STANDARD OPERATING PROCEDURE • OFFICIAL USER MANUAL (SOP)

Pulse Vat

Offline VAT, Withholding Tax (WHT) & Discount Calculator

Adding Machine Tape with Dynamic PromptPay QR & 12-Column Excel Audit Log

Comprehensive manual for Thai SMEs, corporate procurement, accountants, freelancers, and retail merchants. Features digital paper tape continuous addition, automated VAT 7% / WHT 3% calculation, EMVCo Tag 54 Dynamic PromptPay QR net amount lock, instant cash change calculation, bank statement reconciliation, and 12-column Excel tax audit export.

⚡ Rapid Addition (Digital Paper Tape)
Continuous price entry with digital paper tape audit trail, item deletion, and instant Undo/Redo.

⚖️ Advanced Tax Engine (VAT & WHT)
EX-VAT / IN-VAT toggle, postfix tax rates [n] → VAT/WHT, and dynamic bill-level % discount.

📱 PromptPay QR Lock (EMVCo Tag 54)
Generates net payable QR offline in 3 seconds. Customers scan and pay exact amount with zero errors.

📊 Reconcile & 12-Column Excel Export
One-click bank statement verification checklist and 100% offline .xlsx export for tax filing.

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DOCUMENT & ENGINE VERSION
Version 2.0 (PulseVat Production Standard)

SECURITY & LICENSE
100% PDPA Compliant • Free for Lifetime Use

Chapter 1: 3-Step Quick Start & Problem Comparison

1 Enter Prices, Multiplications & Discounts (Adding Machine Tape)

Type numbers and tap [+] e.g. `5000 + 2000 +` or multiply units `250 × 4 +`. Apply amount discount with [-] e.g. `100 -` or set bill-level discount e.g. `10 → Disc %`.

2 Set VAT Mode & Withholding Tax Rate (Tax Engine Strip)

Tap [EX-VAT 7%] to toggle tax or type [3] → [VAT] for custom rate. Tap [WHT %] or type [3] → [WHT] for 3% services withholding tax (calculated strictly from before-tax base per Revenue Code).

3 Checkout with Dynamic PromptPay QR or Cash Drawer

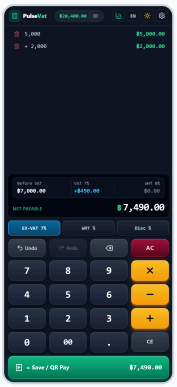
Tap the large [= Charge / QR Pay] bar. PromptPay QR locks exact net payable. In Cash tab, tap [+1,000] banknote buttons to compute change instantly with large numbers.

Comparison: Traditional POS Problems vs PulseVat Solution

Traditional Pain Point	Business Damage & Risk	Solution with PulseVat
WHT Calculated on Gross Amount	Calculating WHT on total with VAT violates Thai Revenue Code; penalty 1.5%/month.	Strict 3-channel breakdown (Before VAT, VAT 7%, WHT 3%) guarantees 100% compliance.
Customer Underpayment & Fake Slips	Typing amount manually causes underpayment; cashiers lack time to audit slips.	Dynamic QR Code locks net payable; bank reconcile checklist verifies transfers instantly.
Discount Double-Dipping Errors	Adding items after discount causes miscalculation or double discounts.	Dynamic [Disc %] recalculates in real-time on total bill without compounding.
Tedious Closing Reconciliation	30-45 minutes wasted every night matching slips with bank statements.	One-click offline 12-column Excel export ready for external accounting & tax filing.

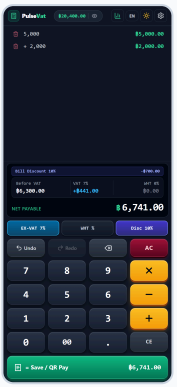
Chapter 2: Live Screen Architecture & Visual Tour

PulseVat live screens rendered in High-DPI Cyberpunk Dark and Outdoor Solar LCD modes:



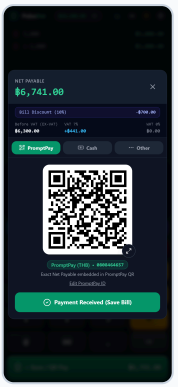
1. 3D Keypad & Paper Tape

Tactile keypad with paper tape audit trail e.g. 5,000 + 2,000 and 3-channel LCD display.



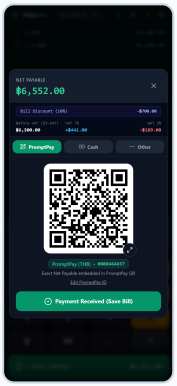
2. Tax & Discount Engine

One-touch strip: EX-VAT 7%, WHT %, and 10% bill discount (-฿700) Net ฿6,741.



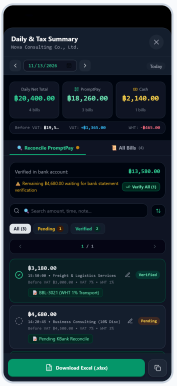
3. Dynamic PromptPay QR

EMVCo Tag 54 QR locks net payable ฿6,741 with full-screen expansion for easy scan.



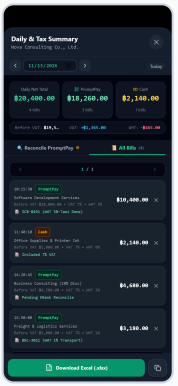
4. Thai Banknotes Cash Drawer

Additive banknote buttons (+฿1,000, +฿500, etc.), exact button, and jumbo change display.



5. Daily Reconcile Checklist

Daily net total, warning box for pending transfers, 1-click verify, and slip notes.



6. All Bills Log & Excel Export

Detailed 12-column tax audit table and 100% offline genuine Excel (.xlsx) export.

Chapter 3: Pro Tips, Keyboard Shortcuts & Offline Privacy

🌞 Outdoor Solar LCD Mode

Tap the sun icon [🌞] in header for a reflective high-contrast Solar LCD display with zero glare in sunlight.

👁️ Counter Privacy Eye Mask

Tap the eye icon [👁️] to mask running daily revenue as ฿ ••••• so counter customers cannot see sales figures.

🛡️ Input Error Guardrails (> 30)

Accidentally pressing VAT/WHT after price 500 records 500 into tape instead of setting invalid 500% tax rate.

🔄 Seamless PWA Auto-Update

Automatic Service Worker skipWaiting and reload delivers fresh features without manual cache clearing.

Keyboard & Desktop Numpad Shortcuts

Keyboard Key	Assigned Function	Action Example
`0 - 9`, `.`, `00`	Input prices, tax rates, or discount %	Type price `1500.50`
`+`, `-`, `*`	Add, subtract, multiply (minus = amount discount)	`1000 +`, `50 -`, `200 * 3 +`
`%`	Apply bill-level discount % on total bill	Type `10` then press `%` (10% discount)
`V` or `v`	Apply custom VAT rate or toggle VAT mode	`7 → V` or press `V` alone to toggle
`W` or `w`	Apply custom WHT rate or toggle WHT mode	`3 → W` or press `W` alone to toggle
`Enter` or `=`	Charge and open checkout modal (PromptPay QR)	Lock net payable and display QR code
`Delete` / `Backspace`	Clear current entry (CE) / delete last digit (⌫)	Retains previous entries on paper tape
`Esc` / `Ctrl+Z` / `Y`	All Clear (AC) / Undo / Redo action	Reset calculator or step backward/forward

🔒 100% Offline Local-First Security (PDPA Compliant)

All transactions, PromptPay IDs, and audit logs are stored strictly inside your browser's IndexedDB (PulseVatDB). Zero financial data is uploaded to remote servers. Export Excel (.xlsx) at day-end for regular local backups.