

Ghettoblaster Version 1.0 - Working Configuration

Date: 2026-01-08

Base: moOde Audio Player Series 10, Release 10.0.3 (2025-12-28)

OS: Debian GNU/Linux 13 (trixie) 64-bit

Kernel: 6.12.47+rpi-2712

Hardware

Component	Model	Notes
SBC	Raspberry Pi 5B 8GB	
Display	Waveshare 7.9" HDMI	400x1280 native (portrait), rotated to 1280x400 landscape
Touch	WaveShare USB Touch	USB HID multitouch (NOT I2C FT6236)
Audio	HiFiBerry AMP100	I2S DAC+Amplifier
Network	Ethernet / WiFi	GhettoLAN via Mac Internet Sharing

Critical Configuration Files

1. */boot/firmware/config.txt*

```
# Key settings for Ghettoblaster:  
dtoverlay=vc4-kms-v3d,noaudio      # Disable HDMI audio  
dtparam=audio=off                  # Disable onboard audio  
dtoverlay=hifiberry-amp100          # Enable HiFiBerry AMP100  
dtoverlay=ft6236                   # Touch overlay (may not be needed for USB touch)  
hdmi_group=0                       # Auto-detect HDMI  
hdmi_force_hotplug=1                # Force HDMI detection
```

2. */boot/firmware/cmdline.txt*

console=tty3 root=PARTUUID=XXXXXX-02 rootfstype=ext4 fsck.repair=yes rootwait quiet loglevel=3 video=
IMPORTANT: The `video=HDMI-A-1:400x1280M@60,rotate=90` parameter is CRITICAL for display.

- Uses native portrait resolution 400x1280
- `rotate=90` rotates at kernel level
- moOde's xinitrc then applies xrandr rotation for X11

3. Display Configuration

Why it works:

1. Kernel sees 400x1280 with `rotate=90` in cmdline.txt
2. moOde reads `hdmi_scn_orient` from database
3. When `hdmi_scn_orient = "portrait"`, moOde's xinitrc runs `xrandr --output HDMI-1 --rotate left`
4. Final result: 1280x400 landscape display

Database setting:

```
UPDATE cfg_system SET value='portrait' WHERE param='hdmi_scn_orient';
```

Note: "portrait" means the HARDWARE is portrait, so moOde rotates it to landscape!

4. Touch Calibration

File: /etc/X11/xorg.conf.d/99-touch-calibration.conf

```
Section "InputClass"
    Identifier "WaveShare Touchscreen"
    MatchProduct "WaveShare"
    Option "TransformationMatrix" "0 -1 1 1 0 0 0 0 1"
EndSection
```

This matrix rotates touch input to match the rotated display.

5. Audio Chain

```
MPD → _audioout → peppy → softvol → peppyalsa → _peppyout → hw:0,0 (HiFiBerry)
                                ↓
                                /tmp/peppymeter (VU data for PeppyMeter)
```

Files:

/etc/alsa/conf.d/_audioout.conf:

```
pcm._audioout {
    type plug
    slave.pcm "peppy"
}
```

/etc/alsa/conf.d/_peppyout.conf:

```
pcm._peppyout {
    type hw
    card 0
    device 0
}
```

/etc/alsa/conf.d/peppy.conf: (managed by moOde, may need manual fix)

- Change `card empty` to `card 0`
- Change `name "Digital"` to `name "PCM"` if needed

6. Network

SSH: User andre, Password 0815

Ethernet: DHCP via Mac Internet Sharing (192.168.2.x)

WiFi: GhettoLAN (password: 08150815)

Key Services

Service Status Purpose
----- ----- -----
localdisplay enabled X11 + Chromium kiosk
peppymeter DISABLED VU meter display (enable manually when needed)
mpd enabled Music Player Daemon
nginx enabled Web server

IMPORTANT: peppymeter MUST be disabled by default to prevent white screen!

PeppyMeter Notes

CRITICAL: PeppyMeter service MUST be disabled by default!

- The peppymeter.service creates a fullscreen overlay window

- Even when `peppy_display=0`, if the SERVICE is running → WHITE SCREEN
- The database setting alone is NOT enough!

Root cause of white screen:

- peppymeter.service runs `/opt/peppymeter/peppymeter.py`
- This creates a fullscreen PyGame window (white when no audio data)
- This window overlays Chromium regardless of database settings

Correct configuration:

- `peppy_display=0` in database
- `peppymeter.service` DISABLED (not just stopped)
- Result: moOde UI displays correctly

To enable PeppyMeter (when you want VU meters):

```
# 1. Set database
sudo sqlite3 /var/local/www/db/moode-sqlite3.db "UPDATE cfg_system SET value='1' WHERE param='peppy_display'
# 2. Start service
sudo systemctl start peppymeter
# 3. Restart display
sudo systemctl restart localdisplay
# 4. PLAY AUDIO (otherwise still white!)
```

To disable PeppyMeter (show moOde UI):

```
# Set database
sudo sqlite3 /var/local/www/db/moode-sqlite3.db "UPDATE cfg_system SET value='0' WHERE param='peppy_display"
sudo sqlite3 /var/local/www/db/moode-sqlite3.db "UPDATE cfg_system SET value='1' WHERE param='local_display'
# Restart display
sudo systemctl restart localdisplay
```

PeppyMeter Configuration (Working)

Config file: /etc/peppymeter/config.txt

Key settings:

```
[current]
meter = blue
meter.folder = 1280x400
screen.width = 1280
screen.height = 400
exit.on.touch = True
mouse.enabled = True
```

Database settings:

```
peppy_display = 1      -- Enable PeppyMeter
local_display = 0      -- Disable web UI (PeppyMeter takes over)
peppy_meter = blue    -- Blue VU meter theme
```

Touch to switch flow:

1. PeppyMeter shows blue VU meters fullscreen
2. User touches screen → PeppyMeter exits
3. xinitrc continues to launch Chromium (moOde UI)
4. moOde web UI appears

Modified xinitrc: Added Chromium launch after PeppyMeter exits in /home/andre/.xinitrc

Recovery Procedure

If display doesn't work:

1. Check cmdline.txt has `video=HDMI-A-1:400x1280M@60,rotate=90`
2. Check moOde DB: `hdmi_scn_orient` must be `portrait`
3. Restart: `sudo systemctl restart localdisplay`

If audio doesn't work:

1. Check `aplay -l` shows only HiFiBerry (card 0)
2. Check config.txt has `dtparam=audio=off` and `vc4-kms-v3d,noaudio`
3. Fix ALSA configs if needed (_audioout.conf, _peppyout.conf)

If touch doesn't work:

1. Check `/etc/X11/xorg.conf.d/99-touch-calibration.conf` exists
2. Apply runtime: `DISPLAY=:0 xinput set-prop "WaveShare WaveShare" "Coordinate Transformation Matrix" 0 -1 1 1 0 0 0 0 1`

If white screen:

1. **STOP PeppyMeter service:** `sudo systemctl stop peppymeter`
2. **Disable it:** `sudo systemctl disable peppymeter`
3. Set database: `sudo sqlite3 /var/local/www/db/moode-sqlite3.db "UPDATE cfg_system SET value='0' WHERE param='peppy_display';"`
4. Restart display: `sudo systemctl restart localdisplay`

Root cause: PeppyMeter service creates fullscreen overlay even when database says disabled!

Files to Backup for Full Restore

All backed up to: backups/v1.0-2026-01-08/

1. `/boot/firmware/config.txt` → `config.txt`
2. `/boot/firmware/cmdline.txt` → `cmdline.txt`
3. `/etc/alsa/conf.d/_audioout.conf` → `_audioout.conf`
4. `/etc/alsa/conf.d/_peppyout.conf` → `_peppyout.conf`
5. `/etc/alsa/conf.d/peppy.conf` → `peppy.conf`
6. `/etc/X11/xorg.conf.d/99-touch-calibration.conf` → `99-touch-calibration.conf`
7. `/etc/peppymeter/config.txt` → `peppymeter-config.txt`
8. `/home/andre/.xinitrc` → `xinitrc`

Database settings to restore:

```
UPDATE cfg_system SET value='portrait' WHERE param='hdmi_scn_orient';
UPDATE cfg_system SET value='0' WHERE param='peppy_display'; -- moode UI default (stable)
UPDATE cfg_system SET value='1' WHERE param='local_display'; -- Enable web UI
UPDATE cfg_system SET value='blue' WHERE param='peppy_meter';
UPDATE cfg_system SET value='meter' WHERE param='peppy_display_type';
```

Boot config (cmdline.txt):

- ```
console=tty3 root=PARTUUID=XXXXXX-02 rootfstype=ext4 fsck.repair=yes rootwait quiet loglevel=3 video=
```
- `logo.nologo` - No Raspberry Pi logo
  - `vt.global\_cursor\_default=0` - No cursor

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## **Version History**

- \*\*\*1.0\*\*\* (2026-01-08): First stable working version
- Display: 1280x400 landscape ■
- Audio: HiFiBerry AMP100 only ■

- Touch: Calibrated for rotation ■
- PeppyMeter: Configured (disabled by default) ■