

Peter Alexander Joslin

Smart Building & Low Voltage Controls Engineer

info@petejoslin.com · 07903 381 677 · petejoslin.com · Essex & Hertfordshire, with good access to London

PROFESSIONAL PROFILE

A versatile Controls & Integration Engineer with over 25 years of experience across IT infrastructure, high-end residential automation and complex commercial Building Management Systems (BMS). I work at every layer of a project, from hardware I/O and PLC logic to Tridium Niagara supervisors, open data pipelines and, most recently, AI assistants that reason over live building data. I have a proven track record of designing, programming and commissioning integrated systems for luxury residential and large-scale commercial projects.

Approach: manufacturer-agnostic and open-protocol wherever possible, with data normalisation designed in from day one. Existing equipment should be orchestrated rather than ripped out, and monitoring must never depend on the systems it monitors.

CORE TECHNICAL COMPETENCIES

BMS & Controls	Tridium Niagara (Advanced), Schneider EBO (incl. scripting), KNX (Advanced), Lutron HomeWorks & Illumination, Crestron (SIMPL / SIMPL+ / VT-Pro), Loxone, PLC logic and HLI
Data & Protocols	MQTT, BACnet, Modbus, SNMP, SQL, VoIP (SIP, G.7xx, Asterisk ARI), video (RTSP/MPEG, ONVIF PTZ), Zigbee, LoRa, serial / RS-232 over IP
Observability	Prometheus & PromQL, custom exporters, event-driven alerting, push notifications, phone-call escalation with acknowledgement
AI & Voice	Claude tool-use agents, local speech-to-text (Whisper) and text-to-speech, household knowledge bases, voice-over-phone assistants
IT & Virtualisation	Linux server administration, Proxmox VE clusters & LXC, Docker, Reflow (Tridium), VPN / WireGuard / Tailscale, firewalling, Cisco switching
Software	Node.js services, Electron + React desktop applications, SIMPL+ modules, bespoke serial and IP protocols
Digital Ontologies	Digital Buildings Ontology (DBO), UDMI, BDNS, Project Haystack, Brick Schema, digital twins, asset registers, BIM data, physical asset tagging, data normalisation, semantic tagging, cloud-based data lakes
Mechanical Systems	Chillers, boilers, CHP, PV, GSHP/ASHP, FCU, VAV and AHU (BCIA Modules 1–6)

PROFESSIONAL EXPERIENCE

Smart Solutions & Integration Engineer

July 2026 – Present

Electracom Projects · Master Systems Integrator (MSI)

- Joined Electracom Projects, one of the UK's leading independent BEMS companies, in its Master Systems Integrator role for commercial buildings.
- MSI projects:** bringing a building's separate systems together so they share data and can be monitored and controlled as one.
- Converged networks:** working on the single shared IP infrastructure that a building's systems run on in place of a separate network for each.
- Digital building standards:** working with UDMI (Universal Device Management Interface), the Digital Buildings Ontology (DBO) and the Building Device Naming Syntax (BDNS).
- Digital twins:** supporting system owners in moving their data onto digital twin platforms.
- Asset data:** managing asset registers, BIM data and physical asset tagging.

Lead Low Voltage Controls & Digital Buildings Specialist

2017 – 2026

Clear AV Ltd (t/a OKTO Technologies) · Essex / London

- Digital transformation:** led the company-wide move from legacy proprietary control architectures to manufacturer-agnostic, software-based approaches built on MQTT and cloud storage.
- System virtualisation:** virtualised monitoring platforms for end-to-end device health reporting, and normalised multi-vendor sensor data into structured data lakes for analytics and predictive maintenance.
- PLC programming:** designed software for landlord plant and residential systems, integrating at basic I/O level and through High-Level Interfaces (HLI) to third-party BMS.

- **Project leadership:** Lead Commissioning Engineer on large hotel and MDU developments, managing site teams, coordinating sub-contractors and formally witnessing ITP documentation.
- **Design & documentation:** produced general arrangements, points lists, panel schematics, Descriptions of Operations (DesOps) and as-built records.
- **Semantic interoperability:** implemented Project Haystack and Brick Schema tagging so that systems in the same building can share and interpret each other's data.

Senior Systems Integrator

2002 – 2017

T&T Communications / C3 Custom Code Crafters Ltd · London & South East

- **High-value residential:** delivered integrated lighting, HVAC, AV and security systems for luxury projects with budgets exceeding £1M.
- **Defence & commercial:** delivered high-security, classified projects for the US Department of Defence and major commercial clients including Sky.
- **Custom integration:** developed bespoke serial and IP protocols to integrate third-party hardware where no standard path existed.
- **Programming:** Crestron (SIMPL, SIMPL+, VT-Pro), Lutron HomeWorks and AMX for multi-room AV and environmental control.
- **Lifecycle management:** led projects from initial design through installation, commissioning and client handover to long-term maintenance.

IT Engineer

1998 – 2002

GML Networking Technologies Ltd · Essex

- **Infrastructure:** built and maintained Linux servers and LAN/WAN networks for SMEs.
- **Data centre operations:** managed co-located Cobalt RaQ servers for domain hosting, DNS and web space.

INDEPENDENT R&D — SENTINEL (2026)

A whole-house intelligence layer, designed and built at home, that orchestrates existing Crestron, Lutron, Loxone and CCTV systems rather than replacing them. It integrates around 20 systems.

- **Platform:** Proxmox VE cluster with every service in LXC; an MQTT event bus for live state and Prometheus for history.
- **Perception & sensing:** Frigate NVR with object detection and face recognition; a Zigbee mesh of door, motion, smoke, leak and temperature sensors.
- **AI assistant:** a Claude-powered agent with tools to control lighting, AV, heating, alarm, cameras and rack power, and to query metric history via PromQL. It runs locally, with on-prem speech-to-text and text-to-speech, and is reachable by chat, push or phone.
- **Alert escalation:** an Asterisk PBX that calls round a list of people for critical alarms until someone acknowledges.
- **Control & UI:** a custom SIMPL+ TCP module for Crestron; an Electron + React dashboard for desk, wall kiosk or remote use.

INDUSTRY CERTIFICATIONS

Tridium	Niagara Framework — Advanced
KNX	Advanced Certified Partner
Schneider Electric	EcoStruxure Building Operation, incl. scripting
Crestron	SIMPL, SIMPL+, VT-Pro
Lutron	HomeWorks & Illumination
BCIA	Technical Education Modules 1–6 (industry training)

INTERESTS

- **Amateur radio:** RAE B Class licensee since 1996; active on analogue and digital modes (D-Star, DMR) and special event stations (GB5RC). My HF rig is now under network CAT control with a live DX-cluster map.
- **Aviation:** glider pilot, qualified 2005. Not currently flying regularly, but I keep a strong interest in aeronautics and take the occasional pleasure flight.
- **Outdoors:** keen hiker, exploring local trails across Essex, Hertfordshire and beyond.