TECHNICAL INSTALLATION & CONFIGURATION MANUAL

TCSAI Universal Resource & Time Detector Hub
Deployment Guidelines for Secure and Optimized Operation

---

1. Pre-Installation Requirements

Hardware (Minimum Recommended Specs)

- Processor: 8-core Quantum-Ready CPU or advanced neural chip (ARM/NVIDIA architecture)
- RAM: 32 GB ECC memory
- Storage: 2 TB SSD (RAID 1 mirroring recommended)
- Network: 1 Gbps fiber-optic connection with static IP
- Security: Biometric scanner + hardware-encrypted USB security key

Operating System Compatibility

- Linux (Ubuntu LTS or Red Hat Enterprise 9+)
- TCSAI Secure OS (preferred – ISO available upon request)
- Windows Server 2022 (limited functionality)

---

2. Software Dependencies

- Python 3.11+ (with NumPy, TensorFlow, PyTorch, Scikit-learn)
- SONOVA Core Libraries (automatically installed during setup)
- Docker (for microservice containerization)
- TCSAI QuantumSync Service (if connected to OmniCore Nexus)
- PostgreSQL / MongoDB (for backend resource logging)

---

3. Installation Process (Command Line Mode)

1º Download the latest installer package from:
https://downloads.sonovamusicrecords.com/TCSAI-Hub
2º
3º Navigate to the install directory and run:
4° `bash`
5° `CopiarEditar`
6° `sudo chmod +x install.sh`
7° `./install.sh --mode=secure`
8°
9º
10º Follow the terminal prompts:

- Confirm institutional credentials
- Select node type: [Central / Peripheral / Ghost]

-
- Set ethics mode: [Global / National / Custom]
-
-

11º The installer will auto-configure the local environment and security vault.
12º

---

4. Post-Installation Setup

- Launch the system dashboard:
- `bash`
- `CopiarEditar`
- `http://localhost:7070 or your assigned IP/domain`
-
-
- Create admin and ethics officer accounts.
-
- Run diagnostic script:
- `bash`
- `CopiarEditar`
- `./diagnose_integrity.sh --report=html`
-
-
- Activate encrypted backup sync and define restore points.
-

---

5. Network Configuration

- Open ports:
- 7070 (dashboard)
-
- 8080 (data API)
-
- 8443 (secure sync)
-
-
- Whitelist trusted SONOVA nodes for inter-hub communication.
-
- Enable Deep Firewall Learning mode for autonomous attack mitigation.
-

---

6. Integration with External Systems

Compatible with:

- Microsoft Azure / AWS / Google Cloud
-
- SAP / Oracle ERP suites
-
- Institutional Active Directory for identity synchronization
-
- Education and research platforms (Moodle, Coursera APIs)
-

---

7. Testing & Validation

- Run TCSAI-validation.sh for full system diagnostics.
-
- Confirm:
- Ethics kernel activation
-

- Autonomous AI node heartbeat
- Secure database connection
- Run 24-hour observation in "Ghost Mode" before full deployment.

---

8. Maintenance & Updates

- Schedule system updates weekly using:
- `arduino`
- `CopiarEditar`
- `./update_system.sh --auto`
- Ethics core revisions every 90 days (manual confirmation required).
- Backup rotation: every 48h local, weekly to cloud.

---

9. Deactivation & Reset Protocol

- Execute controlled shutdown:
- `bash`
- `CopiarEditar`
- `./shutdown_secure.sh --code=[admin-auth]`
- Full data wipe option (irreversible):
- `bash`
- `CopiarEditar`
- `./burn_protocol.sh --ethics=confirmed`

---

10. Support & Documentation

- Full developer documentation:
  https://docs.sonovamusicrecords.com/tcsai-hub/tech-guide
- Assistance & training:
  support@sonovamusicrecords.com
  Remote deployment service available upon institutional request.