

Setting repeater mode with 2x C54APM

This manual will help you to set repeater mode on the C54APM. To create a Repeater environment, you need 2x C54APM. 1 of the C54APM will function as a normal Access point in your wireless network, and the other C54APM will function as a Repeater, for a bigger distance in your network.

Important Notes:

- You need at least firmware version 2.28 to work with Repeater Mode. Lower firmware versions don't support the correct settings!!
- Make sure that both C54APM have a different IP address, for example C54APM nr1: 10.0.0.1 and C54APM nr2: 10.0.0.2 !!
- When changing settings on the C54APM, make sure you are connected with the supplied Ethernet cable instead of the wireless connection!!

Setting the first C54APM as an Access point

 Open Internet Explorer, and type in the adressbalk the IP address of the Access point. (Example: <u>HTTP://10.0.0.1/</u>)

A	Life in the second s	
User name:	🖸 admin 💌	2
<u>P</u> assword:		

2. Enter the Username and Password for the Access point (Default: admin / admin) (Username and password can be in capitals in some versions of the C54APM)



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Mode Sta Currently Running Current Setup	Admin LAN • Client Mode • AP Mode • Repeater Mode • P2P Mode • PMP Mode • Client Mode • PMP Mode
	Current Mode: AP Mode
Client	What's This? Setup
Access Point Repeater	What's This? Setup What's This? Setup
P2P	What's This? Setup
PMP	What's This? Setup
	Apply

3. Select "Setup" at the <u>Access point</u> section.

If you want to use security on your wireless network, follow steps 4-8. If you don't want to use security, you can skip this section and continue at step 9.

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Currently Running Current Setup	CLIEnt Mode •AP Mode •Repeater Mode •P2P Mode •PMP Mode . •Client Mode •AP Mode •Repeater Mode •P2P Mode •PMP Mode .
MODE	○ 802.11b ○ 802.11g Mixed
SSID	ACCESSPOINT
Broadcast SSID	🔘 Disable 💿 Enable
Channel	Channel 11 💌
Security	○ Disable ⊙ WEP ○ WPA Setup ← 4
Advanced Settings	Setup 4
Access Filter	Setup
	Apply Cancel

4. Select the option "WEP", and click on "Setup". (WPA is not supported in Repeater Mode)



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WEP	
Authentication Type	⊙ Open ○ Shared Key
WEP Length	© WEP-64 ⊛ WEP-128
$(5) \Rightarrow Mode$	🖲 HEX 🔘 ASCII
Passphrase	Generate
6 ⇒ Key 1	ADE13688368FB1CA6F29F8D14C
Key 2	******
Key 3	******
Key 4	*****
Default	💿 Key 1 🔘 Key 2 🔘 Key 3 🔘 Key 4
	Apply Close

- 5. Set the <u>Authentication Type</u> to "Open", the <u>WEP Length</u> to "WEP-128" and the <u>Mode</u> to "HEX".
- 6. Set the <u>Default TX Key</u> to "Key 1" and enter an encryption key in the field "Key 1". This key must be 26 characters and can contain the numbers 0 to 9 and the letters A to F. Remember this key! You will need it to configure the Repeater and the wireless card for connection!
- 7. Press "Apply".

The access point will display the following message:



8. Press "**OK**" to save the WEP security settings. The Access point will countdown for enabling the settings and after the countdown, it will return at the main configuration screen for Access point mode.



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Mode Sta	tus Admin LAN
Currently Running Current Setup	• Client Mode • AP Mode • Repeater Mode • P2P Mode • PMP Mode • Client Mode • AP Mode • Repeater Mode • P2P Mode • PMP Mode •
MODE	○ 802.11b ○ 802.11g ④ Mixed
SSID	
Broadcast SSID	🔿 Disable 💿 Enable
Channel	Channel 11 💌
Security	◯ Disable ④ WEP ◯ WPA Setup
Advanced Settings	Setup $\Leftarrow 9$
Access Filter	Setup Apply Cancel

9. Press "Setup" at the Advanced Settings option.

Beacon Interval	100 (msec, range: 20~1000, default: 100)
RTS Threshold	2347 (range: 256~2347, default: 2347)
DTIM Interval	2 (range: 1~255, default: 2)
Protection Mode	🔘 Disable 💿 Enable
Transmit Rate	Auto 💌
Preamble Type	○ Short ④ Long ○ Auto
Connect 10 ter	🛇 Disable 💿 Enable
	Repeater MAC Address 00:80:5A:28:CB:AB
\bigcirc	Repeater MAC Address 00:00:00:00:00:00
	Apply Close

- 10. Set Connect Repeater to "Enable" and enter the MAC address of the second C54APM in the first field of "Repeater MAC Address". If you use 2 Access points for repeating, you can enter the MAC Address of the third Access point in the second field of "Repeater MAC Address".
- 11. Press "Apply". The Access point will do a short configuration reboot, and return to the main configuration screen for Access point mode.
- 12. Set the <u>SSID</u> to "ACCESSPOINT" or any other name you want to use for the C54APM.
- 13. Press "Apply". The Access point will reboot again, and activate all changes.

Now the Access point is configured, you need to configure the other C54APM as a Repeater.



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Setting the second C54APM as a Repeater

14. Open Internet Explorer, and type in the adressbalk the IP address of the Repeater. (Example: HTTP://10.0.0.2/)

EF	1218
<u> 케</u>	
User name:	🖸 admin 🔛 🗡 📥
Password:	•••••
	Remember my password

15. Enter the Username and Password for the Repeater (Default: admin / admin) (Username and password can be in capitals in some versions of the C54APM)

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Mode Sta	atus Admin LAN
Currently Running Current Setup	•Client Mode •AP Mode •Repeater Mode •P2P Mode •PMP Mode •Client Mode •AP Mode •Repeater Mode •P2P Mode •PMP Mode •
	Current Mode: Repeater Mode
Client	What's This? Setup
Access Point	What's This? Setup
Repeater	⊙ What's This? Setup <= (16)
P2P	What's This? Setup
PMP	What's This? Setup
	Apply
	WEBSERVER

16. Select "Setup" at the *Repeater* section.

If you want to use security on your wireless network, follow steps 17-21. If you don't want to use security, you can skip this section and continue at step 22.



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Mode Sta	tus Admin LAN
Currently Running Current Setup	•Client Mode •AP Mode •Repeater Mode •P2P Mode •PMP Mode . •Client Mode •AP Mode •Repeater Mode •P2P Mode •PMP Mode .
NOTE	Please note that all repeater settings are duplicated from Access Point settings. If you need to make changes please do so below. If these changes are
Doront SSID	applied, they will also be duplicated when you choose to active the Access Point.
Channel	Channel 11 💉
Parent MAC Address	00:80:5A:28:C8:D7
	Enable Linked Repeater
MODE	○ 802.11b ○ 802.11g ④ Mixed
SSID	REPEATER
Broadcast SSID	O Disable 💿 Enable
Security	O Disable O WEP WPA Setup (17)
Advanced Settings	Setup 1
Access filter	LT7 Cancel

17. Select the option "WEP", and click on "Setup". (WPA is not supported in Repeater Mode)

WEP Authentication Type WEP Length 18 → Mode Passphrase	 Open O Shared Key WEP-64 WEP-128 HEX O ASCII Generate Clear
19 Key 1 Key 2 Key 3 Key 4 Default Key 20	ADE13688368FB1CA6F29F8D14C

 Set the <u>Authentication Type</u> to "Open", the <u>WEP Length</u> to "WEP-128" and the <u>Mode</u> to "HEX".

Set the <u>Default TX Key</u> to "Key 1" and enter the same encryption key in field "Key 1" as you entered in the first C54APM.

19. Press "Apply".



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The Repeater will display the following message:



20. Press "**OK**" to save the WEP security settings. The Repeater will countdown for enabling the settings and after the countdown, it will return at the main configuration screen for Repeater mode.

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Mode Sta	tus Admin LAN
Currently Running Current Setup	•Client Mode •AP Mode •Repeater Mode •P2P Mode •PMP Mode . •Client Mode •AP Mode •Repeater Mode •P2P Mode •PMP Mode .
NOTE	Please note that all repeater settings are duplicated from Access Point settings. If you need to make changes please do so below. If these changes are
Parent SSID	applied, they will also be duplicated when you choose to active the Access Point.
Channel	Channel 11 💌 🧲 22
Parent MAC Address	00:80:5A:28:C8:D7
	Enable Linked Repeater
MODE	○ 802.11b ○ 802.11g ⊙ Mixed
SSID	REPEATER (23)
Broadcast SSID	O Disable 💿 Enable
Security	O Disable WEP WPA Setup
Advanced Settings	Setup
Access 24	Apply Cancel

- Set the channel on the same channel as the first C54APM, and enter the MAC Address of the first C54APM in the "Parent MAC Address" section.
 (If you want to repeat the signal 1 more time after this Repeater, activate the "Enable Linked Repeater" and enter the MAC Address for the second Repeater in this field)
- 22. Set the SSID to "REPEATER", or any other name you want to use for the Repeater.
- 23. Press "Apply". The Repeater will reboot again and activate all changes.

Important Note:

• Before connecting to the configured Repeater, make sure that the Repeater is not connected to a wired network!! This will cause the wireless connection to connect and break-up continuously.



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Connecting your wireless computer to the Repeater

The following steps will show how to connect to the repeater, using a Conceptronic wireless adapter.

24. Connect your Wireless device to the computer.



25. Double-click on the Conceptronic Utility in the taskbar. The Conceptronic Utility will come up. You will see both C54APM in the utility if they are both in range, otherwise, only the Repeater will show up.

		Circuit	Crawle		Fina	
ACCESSPOIL	00:80:5A:28:CB:AB NT 00:80:5A:28:CB:D7	3ignal 92% 100%	Security WEP WEP	11 11	2.462Ghz 2.462Ghz	g g
Profile Group Con	trol Pr	referred WLAN	ls:			
Profile Group Con Please select a pr	trol Pr ofile group to apply : Au	referred WLAN tomatically cor	ls: nnect to available \	WLAN per l	below order:	New
Profile Group Con Please select a pr	trol Profile group to apply : Aut	referred WLAN tomatically cor SSID	ls: nnect to available \ Secu	WLAN per I	below order:	New Remove

- 26. Remove any existing <u>Preferred WLAN's</u> in the configuration panel. If there are no <u>Preferred</u> <u>WLAN's</u>, you can continue to step 28.
- 27. Select the SSID for the Repeater and press "Add".



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reless Network Pro	operties	$\mathbf{\Sigma}$
ireless network name (9		-
u Gaalaan aa kaada kaa A	((GD)	
wireless network key (v This network requires a	ver) key for the following:	
Authentication Mode:	Open System 👻	T
Data Encruption:	huren -	
Data Encippiion.		1
Key length: 12	8 bits (104+24) - 26 Hexadecima 💌]
Key 1:	*****	
Keu 2		-
Kou 2:		-
Key J.		-
Key 4:		
Default key: Key 1	<u>•</u>	
Enable 802.1X	Authentication Config	1
	2	4
This is a computer to	computer (ad hoc) network; no	3
access points are use	u.	

XNICEDTDC/N

- 28. If you are using Security, set the <u>Authentication Mode</u> to "**Open System**", the <u>Data Encryption</u> <u>to</u> "**WEP**" and the <u>Key length</u> to "**128 Bits (104+24) 26 Hexadecimal**".
- 29. Enter the key from step 7 in the field of Key 1 and press "OK".

If you don't use security on the wireless network, set the <u>Authentication Mode</u> to "**Open System**", the <u>Data Encryption</u> to "**Disabled**" and press "**OK**".

The wireless computer will now connect to the Repeater, which is in contact with the Access point and the network behind it.

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