

MX240a Linux CLI v0.2.1.1 - Detailed Usage Guide

This guide covers installation, configuration, service management, handheld registration, AIM/OSCAR login, messaging, chat rooms, multiple handhelds, upgrades, and troubleshooting for the MX240a Linux CLI Debian package.

1. Install the Debian package

Copy the compiled Debian package to your Debian 13 server. The current package name is:

```
mx240a-cli_0.2.1-2_amd64.deb
```

Install it:

```
cd ~  
sudo apt install ./mx240a-cli_0.2.1-2_amd64.deb
```

The package installs the important components:

```
/usr/bin/mx240a-cli  
/usr/sbin/mx240a-cli-control  
/etc/mx240a/mx240a.conf  
/usr/lib/systemd/system/mx240a-cli.service  
/usr/lib/udev/rules.d/99-mx240a.rules
```

Normally, do not run `/usr/bin/mx240a-cli` manually. It is designed to run continuously as a systemd service.

2. Configure the OSCAR server

Open the configuration file:

```
sudo nano /etc/mx240a/mx240a.conf
```

Default example:

```
[oscar]  
server=retro-chat.com  
port=5190
```

To use another compatible OSCAR server:

```
[oscar]  
server=logon.chat  
port=5190
```

Save in Nano with Ctrl+O, press Enter, then Ctrl+X.

The handheld supplies its own screen name and password. Do not put AIM usernames or passwords in this file.

3. Connect the MX240a base

Plug the MX240a base into USB.

Check that Linux sees it:

```
lsusb
```

You can also inspect HID devices:

```
ls -l /dev/hidraw*
```

The Debian package installs the udev rule needed by the bridge. If the base was already connected while installing the package, unplug it and plug it back in once.

4. Start and enable the service

Start the service and enable it at boot:

```
sudo systemctl enable --now mx240a-cli
```

Check status:

```
systemctl status mx240a-cli
```

You want:

```
Active: active (running)
```

Quick active check:

```
systemctl is-active mx240a-cli
```

Expected:

active

Check whether it starts automatically:

```
systemctl is-enabled mx240a-cli
```

Expected:

enabled

5. Watch the live MX240a log

The most useful diagnostic command is:

```
sudo journalctl -u mx240a-cli -f
```

Leave this running in a terminal while registering and testing handhelds.

Press `Ctrl+C` to stop watching the log. This exits `journalctl` only; it does not stop the MX240a service.

6. Register the first handheld

Registration is closed by default.

Check the registration state:

```
sudo mx240a-cli-control registration status
```

Expected:

MX240a registration CLOSED.

Open registration for the default 60 seconds:

```
sudo mx240a-cli-control registration open
```

Expected:

MX240a registration OPEN for 60 seconds.

Now put the physical MX240a handheld into its normal registration mode.

In the live service log, you should see activity similar to:

```
REGISTRATION REQUEST id=... -> ACCEPTED (registration window open)
HANDSET 1 CONNECT ...
SESSION 1 CREATED
```

Longer registration windows

Two minutes:

```
sudo mx240a-cli-control registration open 120
```

Five minutes:

```
sudo mx240a-cli-control registration open 300
```

The maximum manually selected registration window is 3600 seconds.

Check remaining registration time

```
sudo mx240a-cli-control registration status
```

Example:

```
MX240a registration OPEN (43 seconds remaining).
```

Close registration early

```
sudo mx240a-cli-control registration close
```

Closing registration does not disconnect already registered or active handhelds.

7. Sign into AIM/OSCAR

After registration, use the handheld itself to enter the AIM/OSCAR screen name and password.

The connection flow is:

```
MX240a Handheld
  |
  v
MX240a Base
  |
  v
```

```
mx240a-cli
  |
  v
Configured OSCAR Server
```

Nothing needs to be entered into Linux for individual user credentials.

Watch the log:

```
sudo journalctl -u mx240a-cli -f
```

A successful login should look generally like:

```
HANDSET 1 CONNECT ...
SESSION 1 CREATED
OSCAR LOGIN handset=1 user=ke5eua server=retro-chat.com:5190
OSCAR[1] Connected to auth server...
OSCAR[1] Authentication accepted...
OSCAR[1] Connected to BOS...
OSCAR LOGIN OK handset=1 user=ke5eua
```

Then the buddy list should begin arriving:

```
BUDDY handset=1 id=1 ...
BUDDY handset=1 id=2 ...
BUDDY handset=1 id=3 ...
```

If the username or password is incorrect, the daemon resets that handset's login state so the user can try again without restarting the service.

8. Instant messages

Messages are sent from the handheld, not from Linux commands.

Select a buddy on the MX240a and send normally.

Outgoing activity may appear as:

```
IM -> OSCAR handset=1 target=mike text=hello
```

Incoming activity may appear as:

```
IM <- OSCAR handset=1 from=mike text=hey
```

The daemon routes the incoming message to the physical handset that owns that OSCAR session.

9. Private chat rooms

Each handheld can independently use its normal:

```
Chat1
Chat2
Chat3
```

The bridge supports handheld-created rooms:

```
Handheld creates chat
      |
      v
OSCAR room created
      |
      v
Invitations sent
      |
      v
Other AIM clients join
```

It also supports rooms created by another AIM client:

```
AIM user creates chat
      |
      v
Invites MX240a user
      |
      v
mx240a-cli receives invitation
      |
      v
Joins existing OSCAR room
      |
      v
Chat appears on handheld
```

The daemon suppresses OSCAR reflections of the handheld user's own room messages so sent text does not appear twice.

10. Multiple handhelds

One mx240a-cli service controls the base. Do not start a separate daemon for every handset.

The software supports up to seven independent handset sessions:

```
MX240a Base
|
+-- Handset 1 -> OSCAR account 1
+-- Handset 2 -> OSCAR account 2
```

```
+-- Handset 3 -> OSCAR account 3
+-- Handset 4 -> OSCAR account 4
+-- Handset 5 -> OSCAR account 5
+-- Handset 6 -> OSCAR account 6
+-- Handset 7 -> OSCAR account 7
```

Each handset maintains its own:

- OSCAR connection
- screen name and login state
- buddy list and buddy IDs
- active IM routing
- presence
- Chat1, Chat2, and Chat3 state
- chat invitations and messages

To add another handheld:

```
sudo mx240a-cli-control registration open
```

Then register the next physical unit and sign into its OSCAR account from that handheld.

11. Service administration

Check status:

```
systemctl status mx240a-cli
```

Start:

```
sudo systemctl start mx240a-cli
```

Stop:

```
sudo systemctl stop mx240a-cli
```

Restart:

```
sudo systemctl restart mx240a-cli
```

Enable at boot:

```
sudo systemctl enable mx240a-cli
```

Disable automatic startup:

```
sudo systemctl disable mx240a-cli
```

Enable and start together:

```
sudo systemctl enable --now mx240a-cli
```

12. Change OSCAR servers

Edit:

```
sudo nano /etc/mx240a/mx240a.conf
```

Example:

```
[oscar]
server=some-other-server.example
port=5190
```

Restart the daemon after changing the configuration:

```
sudo systemctl restart mx240a-cli
```

Then watch:

```
sudo journalctl -u mx240a-cli -f
```

13. Server reboot behavior

Registered handhelds normally do not need to be registered again after a Linux reboot.

Expected flow:

```
Debian boots
|
v
systemd starts mx240a-cli
|
v
MX240a USB base opens
|
v
base recovery polling
|
v
registered handhelds reconnect
```

|
v
individual OSCAR sessions reconnect

The temporary registration-open window does not survive reboot.
Registration returns to CLOSED automatically.

14. Troubleshooting

Service status

```
systemctl status mx240a-cli
```

Last 100 log lines

```
sudo journalctl -u mx240a-cli --no-pager -n 100
```

Logs from the current boot

```
sudo journalctl -b -u mx240a-cli
```

Live logs

```
sudo journalctl -u mx240a-cli -f
```

Verify the executable

```
ls -lh /usr/bin/mx240a-cli  
/usr/bin/mx240a-cli --version
```

For this release, the application should report version 0.2.1.1.

Verify the service definition

```
systemctl cat mx240a-cli
```

The important line should be:

```
ExecStart=/usr/bin/mx240a-cli
```

Verify configuration

```
cat /etc/mx240a/mx240a.conf
```

Verify USB detection

```
lsusb  
ls -l /dev/hidraw*
```

15. Upgrade to a newer Debian package

When a newer package is available, install it over the existing version:

```
sudo apt install ./mx240a-cli_NEW-VERSION_amd64.deb
```

Then restart:

```
sudo systemctl restart mx240a-cli
```

Check:

```
systemctl status mx240a-cli  
/usr/bin/mx240a-cli --version
```

The OSCAR configuration under `/etc/mx240a/mx240a.conf` is packaged as configuration data so normal Debian configuration-file upgrade handling applies.

Quick Reference

```
# Check daemon  
systemctl status mx240a-cli  
  
# Watch live activity  
sudo journalctl -u mx240a-cli -f  
  
# Open registration for 60 seconds  
sudo mx240a-cli-control registration open  
  
# Open registration for 120 seconds  
sudo mx240a-cli-control registration open 120  
  
# Check registration window  
sudo mx240a-cli-control registration status  
  
# Close registration  
sudo mx240a-cli-control registration close  
  
# Restart daemon  
sudo systemctl restart mx240a-cli  
  
# Edit OSCAR server  
sudo nano /etc/mx240a/mx240a.conf  
  
# Enable and start at boot  
sudo systemctl enable --now mx240a-cli
```

The normal workflow is:

Install the .deb -\> configure the OSCAR server -\> connect the
MX240a base -\> enable/start the service -\> open registration -\>
register a handheld -\> sign into AIM/OSCAR from the handheld -\> use
the handheld normally.