ZT-20X6NB Signal Routing Assembly
20 x 6 Non-Blocking Full Access Matrix
600-6000 MHz

A Mini-Circuits Self-Contained Integrated Assembly

User's Guide to CloudShell

Mini-Circuits®

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1 INTRODUCTION

The ZT20X6NB shell supports the ZT-20X6NB device within the CloudShell interface. It allows the user to interact with up to 4 ZT-20X6NB devices from a single shell. The full, standard control command set is modeled and implemented, allowing same level of control as the device's GUI program. However, CloudShell gives you the additional ability to send commands simultaneously to 1, 2, 3 or 4 devices, minimizing the delay between different ZT boxes receiving commands.

2 INSTALLATION

1. Download the ZT-20X6NB.zip file to your computer

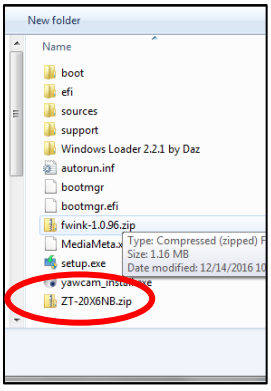


Figure 1: ZT-20X6NB.zip file

2. Login to your CloudShell Portal as an administrator:

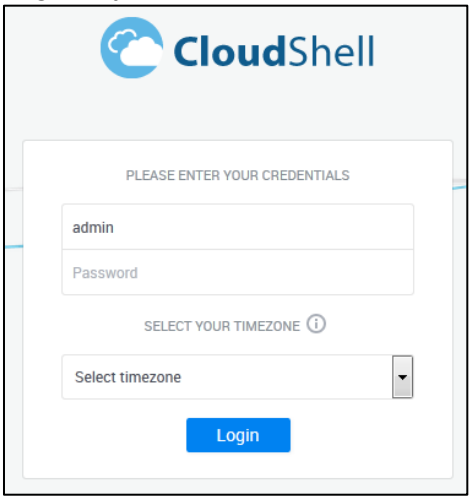


Figure 2: CloudShell Admin Login

3. Click on “admin” - “import package”

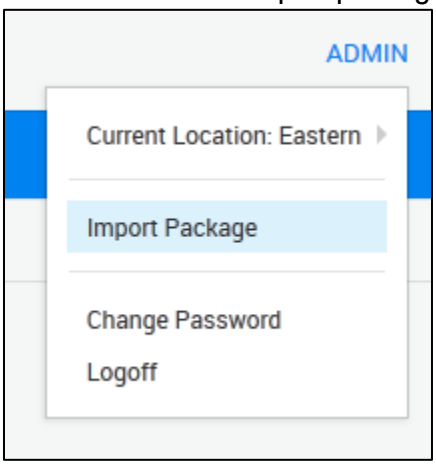


Figure 3: Admin Menu → Import Package

NOTE: If you have set up your Admin account under a different name, then that name will appear, instead of the generic “Admin” pictured here.

4. Locate the ZT-20X6NB.zip file in the file browser and click “open.”

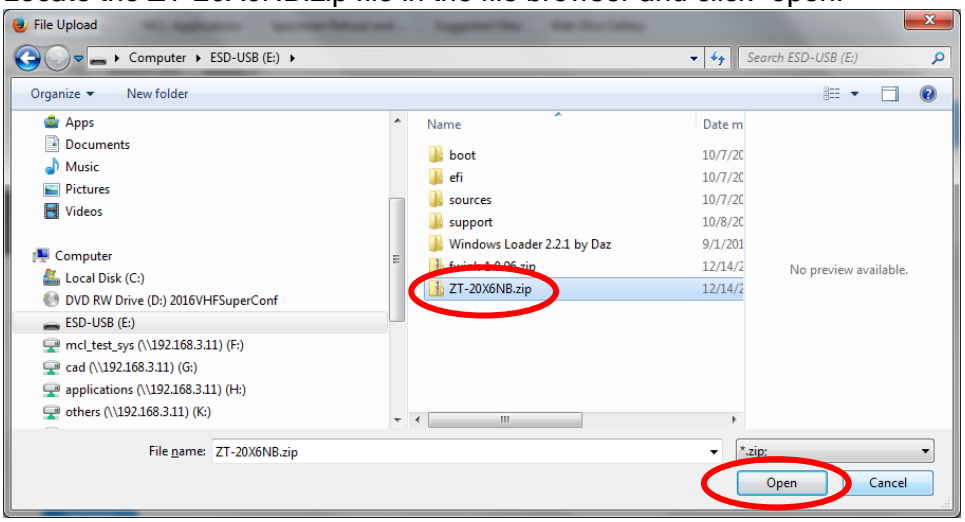


Figure 4: Importing the ZT-20X6NB.zip package

5. Once the package is imported you can create a resource from it and use it in your CloudShell environment

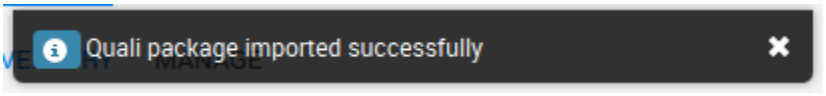


Figure 5: Successful import

3 CREATING A ZT-20X6NB RESOURCE IN CLOUDSHELL

1. Login to your CloudShell portal as administrator
2. Go to the “Inventory” tab

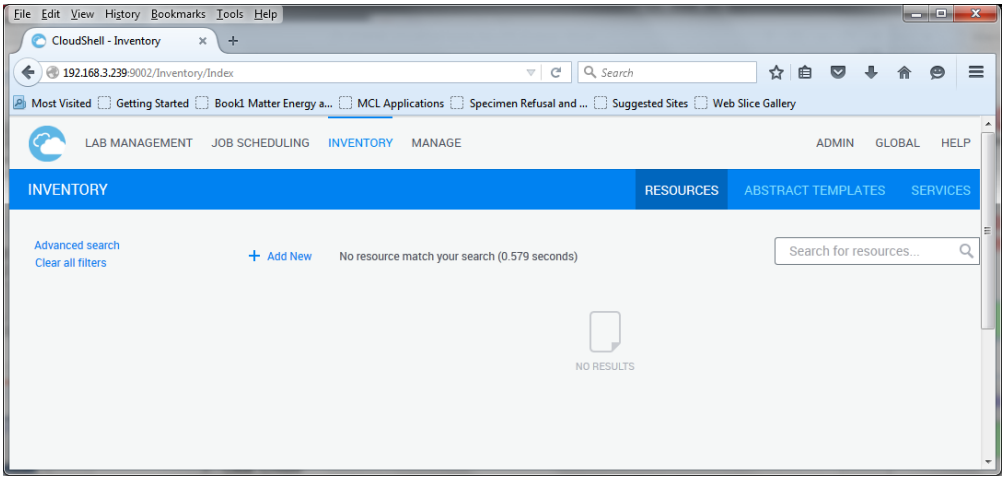
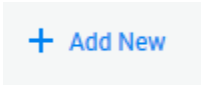


Figure 6: Inventory tab

NOTE: If you have already created resources for CloudShell, they will appear here.

3. Click “Add New”:



4. From the list select the ZT-20X6NB resource

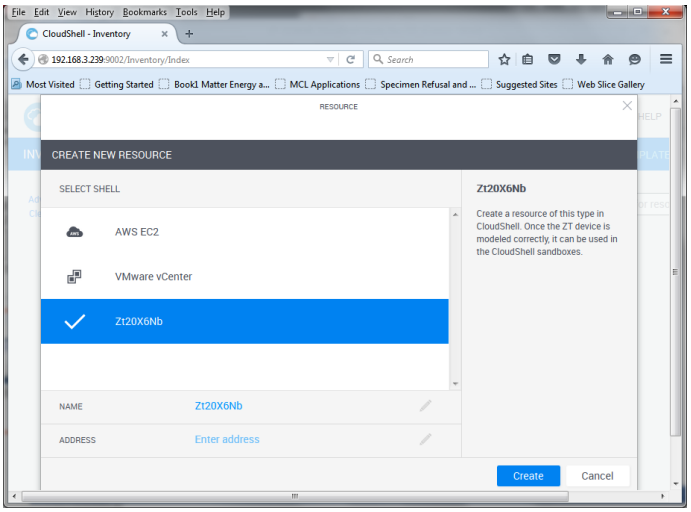


Figure 7: ZT-20X6NB resource

5. Enter the name you want to use for the resource. The resource will be named ZT-20X6NB by default. You may wish to assign it another name depending on your requirements.

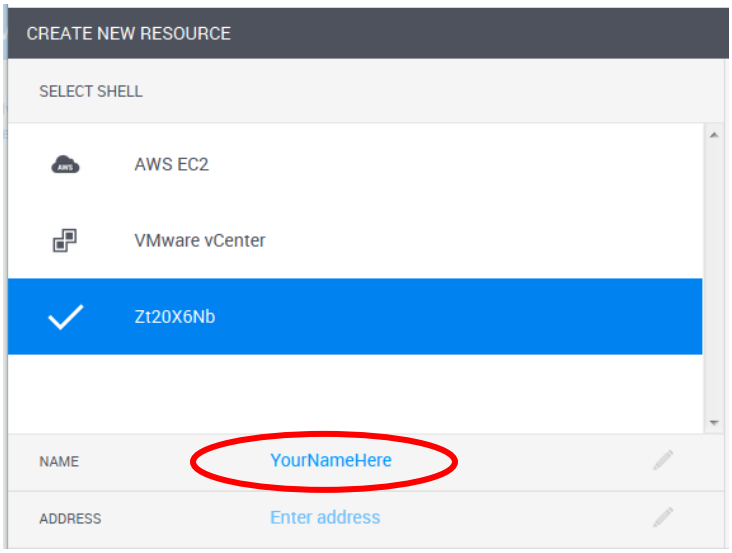


Figure 8: Create New Resource – enter name

6. For the "Address" field, enter "N/A" (this field is not used but cannot be left blank in order for inventory discovery to work)

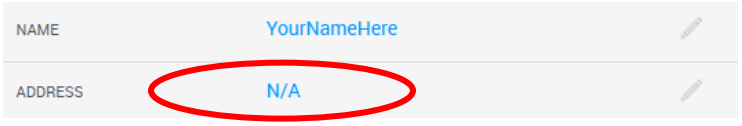


Figure 9: Enter N/A for Address

7. Click "Create"

8. Enter the IP address for each ZT device you want to control with this Shell. Minimum of 1 IP is required. Use Mini-Circuits' GUI program to find the IP address of your unit. Refer to the ZT-20X6NB User's Manual for additional guidance on Ethernet Configuration.

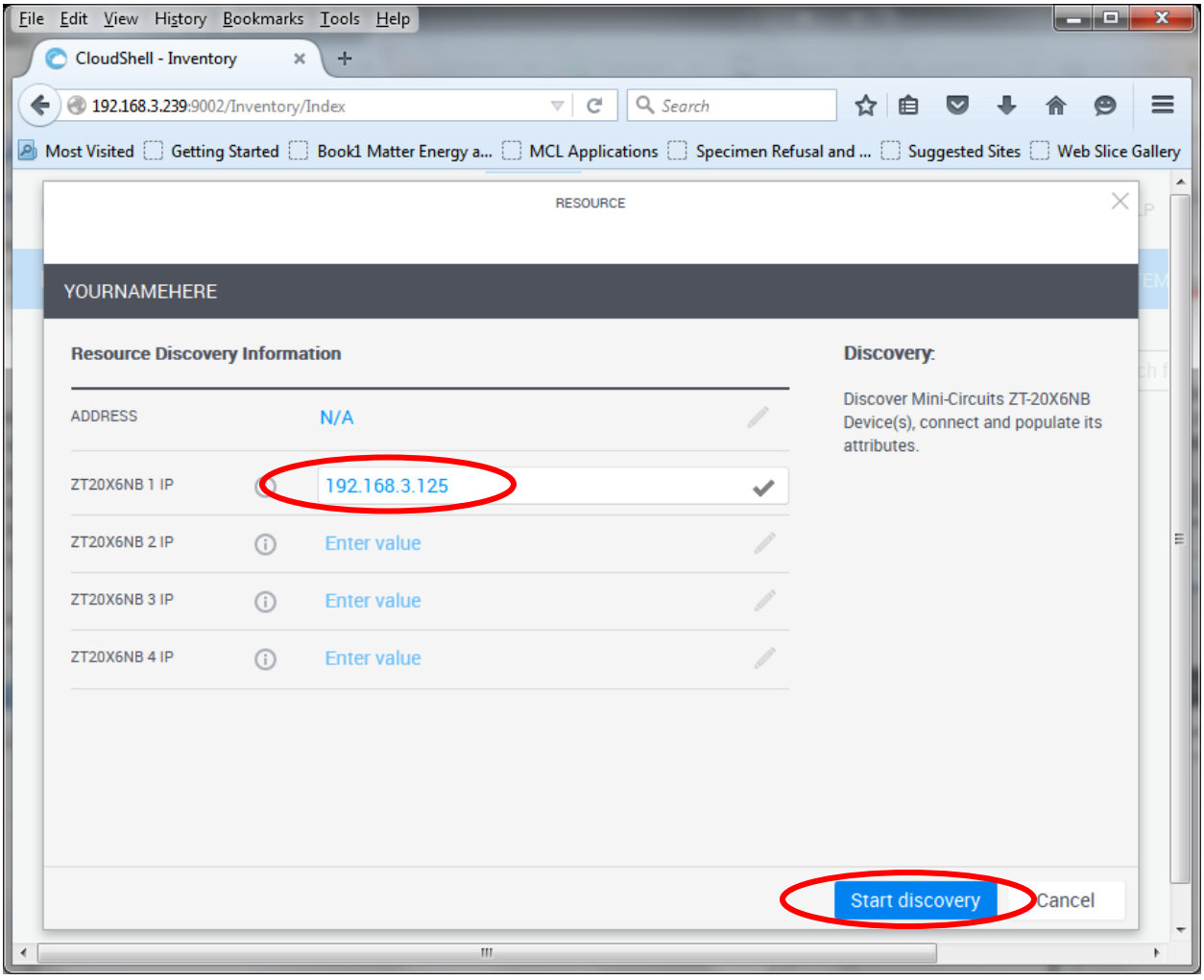


Figure 10: Enter IP address of desired ZT unit(s)

9. Click "Start Discovery"

10. The resource will be added to the inventory tab. All connected ZT devices will have their serial number reported in the corresponding attribute

11. You may now use the resource in your environment

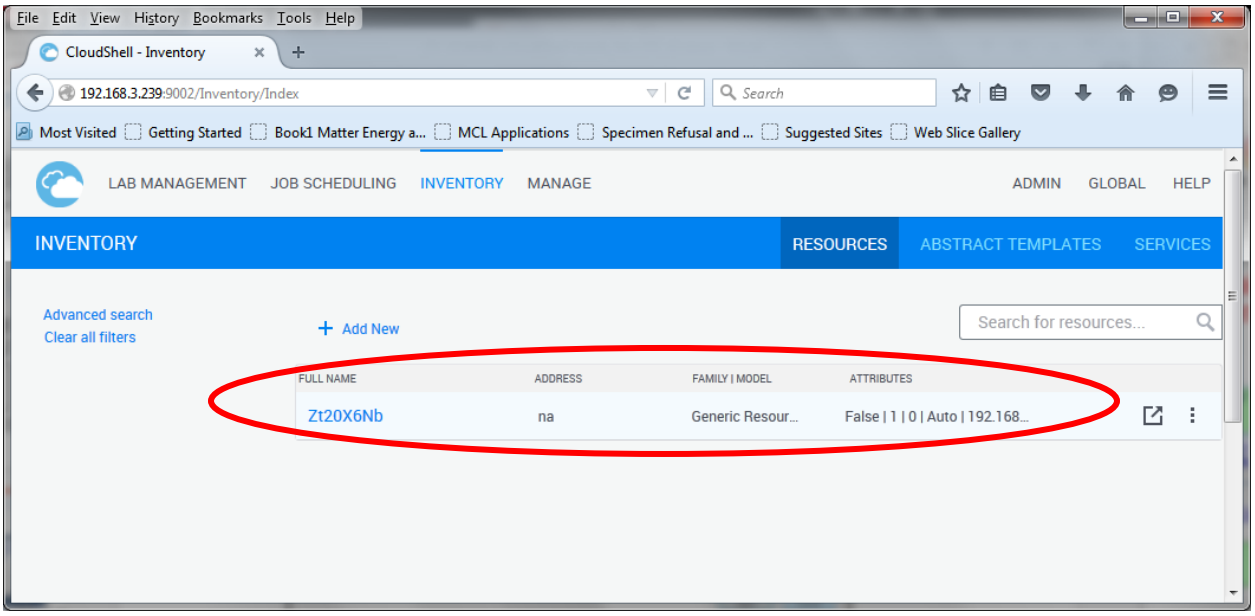


Figure 11: ZT-20X6NB resource listed in "Inventory" tab

4 COMMAND SET

4.1 Parameter Syntax

The command set for CloudShell is highly similar to the GUI command set. However, to allow control of more than one ZT device, a new parameter was introduced for CloudShell called **ZT-20X6NB Selector Bits**. This parameter allows the user to select which ZT box will receive the command. The syntax is explained below:

Parameter: ZT_XXXX [ZT_[ZT#4][ZT#3][ZT#2][ZT#1]]

[X represents a boolean value. 1 indicates the corresponding ZT device will receive the command]

Table 1: ZT20X6NB Selector Bits Examples

ZT_XXXX	ZT_0001	ZT_0010	ZT_0100	ZT_1000	ZT_1111
ZT #1	Y	N	N	N	Y
ZT #2	N	Y	N	N	Y
ZT #3	N	N	Y	N	Y
ZT #4	N	N	N	Y	Y

Note: Any of the 16 combinations can be used. The above are just examples.

4.2 General Command Categories

The commands in the CloudShell GUI are categorized by function group. Listed below are the commands supported in the shell.

Table 2: General Command Categories

Category	Command Name	Parameters	Description
Device Info	Get Model	ZT-20X6NB Selector Bits	Returns model name
	Get Serial	ZT-20X6NB Selector Bits	Returns serial number
	Get Firmware	ZT-20X6NB Selector Bits	Returns firmware revision
Device Health	Get Temperature	ZT-20X6NB Selector Bits	Returns the temperature reading of internal sensor.
	Get Heat Alarm	ZT-20X6NB Selector Bits	Returns a value indicating if the device is overheating.
	Get Fan State	ZT-20X6NB Selector Bits	Returns a value if the internal fan is on or off.
	Get Fan Alarm	ZT-20X6NB Selector Bits	Returns a value indicating if a fan has failed.

4.3 Operation Command Categories

Table 3: Operation Command Categories

Command Name	P1	P2	P3	Description
Clear All	ZT-20X6NB Selector Bits	-	-	Set All switches to De-energized state. SP10T will be switched to port 10.
Path AX:BX	ZT-20X6NB Selector Bits	A[X]	B[Y]	Connect Port A[1,2,3…20] to Port B[1,2..6]
Port:AX?	ZT-20X6NB Selector Bits	A[X]	-	Get connection of port A[1-20]
Port:BX?	ZT-20X6NB Selector Bits	B[X]	-	Get connection of port B[1-6]
Port:A?	ZT-20X6NB Selector Bits	-	-	Return all ports A connections.
Port:B?	ZT-20X6NB Selector Bits	-	-	Return all ports B connections.

PX: parameter number. "-" indicates this parameter is not used.

5 LIMITATIONS

Not all commands and features for the ZT20X6NB are available in the shell; these commands include firmware upgrades and network configuration settings. Features not currently available include setting password protection for the device.

6 ADDITIONAL SUPPORT

We're here to support you every step of the way. For technical support and assistance, please find the following points of contact for your convenience:

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