
“name“:“ZT-IP200E-AABBCCDDEEFF“,
“version“:“v#.#.#“,
“ip_mode“:“dhcp“,
“ip4addr“:“169.254.107.239“,
“netmask“:“255.255.0.0“,
“mac“:“34:1b:22:f3:20:01“,
“gateway“:“ “,
“hdcp“:false,
“enc_rc_mode“:“vbr“,
“profile“:“hp“,
“cbr_avg_bitrate“:10000,
“vbr_max_bitrate“:20000,
“vbr_min_qp“:0,
“vbr_max_qp“:25,
“fixqp_iqp“:25,
“fixqp_pqp“:25,
“enc_gop“:60,

“enc_fps“:60,
“transport_type“:“raw“
}
]
}

A.2 600 SERIES JSON RESPONSE:

The following is returned when config get device info [Device] is sent to a device in the IP600 Series. Note that the response for an TX is different than that of a RX.

A.2.1 600 TX JSON RESPONSE:

devices json info:

{

"devices" : [

{

"aliasname" : "IN1",

"analog_audio_direction" : "INPUT",

"edid" :

"00ffffffffffff005f32000156524c420816010380341d780a01c1a057479827124c4c2108008140010101010101010101010101010101023a801871382d40582c460040846300001e08e80030f2705a80b0588a00ba892100001e000000fc00577972655374 6f726d0a20202000000fd0018550e853c000a20202020202001d902034073580102030405111213141f2021220607905d5e5f626364606 1230d0707830f00006d030c001400383c20406801020367d85dc401788003e40f0000c0011d00bc52d01e20b828554040846300001e023a80d072382d4102c458040846300001e023a801871382d40582c450040846300001e0000000000000000000ee",

"gateway" : "0.0.0.0",

"hdcp14_enable" : true,

"hdcp22_enable" : true,

"ip4addr" : "169.254.42.168",

"ip_mode" : "dhcp",

"name" : "IPE6000-D88039E5A829",

"netmask" : "255.255.0.0",

"serial_param" : "57600-8n1",

"temperature" : 118,

"version" : "3.4.0.6",

"video_input" : true,

"video_source" : "hdmi",

“video_timing“ : “3840x2160P@24

}

]

A2.2. 600 RX JSON RESPONSE:

devices json info:

{

“devices”:[

{

“aliasname“ : “OUT1“,

“analog_audio_source“ : “analog“,

“edid“ :

“00ffffffffffff004dd903f901010101011b0103806c3d780a0dc9a05747982712484c2108008180a9c0714fb3000101010101010108e80030f2705a80b0588a003d624200001e023a801871382d40582c45003d624200001e000000fc00534f4e5920545620202a30300a000000fd00173e0e883c000a202020202020011d020359f05b61605d5e5f621f1014051304202023c3e121603071115020601656 62c0d7f071507503d07bc570400830f00006e030c002000b83c2f00800102030467d85dc401788001e200cbe305ff01e50f03000006e3060d01011d007251d01e206e2855003d624200001e000000000000000000000000000000000000000000b5“,

“gateway“ : “0.0.0.0“,

“hdmi_audio_source“ : “hdmi“,

“ip4addr“ : “169.254.112.163“,

“ip_mode“ : “dhcp“,

“name“ : “IPD6000-D88039E4A36F“,

“netmask“ : “255.255.0.0“,

“serial_param“ : “57600-8n1“,

“temperature“ : 88,

“version“ : “3.4.0.6“,

“video_mode“ : “genlock“

}

]

}

APPENDIX B: CONFIG GET DEVICEJSONSTRING JSON RESPONSE:

B.1 200/300 SERIES ALL DEVICES JSON RESPONSE:

The following is returned from 200/300 Series devices when config getdevicejsonstring is sent to all devices on the system.

Note: String uses double inverted commas [“] 0x22 in place of quotes. Command can be copied and pasted as defined below

device json string: [

{

“aliasName“ : “IN1“,

“deviceType“ : “Transmitter“,

“group“ : [

{

“name“ : “ungrouped“,

“sequence“ : 0

}

],

“ip“ : “169.254.3.73“,

“online“ : true,

“sequence“ : 1,

“tr

B.2 600 SERIES ALL DEVICES JSON RESPONSE:

The following is returned from 600 Series devices when config get devicejsonstring is sent to all devices on the system

B.2.1: 600 TX JSON RESPONSE:

device json string:[
{
“aliasName“ : “SONY-4K-TV“,
“deviceType“ : “Receiver“,
“group“ : [
{
“name“ : “ungrouped“,
“sequence“ : 0
}
],
“ip“ : “169.254.1.1“,
“online“ : true,
“sequence“ : 0,
“trueName“ : “IPD6000-D88039E4A36F“,
“txName“ : “IPE6000-D88039E5A829“
],
{
“aliasName“ : “Pana-2K-TV“,
“deviceType“ : “Receiver“,
“group“ : [
{
“name“ : “ungrouped“,
“sequence“ : 0
}
],

```
        "ip" : "169.254.1.1",
        "online" : true,
        "sequence" : 0,
        "trueName" : "IPD6000-D88039E4B482",
       "txName" : "IPE6000-D88039E5A829"
],
{
      "aliasName" : "Sammy-4K-LEGO",
      "deviceType" : "Transmitter",
      "group" : [
            {
                  "name" : "ungrouped",
                  "sequence" : 0
      }
 ],
        "ip" : "169.254.1.1",
      "online" : true,
      "sequence" : 0,
      "trueName" : "IPE6000-D88039E5A829"
 },
 [
      "aliasName" : "SONY-2K-BILLY",
      "deviceType" : "Transmitter",
      "group" : [
          {
              "name" : "ungrouped",
              "sequence" : 0
          }
      ],
        "ip" : "169.254.1.1",
         "online" : true,
         "sequence" : 0,
        "trueName" : "IPE6000-D88039E5C0E8"
```

```
        }
]
```

B.2.2 600 RX JSON RESPONSE:

devices json info:

```
{
        “devices“ : [
            {
                “aliasname“ : “SONY-4K-TV“,
                “analog_audio_source“ : “analog“,
                “edid“
“00ffffffffffff004dd903f901010101011b0103806c3d780a0dc9a05747982712484c210800
8180a9c0714fb3000101010101010108e80030f2705a80b0588a003d624200001e023a
801871382d40582c45003d624200001e000000fc00534f4e5920545620202a30300a0000
00fd00173e0e883c000a202020202020011d020359f05b61605d5e5f621f1014051304202
23c3e121603071115020601656 62c0d7f071507503d07bc570400830f00006e030c002000
b83c2f00800102030467d85dc401788001e200cbe305ff01e50f03000006e3060d01011d0
07251d01e206e2855003d624200001e000000000000000000000000000000000000000000
b5“,
                “gateway“ : “0.0.0.0“,
                “hdmi_audio_source“ : “hdmi“,
                “ip4addr“ : “169.254.112.163“,
                “ip_mode“ : “dhcp“,
                “name“ : “IPD6000-D88039E4A36F“,
                “netmask“ : “255.255.0.0“,
                “serial_param“ : “57600-8n1“,
                “temperature“ : 87,
                “version“ : “3.4.0.6“,
                “video_mode“ : “genlock“
        },
        {
                “aliasname“ : “Pana-2K-TV“,
                “analog_audio_source“ : “analog“
                 “edid“ :
```

“00fffffffffff0034a913c30101010100150103800000780adaffa3584aa22917494b0000000
1010101010101010101010101010101011d00bc52d01e20b8285540ba882100001e011d
007251d01e206e285500ba882100001e000000fc0050616e61736f6e69632d54560a00000
0fd00173d0f440f000a202020202020010e020322725093841f10140520120311021607150
60012309070168030c002000b82600023a80d072382d40102c4580ba882100001e023a80
1871382d40582c4500ba882100001e011d80d0721c1620102c2580ba882100009e011d80
18711c1620582c2500ba882100009e8c0ad090204031200c405500ba8821000018000000
3b“,

“gateway“ : “0.0.0.0“,

“hdmi_audio_source“ : “dmix“,

“ip4addr“ : “169.254.131.180“,

“ip_mode“ : “dhcp“,

“name“ : “IPD6000-D88039E4B482“,

“netmask“ : “255.255.0.0“,

“serial_param“ : “57600-8n1“,

“temperature“ : 54,

“version“ : “3.4.0.6“,

“video_mode“ : “fast_switch“,

“video_stretch_type“ : “none“,

“video_timing“ : “1080P@60

},

{

“aliasname“ : “Sammy-4K-LEGO“,

“analog_audio_direction“ : “INPUT“,

“edid“ :

“00fffffffffff005f32000156524c420816010380341d780a01c1a057479827124c4c2108008
1400101010101010101010101010101023a801871382d40582c460040846300001e08e8
0030f2705a80b0588a00ba892100001e000000fc005779726553746f726d0a20202000000
0fd0018550e853c000a20202020202001d902034073580102030405111213141f2021220
607905d5e5f6263646061230d0707830f00006d030c001400383c20406801020367d85dc
401788003e40f0000c0011d00bc52d01e20b828554040846300001e023a80d072382d401
02c458040846300001e023a801871382d40582c450040846300001e0000000000000000
00ee“,

“gateway“ : “0.0.0.0“,

“hdcp14_enable“ : true,

“hdcp22_enable“ : true,

“ip4addr“ : “169.254.42.168“,

“ip_mode“ : “dhcp“,

“name“ : “IPE6000-D88039E5A829“,

“netmask“ : “255.255.0.0“,

“serial_param“ : “57600-8n1“,

“temperature“ : 119,

“version“ : “3.4.0.6“,

“video_input“ : true,

“video_source“ : “hdmi“,

“video_timing“ : “3840x2160P@24“

},

{

“aliasname“ : “SONY-2K-BILLY“,

“analog_audio_direction“ : “INPUT“,

“edid“ :

“00ffffffffffff005f32000156524c420816010380341d780a01c1a057479827124c4c2108008
1400101010101010101010101010101023a801871382d40582c460040846300001e08e8
0030f2705a80b0588a00ba892100001e000000fc00577972655374 6f726d0a20202000000
0fd0018550e853c000a20202020202001d902034073580102030405111213141f2021220
607905d5e5f6263646061230d0707830f00006d030c001400383c20406801020367d85dc
401788003e40f0000c0011d00bc52d01e20b828554040846300001e023a80d
072382d40102c458040846300001e023a801871382d40582c450040846300001e000000
000000000000ee“,

“gateway“ : “0.0.0.0“,

“hdcp14_enable“ : true,

“hdcp22_enable“ : true,

“ip4addr“ : “169.254.233.192“,

“ip_mode“ : “dhcp“,

“name“ : “IPE6000-D88039E5C0E8“,

“netmask“ : “255.255.0.0“,

“serial_param“ : “57600-8n1“,

“temperature“ : 52,

“version“ : “3.4.0.6“,

“video_input“ : true,
“video_source“ : “hdmi“,
“video_timing“ : “1920x1080P@24“
}
]
}

Zenty

PUBLICATION DISCLAIMER

The material contained in this document consists of information that is the sole property of Zenty. This document is intended to provide information to allow interfacing to the relevant Zenty equipment by third party products.

ZENTY IS NOT RESPONSIBLE FOR MALFUNCTIONS AND/OR THE IN-OPERABILITY WHICH MAY BE CAUSED BY THE APPLICATION OF THIS INFORMATION, WHETHER EXPECTED OR NOT.

Zenty reserves the right to change software, control codes and specifications without notice.

Zenty will not be liable for any use of this information or any changes it may make to those products. The use of this information constitutes an agreement by the user to these limitations and exclusions.

Zenty

12803 PARK 1 DR.

SUGAR LAND, TX 77478

1-888-610-2818

SALES@ZENTY.COM