

Display Persistence Fix

Problem

Display configuration changes are not persistent across reboots. Settings in `config.txt` and `cmdline.txt` get reset or overwritten by moOde's `worker.php` daemon, which runs early in the boot process and can modify boot configuration files.

Root Cause

1. **moOde's `worker.php`** runs early in boot and checks/modifies `config.txt` using the `updBootConfigTxt()` function
2. **`config.txt.overwrite`** template in `/usr/share/moode-player/boot/firmware/` can be used to restore default config
3. **Display settings** (hdmi_cvt, hdmi_mode, etc.) are NOT managed by `updBootConfigTxt()`, so they can be lost
4. **`cmdline.txt`** can be modified by moOde for DSI displays, but HDMI settings may not persist

Solution

Created a **persistent display configuration service** that:

1. **Runs AFTER moOde's `worker.php`** finishes (waits for `worker.pid` to complete)
2. **Restores display settings** in `config.txt`:
 - `hdmi_cvt=400 1280 60 6 0 0` (Waveshare 7.9" HDMI display)
 - `hdmi_mode=87`
 - `hdmi_group=2`
 - `hdmi_force_mode=1`
 - `disable_overscan=1`
3. **Restores `cmdline.txt`** settings:
 - `video=HDMI-A-1:400x1280M@60,rotate=90`
 - Fixes any `HDMI-A-2` → `HDMI-A-1` mistakes
4. **Ensures `config.txt.overwrite`** has correct settings for future restores

Files Created

Script

- **`scripts/display/persist-display-config.sh`**
- Main script that restores display settings
- Waits for moOde `worker.php` to finish
- Verifies and fixes both `config.txt` and `cmdline.txt`
- Logs to `/var/log/persist-display-config.log`

Service

- **`moode-source/lib/systemd/system/persist-display-config.service`**
- Systemd service that runs the script on boot

- Runs AFTER `moode-player.service` (which starts worker.php)
- Runs BEFORE `graphical.target` (display system)

Template

- **`moode-source/boot/firmware/config.txt.overwrite`**
- Template file with correct display settings
- Copied to `/usr/share/moode-player/boot/firmware/` during installation
- Used by moOde if it needs to restore config.txt

Installation

For New SD Card (After Flash)

The fix is automatically installed by `INSTALLFIXESAFTER_FLASH.sh`:

```
cd ~/moodeaudio-cursor
sudo ./INSTALL_FIXES_AFTER_FLASH.sh
```

This will:

1. Copy `persist-display-config.sh` to `/usr/local/bin/`
2. Copy `persist-display-config.service` to `/lib/systemd/system/`
3. Enable the service
4. Update `config.txt.overwrite` with correct settings
5. Fix `cmdline.txt` with correct HDMI settings

For Running System

Run the script manually to apply the fix immediately:

```
# On the Pi (via SSH)
sudo /usr/local/bin/persist-display-config.sh

# Or if not installed yet, copy from project:
cd ~/moodeaudio-cursor
scp scripts/display/persist-display-config.sh andre@192.168.10.2:/tmp/
ssh andre@192.168.10.2
sudo cp /tmp/persist-display-config.sh /usr/local/bin/
sudo chmod +x /usr/local/bin/persist-display-config.sh
sudo /usr/local/bin/persist-display-config.sh

# Install service
sudo cp moode-source/lib/systemd/system/persist-display-config.service /lib/systemd/system/
sudo systemctl daemon-reload
sudo systemctl enable persist-display-config.service
sudo systemctl start persist-display-config.service
```

How It Works

1. **Service starts** after `moode-player.service` (which runs worker.php)
2. **Script waits** for worker.php to finish (checks `/run/worker.pid`)
3. **Script restores** display settings in `config.txt`:
 - Ensures `[pi5]` section has correct display settings
 - Adds settings to `[all]` section if needed
 - Fixes any incorrect values
4. **Script restores** `cmdline.txt`:
 - Ensures `video=HDMI-A-1:400x1280M@60,rotate=90` is present
 - Removes any conflicting video parameters
 - Fixes `HDMI-A-2` → `HDMI-A-1` mistakes

5. **Script verifies** settings and logs results

Verification

Check the log to see what was fixed:

```
sudo journalctl -u persist-display-config.service  
# or  
cat /var/log/persist-display-config.log
```

Verify settings manually:

```
# Check config.txt  
grep "hdmi_cvt=400 1280 60 6 0 0 0" /boot/firmware/config.txt  
  
# Check cmdline.txt  
grep "video=HDMI-A-1:400x1280M@60,rotate=90" /boot/firmware/cmdline.txt
```

Troubleshooting

Display still not working after reboot

1. Check if service ran:

```
sudo systemctl status persist-display-config.service
```

2. Check logs:

```
sudo journalctl -u persist-display-config.service -n 50
```

3. Run script manually:

```
sudo /usr/local/bin/persist-display-config.sh
```

4. Verify settings:

```
cat /boot/firmware/config.txt | grep hdmi_cvt  
cat /boot/firmware/cmdline.txt | grep video=
```

Service not starting

1. Check if service file exists:

```
ls -l /lib/systemd/system/persist-display-config.service
```

2. Check if script exists and is executable:

```
ls -l /usr/local/bin/persist-display-config.sh
```

3. Reload systemd:

```
sudo systemctl daemon-reload  
sudo systemctl enable persist-display-config.service
```

Related Files

- `moode-source/www/daemon/worker.php` - moOde worker that can modify config.txt
- `moode-source/www/inc/common.php` - Contains `updBootConfigTxt()` function
- `moode-source/boot/firmware/config.txt.overwrite` - Template for config.txt restore
- `scripts/display/persist-display-config.sh` - Main fix script
- `moode-source/lib/systemd/system/persist-display-config.service` - Systemd service

Notes

- The service runs ****AFTER**** moOde's modifications, ensuring our settings persist
- The script is ****idempotent**** - safe to run multiple times
- Settings are ****verified**** after restoration
- All changes are ****logged**** for debugging