

VIRTUAL PIANO STUDIO v1.0.0

Flagship 88-Key Concert Grand Piano, Full-Band Style Arranger & Broadcast Workstation

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1. Welcome & Overview

Virtual Piano Studio is a professional low-latency stage piano, multi-zone synthesizer, East African & Gospel full-band style arranger, interactive hymn academy, and live video/audio broadcast workstation engineered by **Ukweli Code Solution** (www.ukwelicode.com).

- **Realistic 88-Key Weighted Concert Grand Engine:** Powered by the 16-velocity-layer *Salamander Grand Piano V3* (Yamaha C5 Concert Grand) with velocity-sensitive hammer-felt timbre filtering, player-perspective stereo soundboard placement, sympathetic string resonance, and authentic mechanical key-release resonances.
- **35 Authentic Full-Band Styles & Studio Beats:** Dedicated 4-part backing band (Rhythm Guitar/Keys, Bass, Lead Solo, and Strings/Brass/Choir Harmony) across Mugithi, Congolese Rhumba, Lingala & Seben, Country, Reggae, Twist & Benga, Worship & Gospel, and Studio Beats.
- **Zero-Setup Hardware MIDI Integration:** Automatic plug-and-play detection for the **Samson Graphite 49** and all USB/Bluetooth MIDI controllers (Yamaha, Roland, Korg, M-Audio).
- **Smartphone Wireless Mic, Camera PiP & Remote Control:** Connect one or more phones via QR code for wireless vocal input, live camera streaming, tap tempo with real keyboard woodblock/hi-hat click, and multi-phone synchronized mixer/stream controls.

2. Navigation & Workstation Modes (Left Mode Rail)

Mode Button	Primary Function	Key Highlights
M1 PLAY	Main Concert Performance	8 Registrations, 10 Church Denomination Presets (Catholic, ACK, SDA, PCEA, AIC/Tenzi, Pentecostal, Akorino, Vernacular, Congolese Seben), 8 Acoustic/DSP Knobs, Quick Style Launcher, and 3-Pedal Lyre.
M2 HYMNS	301-Song Hymn & Tenzi Academy	Complete Tenzi za Rohoni (1–161) + Classic, Catholic <i>Misa/Kwaya</i> , SDA <i>Nyimbo za Kristo</i> & Vernacular Hymns (301 total) with full multi-verse lyrics (FULL LYRICS), Sol-fa (Do-Re-Mi), and S-A-T-B Choir Pitch Pipe .
M3 SOUNDS	Instrument Browser	Assign Concert Grands, Rhodes/DX7 EPs, B3 & Cathedral Organs, Kwaya Harpsichord/Pizzicato Strings/Church Bells, Shimmer Pads, Brass, Seben/Rhumba Guitars, Accordion (Kinanda), Nyatiti Harp, and Kalimba to Main , Layer 2 , or Left Split .
M4 ZONES	Split, Layer & Arpeggiator	Configure Split Point (e.g., F#3), Layer 2 octave/detune, Velocity Switch threshold, and synced Arpeggiator.

M5 DRUMS	16-Step Drum Sequencer	Program custom Kick, Snare, Hi-Hat, Tom, Rimshot, and Cymbal patterns with Fill-In and Tap Tempo.
M6 PRESETS	Full-Band Style Arranger	Browse all 28 Full-Band Style Presets + 7 Studio Beats with Chord Loop progressions, Intro/Verse/Chorus/Bridge/Ending sections, and Key Transpose.
M7 STUDIO	MIDI & Audio Recorder	Piano Roll MIDI editor, Quantize, Transpose, Standard MIDI (.mid) import/export, and HD .MP4 Video + .WAV Audio recording.
M8 CONSOLE	7-Bus Studio Mixer	Dedicated faders, Pan, Mute, Solo, and Peak Meters for Main Piano, Layer 2, Split Bass, Beats, Style Band, Mic Vocal, and Master.
M9 MIDI I/O	Hardware MIDI & Learn	Manage USB/ALSA MIDI ports, view live MIDI events, and right-click any knob/fader for instant MIDI CC Learn.
M10 SYSTEM	Audio Engine & About	Select PipeWire/ALSA output device, sample rate (48 kHz), buffer size (64–1024 frames), and view Ukweli Code Solution support & license details.

3. Playing the 88-Key Weighted Piano & Changing Sounds

3.1 Selecting Voices (Two Easy Ways)

1. **TopBar Quick Voice Selector:** Click the blue **MAIN VOICE** LCD display at the top-left of the screen to open the instant searchable Voice Popup, or use the ▲ / ▼ arrows next to it to step through presets.
2. **M3 SOUNDS Browser:** Click **M3 SOUNDS** on the left rail, choose a category tab (*All, Pianos & Keyboards, Synthesizers, Organs & Vintage, Orchestral & Acoustic, World & Percussion*), and click **LOAD MAIN** (or double-click any row) to load the voice immediately and return to Play view.

3.2 Weighted Keybed Expression & Touch Curves

- **Velocity Touch Curve:** In **M1 PLAY**, choose **SOFT** (effortless loud dynamics), **MEDIUM** (natural graded concert response), **HARD** (heavy hammer resistance), or **FIXED**.
- **On-Screen 88-Key Keybed:** Left-click lower on a key for stronger fortissimo (**ff**) strike velocity, right-click for delicate pianissimo (**pp**) felt touch, or hold and drag across keys for smooth glissando runs.
- **Computer Keyboard Shortcuts:** Play notes across two octaves using **Z-M** (lower octave) and **Q-I** (upper octave). Hold **Shift** for fortissimo (**ff**), **Ctrl** for soft touch, **Spacebar** for Sustain Pedal, and **F11** (or **Esc**) to toggle/exit Stage View.

4. Full-Band Style Arranger (M6 PRESETS)

Virtual Piano Studio includes **28 Full-Band Style Presets** and **7 Studio Drum Beats**. Importantly, starting a Style Preset runs the 4-part backing band on dedicated synthesizer channels (Channels 3–6) so your **Main Piano/Voice is never overwritten**, and the bottom **PRO BAND** switch stays off unless you explicitly enable it.

- **SING-ALONG LOOP (AUTONOMOUS BAND):** The full band (Drums, Bass, Rhythm Guitar/Keys, Harmony Pad/Brass, and Lead Solo) plays continuously through the selected Chord Loop (e.g., **1-4-1-5 Seben** or **1-4-5-4 Mugithi**) so you can sing along or play piano solos on top with Both Hands!
- **PLAY WITH KEYBOARD (BACKING):** Control the band's root chord live with your left hand (below split point F#3) while playing lead melodies with your right hand.
- **Style Sub-Mixer:** Independently adjust **BEATS**, **STYLE ALL**, **STYLE LEAD**, **STYLE CHORD**, **STYLE BASS**, **MY KEYS**, and **MIC VOCAL** sliders at the bottom of the Presets view.

5. Required & Optional Downloads (Salamander SFZ, FluidR3 SF2, DrumGizmo LV2 & .STY Beats)

Virtual Piano Studio includes built-in physical-modeling synthesizers that work with zero external files, and supports industry-standard **.SFZ**, **.SF2**, **.LV2**, and Yamaha **.STY** libraries for flagship studio realism. Below is how to download and add each library to the application:

1. Salamander Grand Piano V3 (**.SFZ**) Recommended Flagship Concert Grand

- **Purpose:** 16-velocity-layer Yamaha C5 Concert Grand with hammer-felt dynamics, string resonance & key-off samples (1.2 GB on disk; uses only ~147 MB RAM via zero-copy `mmap`).
- **Where to Download:** Download `SalamanderGrandPianoV3_44.1khz16bit.tar.xz` from <https://freepats.zenvoid.org/Piano/acoustic-grand-piano.html> or <https://archive.org/details/SalamanderGrandPianoV3> .
- **How to Add to Virtual Piano Studio:**
 - *Option A (Auto-Discovery):* Extract the folder into your `~/Music` or `~/Downloads` folder and restart the app.
 - *Option B (In-App Import):* Open **M3 SOUNDS** → click **+ IMPORT .SFZ / .SF2** (top-right) → select `SalamanderGrandPianoV3.sfz` . It is saved permanently in the SQLite Solution Database (`catalog.db`).

2. FluidR3 General MIDI SoundFont (**FluidR3_GM.sf2**) Required for Full Band & 50+ Voices

- **Purpose:** Powers the 4-part Backing Band (Seben/Rhumba Guitars, Basses, Brass, Saxophones, Kinanda Accordion, Strings, Organs) and General MIDI Drum Kits (~142 MB).
- **Where to Install / Download:**
 - **Fedora / RHEL:** `sudo dnf install fluid-soundfont-gm`
 - **Ubuntu / Debian:** `sudo apt install fluid-soundfont-gm`
 - **Windows / macOS:** Download `FluidR3_GM.sf2` from https://keymusician01.s3.amazonaws.com/FluidR3_GM.zip
- **How to Add to Virtual Piano Studio:** On Linux, the package installs to `/usr/share/soundfonts/FluidR3_GM.sf2` and is loaded automatically. On Windows/macOS (or for custom SF2 files like `CP80.sf2`), place the `.sf2` file in `~/Music` or click **M3 SOUNDS** → **+ IMPORT .SFZ / .SF2**.

3. DrumGizmo & AVL Drumkits (**.LV2** Plugins) Optional Multi-Mic Studio Drums

- **Purpose:** Studio acoustic drum plugin host with velocity-layered multi-mic drum kits (DRSKit, CrocellKit, Red Zeppelin, Black Pearl).
- **Where to Install / Download:**
 - **Fedora / RHEL:** `sudo dnf install drumgizmo lv2-avldrums-plugin`
 - **Ubuntu / Debian:** `sudo apt install drumgizmo avldrums.lv2`
 - **DrumGizmo XML Kits:** Download kits from <https://drumgizmo.org/wiki/doku.php?id=kits>
- **How to Add to Virtual Piano Studio:** Virtual Piano Studio automatically scans `/usr/lib64/lv2` , `/usr/lib/lv2` , and `~/lv2` on startup and auto-loads **DrumGizmo LV2** when installed. To switch drum kits or LV2 plugins manually, open **M5 DRUMS** and use the **LV2 Plugin** or **Drum Kit** selector in the top bar.

4. Yamaha PSR / Tyros / Genos Flash Disk Beats (.STY / .PRS / .ZIP) Custom Church & Praise Beats

- **Purpose:** Play your own USB Flash Disk .sty , .prs , .bcs , .sst , .mid , or .zip style packs with full Intro, Main A–D, Fill-In, and Ending sections. (12 East African, *Kwaya Kuu* & Church .sty beats are pre-installed out of the box).
- **How to Add Many Beats at Once into the Solution Database (catalog.db):** Open **M6 PRESETS** (or **M5 DRUMS**) and use any of the 4 bulk import methods:
 1. **ADD .STY FILES (FLASH DISK):** Multi-select (**Ctrl+A** / **Shift+Click**) dozens or hundreds of .sty or .zip files at once.
 2. **LOAD .STY FOLDER:** Select any folder on your Flash Disk to import all .sty beats inside that folder and its subfolders (up to 2,000 beats at once).
 3. **AUTO-SCAN USB:** 1-click automatic scan of plugged-in USB drives.
 4. **Drag & Drop:** Drag multiple .sty files, folders, or .zip packs directly onto the Presets window. All imported beats are saved permanently inside the SQLite Solution Database (catalog.db).

6. Smartphone Wireless Mic/Cam Companion & Live Broadcast

1. Click **PHONE MIC / CAM** on the TopBar to open the Wireless Phone Link modal and scan the QR code with your phone's browser (Chrome/Safari).
2. **Live Camera Focus & Mirroring:** Framing and zoom adjustments on your phone camera match the desktop Live Cam Studio preview 1:1.
3. **Real Keyboard Tap Tempo on Phone:** Tapping the **TAP TEMPO** button on your phone triggers an authentic arranger keyboard percussion click (downbeat high woodblock + hi-hat accent on beat 1, low woodblock + rimshot on beats 2–4) and syncs the BPM across all connected phones.
4. **Where Recorded Files Are Saved:** Recorded Studio Audio (.WAV) is saved automatically in `~/Music/Ukweli_Studio_Rec_YYYYMMDD_HHMMSS.wav` , and Recorded HD Broadcast Video (.MP4) is saved in `~/Videos/Ukweli_Code_Studios_Live_YYYYMMDD_HHMMSS.mp4` .

7. Official UkweliCode Software License & Terms of Use

VIRTUAL PIANO STUDIO v1.0.0 — END-USER LICENSE AGREEMENT (EULA) & TERMS OF USE

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1. Acceptance of Terms: By installing, launching, or using Virtual Piano Studio ("the Software"), you agree to be bound by the terms of this UkweliCode Software License Agreement between you and Ukweli Code Solution (www.ukwelicode.com).

2. Grant of UkweliCode License: Ukweli Code Solution grants you a non-exclusive, worldwide license to install and use Virtual Piano Studio on supported Linux (`.rpm` , `.deb`), Windows (`.exe` , `.msi`), and macOS (`.app` , `.dmg` , `.pkg`) computers for:

- (a) Live musical performance in churches, concerts, worship services, events, and rehearsals;
- (b) Studio audio (`.wav`), MIDI (`.mid`), and video (`.mp4`) recording and production;
- (c) Live streaming and broadcasting to YouTube, Facebook Live, TikTok, and RTMP platforms (all musical performances, audio recordings, and video broadcasts created by you using the Software are 100% royalty-free);
- (d) Music education, church choir training, and keyboard instruction using the built-in Hymn Academy and Visual Keybed Guide.

3. Intellectual Property & Restrictions: Virtual Piano Studio, its custom DSP audio engines, 4-Part Full-Band Style Arranger patterns, Phone Mic/Cam Companion protocol, user interface design, and documentation are the intellectual property of Ukweli Code Solution. You may not remove, obscure, or alter any Ukweli Code Solution copyright notices, license files, or attribution metadata. Unauthorized commercial reselling or rebranding of the Software binary or installer packages without written permission from Ukweli Code Solution (info@ukwelicode.com) is prohibited.

4. Bundled Open Acoustic Sample Attributions:

- *Salamander Grand Piano V3* (Yamaha C5 16-Velocity-Layer Grand Piano) by Alexander Holm — Licensed under Creative Commons Attribution 3.0 (CC-BY-3.0).
- *FluidR3 General MIDI SoundFont* by Frank Wen — Licensed under the MIT License.

5. Privacy, Microphone, Camera & Broadcast Security: All audio synthesis, vocal auto-tune, microphone capture, and webcam picture-in-picture rendering run locally on your machine. When you activate RTMP live streaming, your stream keys are stored locally in your user profile and transmitted directly to your configured streaming provider.

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7. Official Support & Custom Software Inquiries:

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