EnJet Bridge Setup (HW Version 2)

This document will help you set up a wireless bridge using EnGenius products with EnJet technology. Version 2 of the EnGenius bridging hardware supports EnJet technology.

This guide shows how to set up a Point-to-Point (PtP) wireless link.

In Figure 1, a PtP wireless bridge is set up to connect to remote networks.



Figure 1: Wireless bridge for two networks

In the Figure 2, a PtP wireless bridge is set up to connect a hardwired IP camera to an NVR wirelessly.

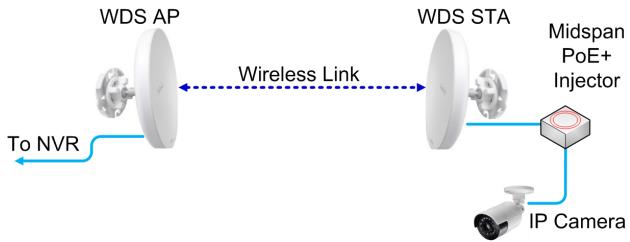


Figure 2: Wireless bridge for IP camera

Note: *PtP links will yield the best performance. EnGenius recommends that network requirements be calculated before deploying PtMP wireless bridge links.*

Setup of WDS AP

Infrastructure devices, such as the ENS500Acv2 should have a static IP address. Please change the IP address to static on the unit. This can be found under Network>Basic>IPv4 Settings.

Network Basic Wireless	
IPv4 Settings	
IP Network Setting	○ DHCP ● Static IP
IP Address	172.16.25.25
Subnet Mask	255.255.255.0
Gateway	172.16.25.1
Primary DNS	8.8.8.8
Secondary DNS	8.8.4.4

Figure 3: Setting static IP address

The next step is to save the settings. Scroll down to the bottom of the page and click the button labeled "Save",(shown in Figure 4 below).



StationAC	Single Radio AP , 2T2R , 867Mbps	;	Changes: 0	Reset	Logo
verView	IPv4 Settings				
evice Status	IP Network Setting	O DHCP	TP		
onnections	IP Address	10.0.89.63			
twork					
asic	Subnet Mask	255.255.255.0			
lireless	Gateway	10.0.89.1			
inagement	Primary DNS	8.8.8.8			
dvanced	· · ·				
ime Zone /iFi Scheduler	Secondary DNS	8.8.4.4			
rmware og	IP Address Subnet Prefix Length Gateway Primary DNS Secondary DNS				
	Comming Tree Drotocol (CT	D) Cottings			
	Spanning Tree Protocol (ST	P) Settings © Enable ® Disa	ble		
			ble seconds	(1-10)	
	Status	○ Enable ® Disa			
	Status Hello Time	© Enable ® Disa	seconds	(6-40)	

Figure 4: Save button for IP settings

After pressing the Save button, the device commits the configuration to nonvolatile memory. To accomplish this, please press the Apply button, either at the bottom of the page, 1B (which reboots the

device immediately), or the Changes button, 1A (which gives the option to revert settings or commit to nonvolatile memory).

nGenius®				English
ENS500-AC	Single Radio	Management AP, 2T2R, 867N	lbps	Changes: 5 Reset Logout
				1Δ
OverView	Wireless Set	-		
Device Status	Device Name	ENS500-AC		
Connections	Country / Reg	ion USA	v	
Realtime				
Network				
Basic	EnJet	~ ~		
Wireless	Status	🖲 Enable 🔍 Disable		
Management				
Advanced			5	GHz (A/N/AC)
Time Zone	Operation Mo	de	ł	Access Point 🔹 🖉 Green 🥥
WiFi Scheduler	Channel HT N			40MHz v
Tools	Channel HT IV	lode	4	
System Manager	Channel			Configuration
Account	Transmit Pow	er	ŀ	Auto 🔹
Firmware	Bit Rate			Configuration
Log	Bit Rate			
	Client Limits		-	Enable Disable
	AP Detection			Scan
	Distance (0-3)	0km)		1 (0.6miles)
	AP Time Slot	0	ŀ	Auto •
	Station Priority	y 🕖	ł	High 🔹
	Wireless Set	ttings - Access Point		
	Enabled	SSID	Edit	Security MANUD
	d'	EnGenius79C366	Edit	None Waith for changes to be applie

Figure 5: Two options to commit to nonvolatile memory

You might get a box warning you to change the default management password. Click the Ignore button and the password will change after the device is confirmed to have a WDS link to the remote unit.

We strongly recommend you to change default password of Management SSID, please reset to login.

Apply	Ignore

Figure 6: Press Ignore

A second box may pop up after pressing the Ignore button. Press Skip on this warning box to disable the management radio.

chang Manag	e defaul	uggest you to t password of SSID, please
	Back	Skip
	Figure 7: F	Press Skip

The device will reboot while applying the setting change. The next step is to set the unit for WDS AP.

If, during setup of the unit, the warning boxes in Figures 5 and 6 are undesirable, then temporarily turn off the management radio while configuring the device via Ethernet cable.

Note: The management radio is used in conjunction with the EnWiFi App.

After login into the unit, click Wireless under the Network tab on the left-hand side of the screen. Scroll down and disable the Management Interface radio.

< Network			
Basic			
Wireless			
Management	Interface -	2.4G🕖	
Enabled SSID		Edit	Security
ENMG	MT79C366	Edit	WPA2/PSK AES
Always on •	Turn off if i	dle in 15	minutes

Figure 8: Management radio enabled

Uncheck the box.

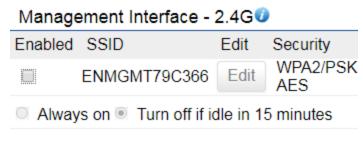


Figure 9: Management radio disabled

After unchecking the management interface radio, click the Save button at the bottom of the Wireless Settings page.

EnGeniius®						English	
ENS500-AC	Single Radio Mana	gement AP, 2T2R, 8	67Mbps		Changes: 5	Reset	Logout
OverView	Wireless Settings						
Device Status	Device Name	ENS500-AC					
Connections	Country / Region	USA	v				
Realtime							
Network							
Basic	EnJet						
Wireless	Status	Enable O Disal	ble				
Management							
Advanced				5GHz (A/N	(AC)		
Time Zone	Operation Mode			Access Poir		n 🖗	
WiFi Scheduler							
Tools	Channel HT Mode			40MHz	•		
System Manager	Channel			Configurati	ion		
Account	Transmit Power			Auto	Ŧ		
Firmware							
Log	Bit Rate			Configurati			
	Client Limits			Enable 127	 Disable 		
	AP Detection			Scan			
	Distance (0-30km)			1 (0.	.6miles)		
	AP Time Slot			Auto	•		
	Obalian Daiaste O			High	v		
	Station Priority			riigii			
	Wireless Settings -	Access Point					
	Enabled SS	SID	Edit	Sec	curity VLA	NID	
	⊮ Er	Genius79C366	Edit	No	ine -		
	Management Inter	face - 2 4GØ					
		SID	Edit	Sec	curity		
		IMGMT79C366	Edit	W	PA2/PSK		
		n off if idle in 15 minutes		AE	.5		
	Management VLA	N Settings © Enable ® Disable	4094				_
	Caution: If you end server can support the	counter disconnection issu the new VLAN ID and then	e during the co connect to the	nfiguration p new IP addre	rocess, verify that theses.	he switch and the DH	CP
	Save Save Current Satt	ing(s)					

Figure 10: Save button

Commit the change(s) to nonvolatile memory

nGeniius®					English	
NS500-AC	Single Radio	Management AP, 2T2R, 8	367Mbps	Changes: 5	Reset	Logout
	Wireless Set	tings			LA	
OverView Device Status	Device Name	ENS500-AC				
Connections	Country / Regi					
Realtime	Country / Rogi	00/1				
Network						
Basic	EnJet🥑					
Wireless	Status	🖲 Enable 🔍 Dis	able			
Management						
Advanced			56	Hz (A/N/AC)		
Time Zone	Operation Mod	10		cess Point 🔹 🗹 Gree	en 🕡	
WiFi Scheduler						
Tools	Channel HT M	lode	40	MHz •		
System Manager	Channel		Co	onfiguration		
Account	Transmit Powe	ər	Au	to •		
Firmware	Bit Rate		C	onfiguration		
Log	Dir Kate			Enable Disable		
	Client Limits		127			
	AP Detection		S	can		
	Distance (0-30)km)	1	(0.6miles)		
	AP Time Slot		Au			
			Hig			
	Station Priority	tings - Access Point	LI	11		
	Enabled	SSID	Edit	Security VIA		
					Waiti for chang	jes to be applie

Figure 11: Commit to Nonvolatile Memory

You might get a box warning you to change the default management password. Click the Ignore button and the password will change after the device is confirmed to have a WDS link to the remote unit.

We strongly recommend you to change default password of Management SSID, please reset to login.

New	
Confirmed	
Apply	Ignore

Figure 12: Management radio password change warning

A second box may pop up after pressing the Ignore button. Press Skip on this warning box to disable the management radio.

chang Manag	e defaul	uggest you t password SSID, pleas	of
	Back	Skip	

Figure 13: Second warning box

The next step is to change the mode of operation to WDS AP mode. Find this under Network>Wireless>Wireless Setting Page.

< Network			
Basic			
Wireless			
Wireless Settings			
Device Name		ENS500-AC	
Country / Region		USA	•
EnJet			
Status 💽 Enable	e	Disable	
	5GHz	2 (A/N/AC)	
Operation Mode	WDS	Access Poin •	🔲 Green 🥑
Channel HT Mode		ss Point t Bridge	
Channel	WDS	Access Point Station	

Figure 14: Setting WDS bridge mode

Don't forget to disable Green mode as well.

After changing the mode of operation to WDS AP mode and disabling Green mode, click the Save button at the bottom of the Wireless Settings page. The unit should reboot.

NS500-AC	Single Radio Ma	nagement AP, 2T2R, 86	7Mbps	Chang	jes: O	Reset	Logou
verView	Wireless Setting						
Device Status	Device Name	ENS500-AC					
Connections	Country / Region	USA	•				
Realtime							
etwork	En let [®]						
Basic	EnJet Status	Enable O Disab	le				
Wireless anagement	Claudo						
Advanced							
Time Zone				5GHz (A/N/AC)	-		
NiFi Scheduler	Operation Mode			WDS Access Poi V	Green 0		
Fools	Channel HT Mode	e de la companya de l		20MHz 🔻			
ystem Manager	Channel			Configuration			
Account	Transmit Power			8 dBm 🔻			
Firmware	Bit Rate						
.og	Bit Rate			Configuration Enable Disable			
	Client Limits			127	,		
	AP Detection			Scan			
	Distance (0-30km)			0 (Omiles)			
	AP Time Slot	,		Auto 🔻			
	Station Priority			High V			
		s - Access Point					
	Enabled	SSID	Edit	Security	VLAN ID		
	×	Root-AP	Edit	None	-		
	Management Inf	orfaco 2400					
	Enabled	SSID	Edit	Security			
		ENMGMT79C366	Edit	WPA2/PSK			
				AES			
	Always on I T	urn off if idle in 15 minutes					
	Management VL	AN Settings					
	Status	Enable Disable	4094				
	Caution: If you	encounter disconnection issu			rify that the sv	vitch and the DH0	CP
	server can suppor	t the new VLAN ID and then (connect to the i	new iP address.			

Figure 15: Save button at bottom of Wireless Settings page

After disabling Green mode and pressing the Save button, the unit will skip the two-step save process. It will immediately commit changes to nonvolatile memory after you press the Okay button.

172.16.25.101 says

Green mode is changed, system will reload.



Figure 16: Green Mode reload menu

The next step is to set up the SSID, passphrase, and encryption type you want to establish a connection to this device by the remote unit(s).

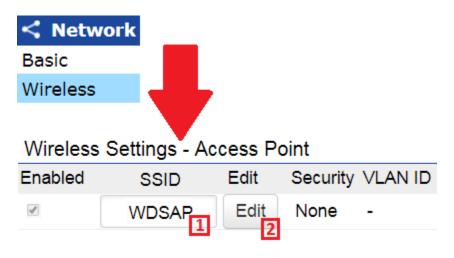


Figure 17: Set the SSID, passphrase, and encryption type

After setting an SSID, press the Edit button to set the passphrase and encryption type.

Wireless Security		
Security Mode	WPA2-PSK •]
Encryption	AES	
Passphrase	******]
Group Key Update Interval	3600	(30~3600; 0:Disable)

Figure 18: Setting passphrase and encryption type

Press the Save button after making desired changes. The Save button is found at the bottom of the page.

Wireless Setting -	WDS Access Point 5GHz
--------------------	-----------------------

Micless Setting MES / Recess Folia Conz		
Hidden SSID	Enable Disable	
Client Isolation	Enable O Disable	
VLAN Isolation	Enable Disable	
VLAN Isolation	ID: 1	(1~4094)
L2 Isolation	Enable I Disable	

Wireless Security

Security Mode	WPA2-PSK •	
Encryption	AES •	
Passphrase	*****	
Group Key Update Interva	3600	(30~3600; 0:Disable)

Radius Settings

NAS-ID	
NAS-PORT	(0 ~ 65535)
NAS-IP	

Radius Accounting	
Radius Accounting	Enable Disable
Radius Accounting Server	
Radius Accounting Port	1813
Radius Accounting Secret	
Interim Accounting Interval	600

Wireless N	IAC Filter				
ACL Mode	Disabled	T			
	:	:	:	:	Add
Nos	MAC Address				
Save sa	ve current setting(s)				

Figure 19: Save button at bottom of page

Commit changes to nonvolatile memory.

nGenius®					English	
NS500-AC	Single Radio	Management AP, 2T2R,	867Mbps	Changes: 5	Reset	Logout
o vr	Wireless Set	ttings			1A	
OverView Device Status	Device Name	-				
Connections	Country / Reg	ion USA	*			
Realtime	Country / Reg					
Network						
Basic	EnJet🥑					
Wireless	Status	🖲 Enable 🔍 Dis	sable			
Management						
Advanced			50	Hz (A/N/AC)		
Time Zone	Operation Mo	do		cess Point V Gree	on 👔	
WiFi Scheduler						
Tools	Channel HT M	lode	40	MHz •		
System Manager	Channel		Co	onfiguration		
Account	Transmit Pow	er	Au	to v		
Firmware	Bit Rate			afiguration		
Log	Bit Rate			onfiguration		
	Client Limits		127	Enable 🔍 Disable		
	AP Detection		So	an		
	Distance (0-3	0km)	1	(0.6miles)		
	AP Time Slot	0	Au	to •		
	Station Priority	y 🕖	Hig	jh 🔻		
	Wireless Se	ttings - Access Point				
	Enabled	SSID	Edit	Security VLA		
	a	EnGenius79C366	Edit	None	Waith for chan	ges to be applied

Figure 20: Committing changes to nonvolatile memory

Next, determine the best channel to deploy the units participating in the link will operate on. To perform the scan, click the Scan button to the right of the row labeled AP Detection.



✓ Network Basic	L	
Wireless		
	5GHz (A/N/AC)	
Operation Mode	WDS Access Poin Gree	en 🥑
Channel HT Mode	20MHz •	
Channel	Configuration	
Transmit Power	8 dBm 🔹	
Bit Rate	Configuration	
Client Limits	Enable Disable I27	
AP Detection	Scan	
Distance (0-30km)	0 (Omiles)	
AP Time Slot	Auto •	
Station Priority	High •	

Figure 21: AP Detection

Below is a list of other 802.11 radios that the unit can hear, please note RSSI values and center channel values. In Figure 22, channel 165 is a good channel to use with a channel HT mode of 20 MHz.

Site Survey

BSSID	SSID	Channel	Signal Level	Security	Mode
88:DC:96:79:17:66	IEEE80211	36	-81 dBm	WPA2 -PSK	Master
A8:6B:AD:F2:A7:B7	WIFIF2A7B3-5G	149	-51 dBm	WPA2 -PSK	Master
88:DC:96:79:17:54	IEEE80211	60	-52 dBm	WPA2 -PSK	Master
00:04:56:A0:22:C0	L	44	-50 dBm	WPA2 -PSK	Master
88:DC:96:79:17:63	IEEE80211	48	-71 dBm	WPA2 -PSK	Master
88:DC:96:79:28:86	IEEE80211	149	-77 dBm	WPA2 -PSK	Master
88:DC:96:79:02:0A	IEEE80211	149	-76 dBm	WPA2 -PSK	Master
88:DC:96:23:1A:23	EnGenius231A23	149	-75 dBm	WPA2 -PSK	Master
88:DC:96:4F:C3:D0		140	-62 dBm	WPA2 -PSK	Master
88:DC:96:7B:BE:33	EnGenius7BBE32_1	112	-66 dBm	WPA2 -PSK	Master
88:DC:96:41:F5:2A	EnGenius1	140	-54 dBm	WPA2 -PSK	Master
88:DC:96:23:36:4F		153	-49 dBm	WPA2 -PSK	Master
88:DC:96:68:7F:49	EnGenius687F48_1	132	-47 dBm	WPA2 -PSK	Master
Depent coop					

Repeat scan

Figure 22: 5 GHz channel list

Note: In the RSSI values range scale, the number closer to zero has a signal strength that is stronger than a value that is closer to -100 dBm.

The next step is to configure the unit to operate on a specific wireless channel, or channel(s), if using any channel HT mode greater than 20 MHz. Press the Configuration button to the left of the Channel row to configure the wireless channel it will operate in.

< Network	_
Basic	
Wireless	-
	5GHz (A/N/AC)
Operation Mode	WDS Access Poir 🔹 🔲 Green 🥑
Channel HT Mode	20MHz •
Channel	Configuration
Transmit Power	8 dBm 🔹
Bit Rate	Configuration
Client Limits	Enable Disable 127
AP Detection	Scan
Distance (0-30km)	0 (Omiles)
AP Time Slot🥑	Auto •
Station Priority	High •

Figure 23: Choosing channels

In this case we choose channel 165.

5GHz

All	None		
U-NII-1	U-NII-2A	U-NII-2B	U-NII-3
Ch 36 : 5.180 GHz	Ch 40 : 5.200 GHz	Ch 44 : 5.220 GHz	Ch 48 : 5.240 GHz
Ch 52 : 5.260 GHz	Ch 56 : 5.280 GHz	Ch 60 : 5.300 GHz	Ch 64 : 5.320 GHz
Ch 100 : 5.500 GHz	Ch 104 : 5.520 GHz	Ch 108 : 5.540 GHz	Ch 112 : 5.560 GHz
Ch 116 : 5.580 GHz	Ch 120 : 5.600 GHz	Ch 124 : 5.620 GHz	Ch 128 : 5.640 GHz
Ch 132 : 5.660 GHz	Ch 136 : 5.680 GHz	Ch 140 : 5.700 GHz	Ch 149 : 5.745 GHz
Ch 153 : 5.765 GHz	Ch 157 : 5.785 GHz	Ch 161 : 5.805 GHz	Ch 165 : 5.825 GHz

Save Save current setting(s)

Figure 24: Channel 165

Commit the changes to nonvolatile memory.

nGeniius®			English
NS500-AC	Single Radio Ma	anagement AP, 2T2R, 867Mbp	OS Changes: 5 Reset Logou
OverView	Wireless Settin	as	1 A
Device Status	Device Name	ENS500-AC	
Connections	Country / Region	USA	v
Realtime		0071	
Network			
Basic	EnJet		
Wireless	Status	🖲 Enable 🔍 Disable	
Management			
Advanced			5GHz (A/N/AC)
Time Zone	Operation Mode		Access Point V Green V
WiFi Scheduler	Channel HT Mod	la	40MHz
Tools		le	
System Manager	Channel		Configuration
Account	Transmit Power		Auto •
Firmware	Bit Rate		Configuration
Log	Diritato		Enable Disable
	Client Limits		127
	AP Detection		Scan
	Distance (0-30km	n)	1 (0.6miles)
	AP Time Slot		Auto •
	Station Priority		High 🔹
	Wireless Settin	gs - Access Point	
	Enabled	-	Edit Security MANUD
			Waith for changes to be appl

Figure 25: Commit changes to nonvolatile memory

Once the remote unit(s) are connected to the main root unit, in this case in WDS-AP mode, check the RSSI of the link(s) under Overview>Connections.

i Ove	rView					
Device	Status					
Connect	tions					
WDS L	ink Lis	t - 5GHz				
WDS Lir	nk ID#	MAC Addres	s Link S	tatus RS	SI(dBm)	
Connection List - 5GHz						
SSID	MAC A	ddress	TX (KB)	RX (KB)	RSSI (dBm)	Block
WDSAP	88:dc:	96:79:c3:5a	21 KB	27 KB	-55dBm	Kick
Refres	h					

Figure 26: RSSI of remote unit(s)

The RSSI value you should be aiming for is between -65 dBm to -40 dBm. Any signal worse than -65 dBm, and you will not get steady high-data rates. If you get too much signal (-35 dBm) then that will start to self-interfere and it will degrade the signal. For any deployments less than 50 feet we recommend starting both units at the lowest transmit power settings and, if need be, move up from there. If you are still getting too strong a signal at very close ranges, then purposely misaligning the radios by connecting to the side lobes may be necessary.

Setup of WDS-STA

The first step is to set up the IP address of the unit with a static IP address in the same subnet as the unit in WDS-AP mode.

< Network	
Basic	
Wireless	
IPv4 Settings	
IP Network Setting	○ DHCP
IP Address	172.16.25.85
Subnet Mask	255.255.255.0
Gateway	172.16.25.1
Primary DNS	8.8.8.8
Secondary DNS	8.8.4.4

Figure 27: Setting IP settings on WDS-STA side

After setting the IP settings, click the Save button located at the bottom of the page.

StationAC	Single Radio AP , 2T2R , 867Mbps		Changes: 0	Reset	Logou
verView	IPv4 Settings				
Device Status	IP Network Setting	○ DHCP	IP		
Connections	IP Address	10.0.89.63			
etwork	Subnet Mask	255.255.255.0			
Basic Vireless					
anagement	Gateway	10.0.89.1			
Advanced	Primary DNS	8.8.8			
ime Zone	Secondary DNS	8.8.4.4			
ViFi Scheduler Tools					
ystem Manager	IPv6 Settings	Link-local A	ddress		
Account Firmware	IP Address				
.og	Subnet Prefix Length				
	Gateway				
	Primary DNS				
	Secondary DNS				
	Spanning Tree Protocol (STP) Se	ttings ○ Enable ◎ Disab	le		
	Hello Time	2	seconds	(1-10)	
	Max Age	20	seconds	(6-40)	
	Forward Delay	15	seconds	(4-30)	
	Priority	32768	(0-6553	5)	

Figure 28: Saving IP settings

Commit changes to nonvolatile memory.

EnGeniius®			English	•
ENS500-AC	Single Radio	Management AP, 2T2R, 867Mbj	S Changes: 5 Reset Log	jout
OverView	Wireless Set	ttings		
Device Status	Device Name	ENS500-AC		
Connections	Country / Reg	ion USA	*	
Realtime				
< Network				
Basic	EnJet🥑			_
Wireless	Status	Enable O Disable		
Management				
Advanced			5GHz (A/N/AC)	
Time Zone	Operation Mod	de	Access Point Green	
WiFi Scheduler				
Tools	Channel HT M	lode	40MHz •	
1 System Manager	Channel		Configuration	
Account	Transmit Powe	er	Auto 🔹	
Firmware			Orafauration	
Log	Bit Rate		Configuration	
	Client Limits		Enable Disable	
	AP Detection			
			Scan	
	Distance (0-30		1 (0.6miles)	
	AP Time Slot	9	Auto •	
	Station Priority	y 🕐	High •	
		tings - Access Point		
	Enabled	SSID	Edit Security HAND Waith for changes to be a	applied (5
	I.	EnGenius79C366	Edit None Apply Re	evert

Figure 29: Committing changes to nonvolatile memory

You might get a box warning you to change the default management password. Click the Ignore button and the password will change after the device is confirmed to have a WDS link to the remote unit.

to change	ly recommend you default password ment SSID, please gin.
New	
Confirmed	
Apply	y Ignore

Figure 30: Press Ignore

A second box may pop up after pressing the Ignore button. Press Skip on this warning box to disable the management radio.



Figure 31: Press Skip

The device will reboot while applying the setting change. The next step is to set the unit for WDS AP.

If, during setup of the unit, the warning boxes in Figures 5 and 6 are undesirable, then temporarily turn off the management radio while configuring the device via Ethernet cable.

Note: The management radio is used in conjunction with the EnWiFi app.

After login into the unit, click Wireless under the Network tab on the left-hand side of the screen. Scroll down and disable the Management Interface radio.

< Network			
Basic			
Wireless			
Management	Interface -	2.4G0	
Enabled SSID		Edit	Security
ENMG	MT79C366	Edit	WPA2/PSK AES
			minutes

Figure 32: Management radio enabled

Uncheck the box.

Management Interface - 2.4G🥑					
Enable	d SSID	Edit	Security		
	ENMGMT79C366	Edit	WPA2/PSK AES		
🔍 Alwa	ays on 🖲 Turn off if i	dle in 1	5 minutes		

Figure 33: Management radio disabled

After unchecking the management interface radio, click the Save button at the bottom of the Wireless Settings page.

ENSSOO-AC Single Radio Management AP, 2T2R, 867Mbps Changes: 5 Reset OverView Device Status Device Name ENSSOO-AC								English	
Device Name ENS500-AC Device Name ENS500-AC Connections Country / Region Realtime Sale Network EnJet© Basic Status Wireless Status Management Advanced Advanced SGHz (AN/AC) Time Zone Operation Mode WiFi Scheduler Channel HT Mode Tools Channel HT Mode System Manager Access Point Account Transmit Power Firmware Bit Rate@ Log Bit Rate@ Distance (0-30km) 1 AP Detection Scan Distance (0-30km) 1 AP Time Slot@ Auto Station Priority@ High Wireless Settings - Access Point Edit Enabled SSID Edit	ENS500-AC	Single Radio	Management AP, 2T2R, 867	Mbps		Changes	: 5	Reset	Logou
Device Name ENSSOD-AC Connections Country / Region Realtime Country / Region Network EnJet© Basic Status Wireless Status Management Advanced Advanced Operation Mode Wireless Advanced Wireless Channel HT Mode Wireless Channel HT Mode Channel Configuration Account Transmit Power Firmware Bit Rate@ Log Distance (0-30km) Olistance (0-30km) 1 Vireless Settings - Access Point Wireless Settings - Access Point Wireless Settings - Access Point Wireless Settings - VLAN ID									
Device Status Device Name ENS500-AC Connections Country / Region USA Realtime Network Basic Wireless Management Advanced Advanced Status ® Enable © Disable Wireless Green @ Wirelss Channel HT Mode Access Point © Green @ Viri Scheduler Channel HT Mode 40MHz Tools Channel HT Mode Configuration System Manager Auto Intervention Account Transmit Power Auto Intervention Firmware Bit Rate@ Configuration Configuration Log Bit Rate@ Configuration Intervention AP Detection Scan Distance (0-30km) 1 (0.6miles) AP Time Slot@ Auto Intervention Intervention Intervention Wireless Settings - Access Point High VLAN ID Intervention Intervention	OverView	Wireless Set	ttings						
Connections Country / Region USA Image: Country / Region USA Image: Country / Region Image: Country / Reg: Country / Region Image: Country / Region		Device Name	ENS500-AC						
Realtime Network Basic Wireless Management Advanced Time Zone Operation Mode Access Point Channel HT Mode 40MHz System Manager Account Firmware Log Bit Rate Client Limits 127 AP Detection Distance (0-30km) Apt Time Sloti Wireless Settings - Access Point Wireless Settings - Access Point		Country / Rec	ion USA						
Basic EnJet@ Wireless Status Enable Disable Management Advanced 5GHz (AN/AC) Time Zone Operation Mode Access Point Imagement WiFi Scheduler Channel HT Mode 40MHz Imagement System Manager Channel HT Mode 40MHz Imagement Account Firmware Auto Imagement Log Bit Rate Configuration Imagement AP Detection Scan Disable Imagement AP Time Slot Auto Imagement Imagement Wireless Settings - Access Point High VLAN ID	Realtime								
Basic EnJet@ Wireless Status Enable Disable Management Advanced 5GHz (A/N/AC) Time Zone Operation Mode Access Point	Network								
Management Advanced Time Zone WiFi Scheduler Tools System Manager Account Firmware Log Bit Rate@ Client Limits 127 AP Detection Distance (0-30km) AP Time Slot@ Aptime Station Priority@ Wireless Settings - Access Point Wireless Settings - Access Point	Basic	EnJet							
Advanced 5GHz (A/N/AC) Time Zone Operation Mode Access Point	Wireless	Status	Enable O Disable						
Time Zone Operation Mode Access Point V & Green I WiFi Scheduler Channel HT Mode 40MHz V Tools Channel HT Mode 40MHz V System Manager Channel Configuration Account Transmit Power Auto V Firmware Bit RateI Configuration Log Client Limits 127 AP Detection Scan Distance (0-30km) AP Time SlotI Auto V Station PriorityI Wireless Settings - Access Point High V VLAN ID	Management								
Time Zone Operation Mode Access Point Image Green WiFi Scheduler Channel HT Mode 40MHz Image Green Image Green System Manager Channel HT Mode Configuration Image Green Image Green Account Transmit Power Auto Image Green Image Green Image Green Log Bit Rate Configuration Image Green	Advanced				5GHz (A/N	I/AC)			
WiFi Scheduler Channel HT Mode 40MHz System Manager Channel HT Mode Configuration Account Transmit Power Auto Image: Client Limits Log Bit Rate Configuration Client Limits Client Limits Image: Client Limits AP Detection Scan Distance (0-30km) 1 (0.6miles) AP Time Slot Auto Image: Client Limits Wireless Settings - Access Point Edit Security VLAN ID	Time Zone	Operation Mo	de		-		Green 🕖		
System Manager Channel Configuration Account Transmit Power Auto Image: Channel Firmware Bit Rate@ Configuration Log Client Limits Configuration Client Limits 127 Disable Distance (0-30km) 1 (0.6miles) AP Time Slot@ Auto Image: Channel Wireless Settings - Access Point Edit Security VLAN ID	WiFi Scheduler						Green		
Account Transmit Power Auto Firmware Bit Rate Configuration Log Client Limits 2 Enable Client Limits 127 AP Detection Scan Distance (0-30km) 1 AP Time Slot Auto Station Priority High Wireless Settings - Access Point Edit Enabled SSID Edit Security VLAN ID		Channel HT N	lode		40MHz	•			
Firmware Auto Log Bit Rate Configuration Bit Rate Configuration Client Limits * Enable 127 AP Detection Distance (0-30km) 1 AP Time Slot Auto Station Priority High		Channel			Configura	tion			
Log Bit Rate Configuration Client Limits [©] Enable [©] Disable 127 AP Detection Disable 127 AP Detection AP Detection Scan Distance (0-30km) 1 (0.6miles) AP Time Slot Auto Auto Station Priority High Vireless Settings - Access Point Wireless Settings - Access Point Edit Security VLAN ID		Transmit Pow	er		Auto	Ŧ			
Client Limits Client Limits Disable Disable Disable Client Limits Client Client Client Limits Client Client Client Limits Client Limits Client Limits Client Limits Client Limits Client Limits Client Client Client Client Limits Client Clien		Dit Data			Cartering				
Client Limits 127 AP Detection Scan Distance (0-30km) 1 (0.6miles) AP Time Slot Auto ▼ Station Priority High ▼ Wireless Settings - Access Point Edit Security VLAN ID	Log	Bit Rate			_				
AP Detection Scan Distance (0-30km) 1 (0.6miles) AP Time Slot Auto ▼ Station Priority High ▼ Wireless Settings - Access Point Edit Security VLAN ID		Client Limits				Uisable			
Distance (0-30km) 1 (0.6miles) AP Time Slot Auto ▼ Station Priority High ▼ Wireless Settings - Access Point Edit Security VLAN ID		AP Detection			_				
AP Time Slot Auto Station Priority High Wireless Settings - Access Point Enabled SSID Edit Security VLAN ID						(Emilee)			
Station Priority High Wireless Settings - Access Point Enabled SSID Edit Security VLAN ID									
Wireless Settings - Access Point Enabled SSID Edit Security VLAN ID		AP Time Slot	9		Auto	•			
Enabled SSID Edit Security VLAN ID		Station Priorit	y O		High	Ŧ			
Enabled SSID Edit Security VLAN ID									
Enabled SSID Edit Security VLAN ID		Wireless Se	ttings - Access Point						
			-	Edit	Se	curity	VLAN ID		
Eligenius/30300 Euit None -		2	EnGenius79C366	Edit		one	-		
Management Interface - 2.4G0			it Interface - 2.4G0						
Enabled SSID Edit Security		Enabled	SSID	Edit		-			
ENMGMT79C366 Edit WPA2/PSK AES			ENMGMT79C366	Edit					
Always on I Turn off if idle in 15 minutes		 Always on 	Turn off if idle in 15 minutes						

Figure 34: Save button

Commit the change(s) to nonvolatile memory.



nGenius®					Englis	ı
NS500-AC	Single Radio Ma	nagement AP, 2T2R, 867Mbp	s	Changes: 5	Reset	Logout
OverView	Wireless Setting	15			1A	
Device Status	Device Name	ENS500-AC				
Connections	Country / Region	USA	v			
Realtime		0011	_			
Network						
Basic	EnJet🥑					
Wireless	Status	🖲 Enable 🔍 Disable				
Management						
Advanced			5GHz (A	(N/AC)		
Time Zone	Operation Mode		Access F		reen 🥑	
WiFi Scheduler	Channel HT Mode	<u>,</u>	40MHz		-	
Tools		9		•		
System Manager	Channel		Configur	ation		
Account	Transmit Power		Auto	v		
Firmware	Bit Rate		Configur	ation		
Log	Diritato		_	e O Disable		
	Client Limits		127			
	AP Detection		Scan			
	Distance (0-30km)	1	(0.6miles)		
	AP Time Slot	,	Auto	•		
	Station Priority		High	Ŧ		
	Wireless Setting	gs - Access Point				
	Enabled	•	Edit S	Security Y		
	I.	EnGenius79C366	Edit	None	Waith for cha	inges to be applie

Figure 35: Commit to nonvolatile memory

You might get a box warning you to change the default management password. Click the Ignore button and the password will change after the device is confirmed to have a WDS link to the remote unit.

We strongly recommend you to change default password of Management SSID, please reset to login.

Nev	w (
Confir	med			
	Apply	Igno	re	

Figure 36: Management radio password change warning

A second box may pop up after pressing the Ignore button. Press Skip on this warning box to disable the management radio.

chang Manag	e defaul	uggest you t password SSID, pleas	of
	Back	Skip	

Figure 37: Second warning box

The next step is to set the unit for WDS-STA mode. Do this under Network>Wireless>Wireless>Wireless Settings. Please ensure that EnJet is enabled, WDS Station is selected, and Green Mode is disabled.

< Network	
Basic	
Wireless	
Wireless Settings	
	ENS500-AC
,,	USA •
EnJet	1
Status 🖲 Enable	e 🔍 Disable
	5GHz (A/N/AC)
Operation Mode	WDS Station 🔹 🔲 Green 🥑
Channel HT Mode	e 40MHz •
Channel	Configuration
Transmit Power	8 dBm 🔹
Bit Rate	Configuration
Client Limits	Enable Disable
AP Detection	Scan
Distance (0-30km)) 0 (Omiles)
AP Time Slot	Auto 💌
Station Priority	High •

Figure 38: Setting WDS Station Mode

Press the Save button located at the bottom of the Wireless Settings page.

						English	
5500-AC	Single Radio	Management AP, 2T2R, 8	57Mbps	Chang	es: 0	Reset	Log
	Wireless Set	tingo					
erView	Wireless Set Device Name	ENS500-AC					
evice Status							
onnections altime	Country / Regi	ion USA	۲				
twork							
iwork	EnJet						
ireless	Status	Enable O Disal	ble				
nagement							
Ivanced							
me Zone			(GHz (A/N/AC)			
iFi Scheduler	Operation Mod	le		WDS Station Image: Station 	Green 0		
ols	Channel HT M	lode		40MHz v			
stem Manager	Channel			Configuration			
count	Transmit Powe	er		8 dBm ▼			
rmware							
g	Bit Rate			Configuration Enable Disable			
	Client Limits			127			
	AP Detection			Scan			
		llem)					
	Distance (0-30						
	AP Time Slot	,		Auto 🔻			
	Wireless Set	tings - 5GHz					
	Wireless Set	tings - 5GHz SSID	Edit	Security			
	Wireless Set	-	Edit Edit	Security None			
	Wireless Set	SSID		-			
		SSID AP SSID_5G		-			_
	Managemen	SSID AP SSID_5G t Interface - 2.4G0	Edit	None			
	Managemeni Enabled	SSID AP SSID_5G t Interface - 2.4G SSID	Edit	-			
	Managemen	SSID AP SSID_5G t Interface - 2.4G0	Edit	None			_
	Management Enabled	SSID AP SSID_5G t Interface - 2.4G SSID	Edit	None Security WPA2/PSK			
	Management Enabled	SSID AP SSID_5G t Interface - 2.4G SSID ENMGMT79C35A	Edit	None Security WPA2/PSK			
	Management Enabled	SSID AP SSID_5G t Interface - 2.4G SSID ENMGMT79C35A	Edit	None Security WPA2/PSK	_		
	Management Enabled	SSID AP SSID_5G t Interface - 2.4G SSID ENMGMT79C35A	Edit	None Security WPA2/PSK			
	Management Enabled	SSID AP SSID_5G t Interface - 2.4G SSID ENMGMT79C35A	Edit	None Security WPA2/PSK			
	Management Enabled	SSID AP SSID_5G t Interface - 2.4G SSID ENMGMT79C35A Turn off if idle in 15 minutes	Edit	None Security WPA2/PSK			
	Management Enabled Always on Management	SSID AP SSID_5G t Interface - 2.4G SSID ENMGMT79C35A Turn off if idle in 15 minutes	Edit Edit Edit	None Security WPA2/PSK			
	Management Enabled Always on Management Status	SSID AP SSID_5G t Interface - 2.4G SSID ENMGMT79C35A Turn off if idle in 15 minutes t VLAN Settings Enable Disable	Edit Edit Edit	None Security WPA2/PSK AES	if, that the ave		
	Management Enabled Always on Management Status Caution: If y	SSID AP SSID_5G t Interface - 2.4G SSID ENMGMT79C35A Turn off if idle in 15 minutes	Edit Edit Edit	None Security WPA2/PSK AES	ify that the swit	ch and the DHC	.P

Figure 39: Press the Save button

After disabling Green mode, and pressing the Save button, the unit will skip the two-step save process and immediately commit changes to nonvolatile memory after pressing the Okay button.



172.16.25.101 says

Green mode is changed, system will reload.



Figure 40: Green Mode reload menu

Next, scan the area for the WDS-AP SSID to connect to. To do this, press the Scan button to the left of the AP Detection row.

Wireless Settings					
Device Name	ENS500-AC				
Country / Region	USA •				
EnJet					
Status	🖲 Enable 🔍 Disable				
5GHz (A/N/AC)					
Operation Mode	WDS Station 🔹 🗆 Green 🥑				
Channel HT Mode	40MHz •				
Channel	Configuration				
Transmit Power	8 dBm 🔹				
Bit Rate	Configuration				
Client Limits	Enable Disable 127				
AP Detection	Scan				
Distance (0-30km)	0 (0miles)				
AP Time Slot	Auto •				
Station Priority	High •				

Figure 41: AP Detection

Choose the SSID of the WDS-AP unit to connect to it.

Site Survey

BSSID	SSID	Channel	Signal Level	Security	Mode
88:DC:96:79:17:54	IEEE80211	60	-44 dBm	WPA2 -PSK	Master
88:DC:96:79:17:66	IEEE80211	36	-74 dBm	WPA2 -PSK	Master
00:04:56:A0:22:C0	L	48	-43 dBm	WPA2 -PSK	Master
88:DC:96:79:17:63	IEEE80211	48	-63 dBm	WPA2 -PSK	Master
88:DC:96:79:28:86	IEEE80211	149	-66 dBm	WPA2 -PSK	Master
A8:6B:AD:F2:A7:B7	WIFIF2A7B3-5G	60	-46 dBm	WPA2 -PSK	Master
88:DC:96:79:02:0A	IEEE80211	149	-66 dBm	WPA2 -PSK	Master
88:DC:96:77:77:77	WDSAP	165	-46 dBm	WPA2 -PSK	Master
88:DC:96:23:1A:23	EnGenius231A23	140	-67 dBm	WPA2 -PSK	Master
88:DC:96:41:F5:2A	ENS500-EXT	140	-53 dBm	WPA2 -PSK	Master
88:DC:96:23:36:4F		153	-44 dBm	WPA2 -PSK	Master
88:DC:96:4F:C3:D0		140	-58 dBm	WPA2 -PSK	Master
Repeat scan					

Figure 42: Select the SSID of the WDS-AP

After selecting the SSID of the WDS-AP, enter the wireless passphrase. Then press the Save button.

Wireless Setting - 5GHz						
Prefered BSSID	88	: DC	: 96	: 77	: 77	: 77
SSID	WDSAP					
Wireless Secur	rity <mark>- 5</mark> GHz					
Security Mode	WPA2-PSK		T			
Encryption	AES		T			
Passphrase	*****					
Save current setting(s)						

Figure 43: Enter the wireless Passphrase of the WDS-AP

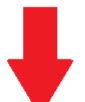
Commit changes to nonvolatile memory.

nGenius®					English	1
NS500-AC	Single Radio Ma	nagement AP, 2T2R, 867Mbp	s	Changes: 5	Reset	Logout
OverView	Wireless Setting	15			1A	
Device Status	Device Name	ENS500-AC				
Connections	Country / Region	USA	v			
Realtime		0011	_			
Network						
Basic	EnJet🥑					
Wireless	Status	🖲 Enable 🔍 Disable				
Management						
Advanced			5GHz (A	(N/AC)		
Time Zone	Operation Mode		Access P		een 🥑	
WiFi Scheduler	Channel HT Mode	<u>,</u>	40MHz			
Tools		9		•		
System Manager	Channel		Configur	ation		
Account	Transmit Power		Auto	w.		
Firmware	Bit Rate		Configur	ation		
Log	Diritato		_			
	Client Limits		127	Disubic		
	AP Detection		Scan			
	Distance (0-30km)	1	(0.6miles)		
	AP Time Slot	,	Auto	•		
	Station Priority		High	Ŧ		
	Wireless Setting	gs - Access Point				
	Enabled	•	Edit S	Security V		
	I.	EnGenius79C366	Edit	None	Waith for cha	nges to be applie

Figure 44: Commit changes to nonvolatile memory

After the unit reboots, please check the connection status of the link under Overview>Connections.

OverView
 Device Status
 Connections



Connection Status - 5GHz

SSID	WDSAP
BSSID	88:DC:96:77:77:77
Connection Status	Associated
Wireless Mode	802.11 N/AC
Current Channel	5.825 GHz(Channel 165)
Security	WPA2/PSK AES
Tx Data Rates(Mbps)	173.3 Mb/s
Current noise level	-95 dBm
Signal Strength	-40 dBm

Refresh

Figure 45: Connection Status

If you want management radio, then you can enable it in the reverse direction of disabling the management radio. Please see page 6 or page 25 for the location of that option.