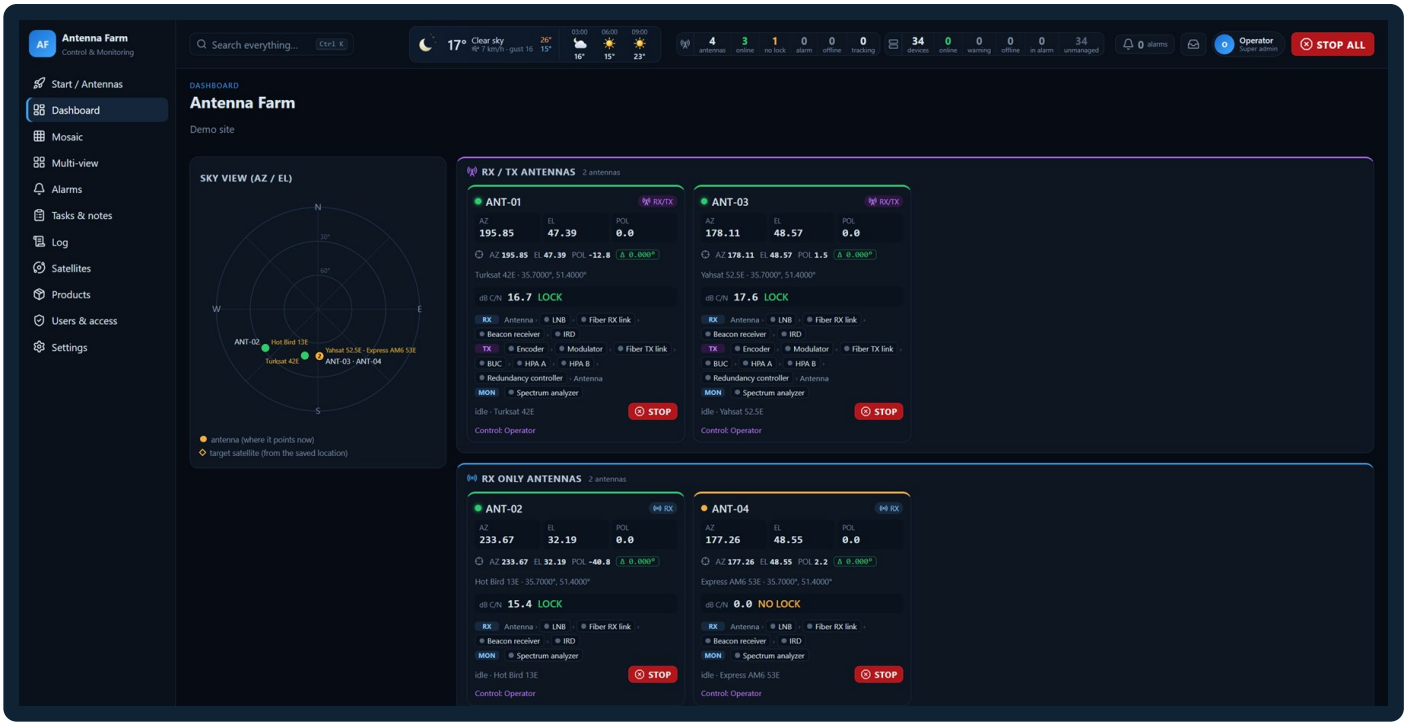
System Management Control

Manage and control satellite earth stations

Manage antenna pointing, uplink and downlink equipment, live spectrum and alarms from one browser-based console. Built for teleports and satellite operations teams.

SATELLITE EARTH STATION SOFTWARE



Product dashboard showing an example station deployment

394
GEO satellite records

2,881
equipment catalog entries

16
stations in Multi-view

The satellite and equipment counts refer to the included catalogs. Multi-view capacity refers to stations displayed simultaneously.

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Antenna operation

Pointing, tracking and station visibility



Orbit view with live pointing and assigned satellites

Station views	Dashboard, station page, orbit view, video-wall mosaic and Multi-view. Each station can be configured for RX or RX/TX.
Pointing & control	Move by azimuth, elevation and polarization. Hold-to-run jog, home, point to satellite and AGC acquisition. Peaking and step tracking depend on the ACU.
Tracking inputs	Scheduled TLE updates with SGP4, operator 11-parameter ephemeris, pointing tables and live AZ/EL feeds over UDP or TCP. Preview up to 24 hours.
Motion safeguards	Per-station control ownership, software limits, jog timeout, STOP ALL and TX acknowledgement for RX/TX stations. Commands are logged by operator.

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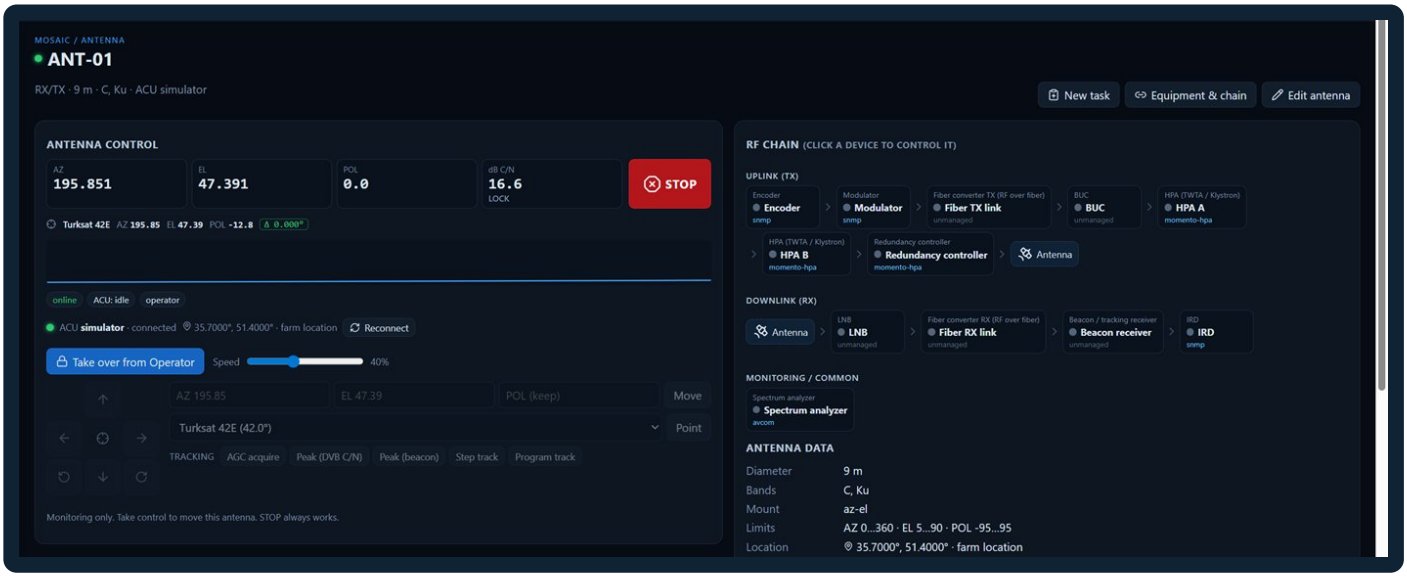
RF chains & alarms

Equipment monitoring, spectrum and operator response



Station page with antenna controls and RF chain

Equipment & protocols	Build separate uplink, downlink and monitoring chains. Connect modulators, converters, HPAs, BUCs, receivers and other devices through SNMP v1/v2c, HTTP/REST, SCPI, TCP or serial.
Spectrum	SCPI-over-LAN and Avcom binary analyzer drivers. Peak marker, max hold, averaging, waterfall and remote tuning. Default stream target is about four sweeps per second.
RF redundancy	Configure 1+1 hot standby or 1:1 cold standby with one or more backup paths. The active path selector records the path in service. Site hardware performs physical switching.
Alarm handling	Monitor device link loss and configured values, including SNMP OIDs and command responses. Severity, acknowledgement and history. Notify by app, SMTP email or a configured messaging gateway.
Shift coordination	Assign tasks to operators, attach notes to devices and maintain a shared shift board. Filter outbound alarm notifications by severity and station.

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System integration

Controller compatibility, deployment and commissioning

Operator browsers ↔ **Farm server** ↔ ACUs and RF devices

Antenna controllers	Momento ACU-H7 over REST, GD SATCOM 7200 via MT M&C over TCP or serial, and a simulator. Additional ACU brands and protocols can be added through a software update.
Program track	The server can stream pointing commands. With a compatible ACU, it can upload a time-tagged AZ/EL table for local execution. ACU-side execution can continue during a network interruption.
Serial connectivity	RS-232, RS-422 and RS-485 via server ports or compatible serial-to-Ethernet gateways. Match addressing and serial settings to each device.
Site services	Farm or per-antenna location, NMEA GPS input, satellite look angles and weather advisories. Monitor and control compatible LAN de-icing controllers over HTTP/JSON.
Access & integration	Built-in and custom roles, account lockout and audit log with CSV export. Authenticated REST API and live WebSocket status.
Server deployment	Windows or Linux, including Raspberry Pi. Built-in SQLite with optional PostgreSQL. Workstations use a browser on the LAN. Online TLE and weather refresh require external connectivity.

For a site review, share the antenna and ACU inventory, RF and analyzer models, and station network layout with Momento Medya.

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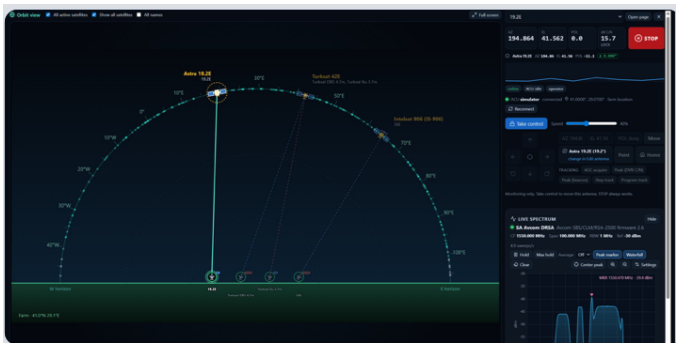
Tracking & operator displays

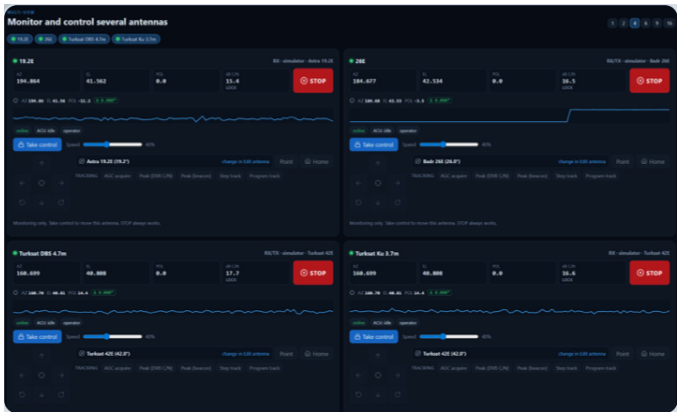
Tracking preview, orbit view and simultaneous control



Intelsat 906 example · 6° inclination · 24 h AZ/EL preview · 0.0003° indicated pointing error



Orbit control and live spectrum



Multi-view with parallel station controls

Tracking sources	CelesTrak or Space-Track.org, including scheduled retrieval through an optional proxy. Load TLE files, Intelsat or Eutelsat 11-parameter data, pointing tables or live AZ/EL feeds.
Tracking operation	Compare predicted motion against beamwidth to assess fixed pointing. Where the ACU accepts pointing tables, upload and renew the table automatically. Use the ACU satellite database or computed look angles for pointing.
Orbit & displays	See pointing status, favourites and satellites outside limits. Select a dish to jog, point, track or stop while viewing spectrum. Open live views across operator PCs, monitors and video walls.

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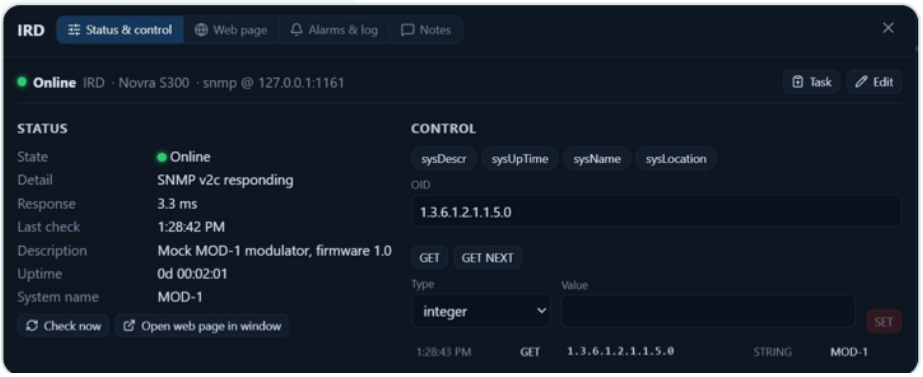
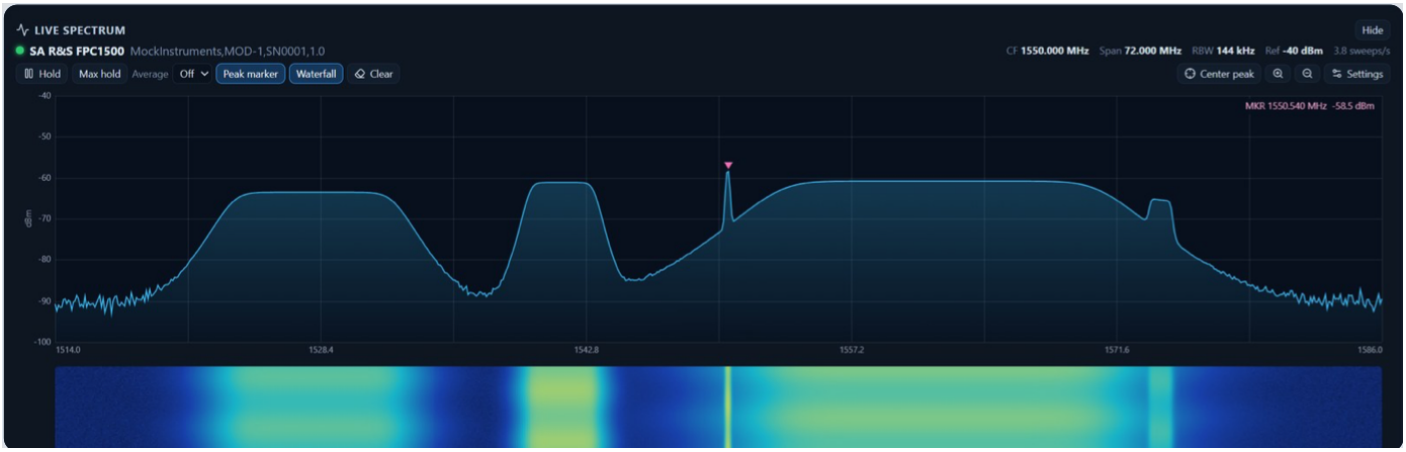
Device control & spectrum

Live device tools and supported analyzer interfaces



Device panel with SNMP controls



Live spectrum trace and waterfall

Device panel	Open from chain, mosaic or dashboard. Live status, SNMP GET / GET NEXT / SET with replies, SCPI / TCP / serial consoles, embedded equipment web page, alarms, notes and command/ reply audit.
SCPI analyzers	Rohde & Schwarz, Keysight, Agilent, Anritsu, Siglent, Rigol and Signal Hound. Features include peak marker, max hold, averaging, waterfall and remote retuning.
Avcom analyzers	Binary protocol support includes EVO-RSA, RSA-2500B and DRSA-2500. Live streaming is typically configured for approximately four sweeps per second.

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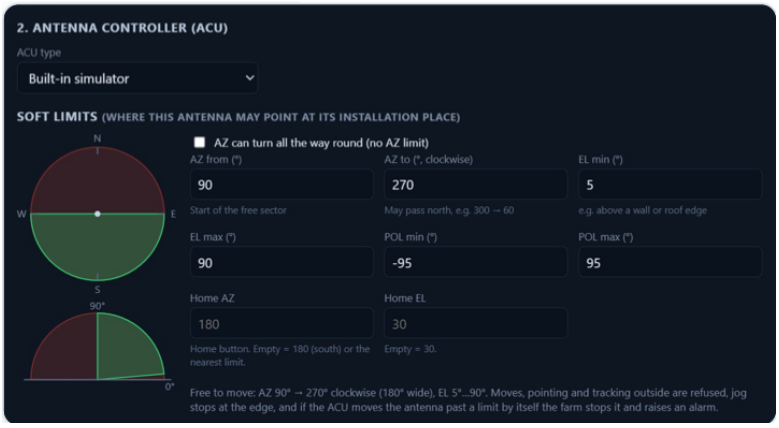
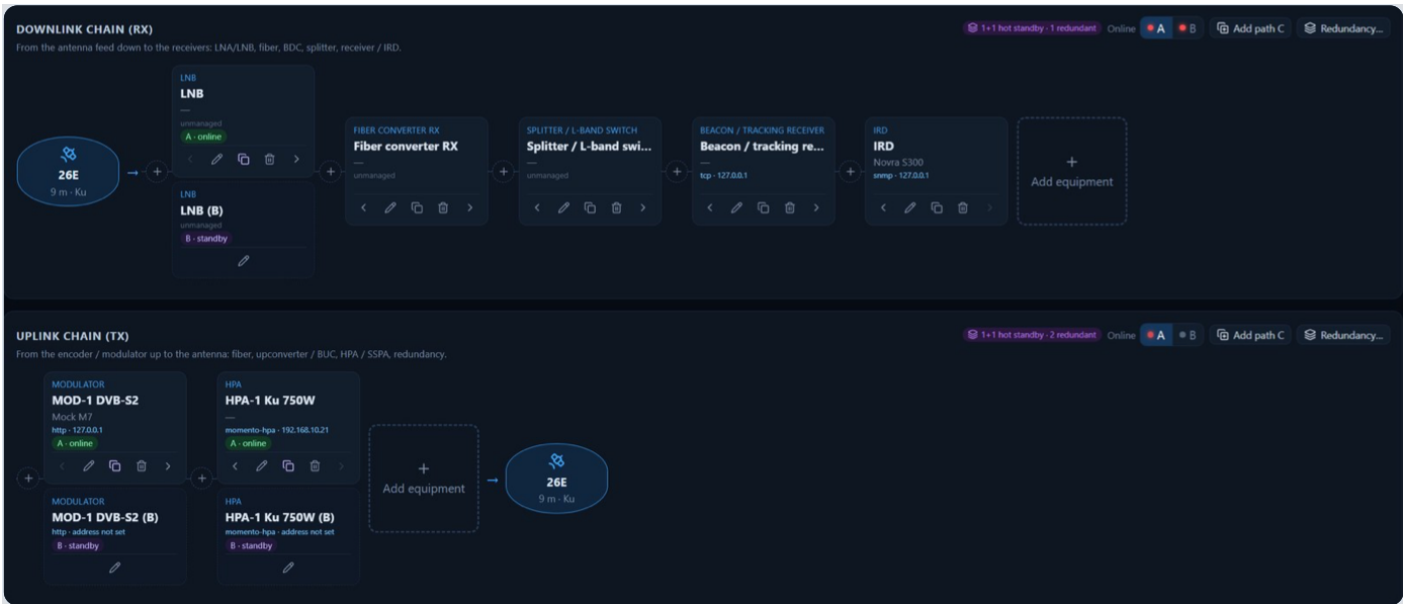
Movement limits & redundancy

Per-antenna safeguards and RF chain protection



Allowed and blocked AZ sectors and EL limits



Example · redundant LNB on receive, all devices protected on transmit · path A active, B standby

Travel limits	Set per antenna at installation or later. Clockwise azimuth sector may cross north (300° to 60°) or allow a full circle. Configure EL/ POL min/max and AZ/EL home. Out-of-range motion is blocked and detected excursions trigger stop, alarm and audit.
Backup design	Add redundancy during station setup or later. Protect selected or all devices, share the others, assign a switch/controller, monitor each backup and record active path and path health.

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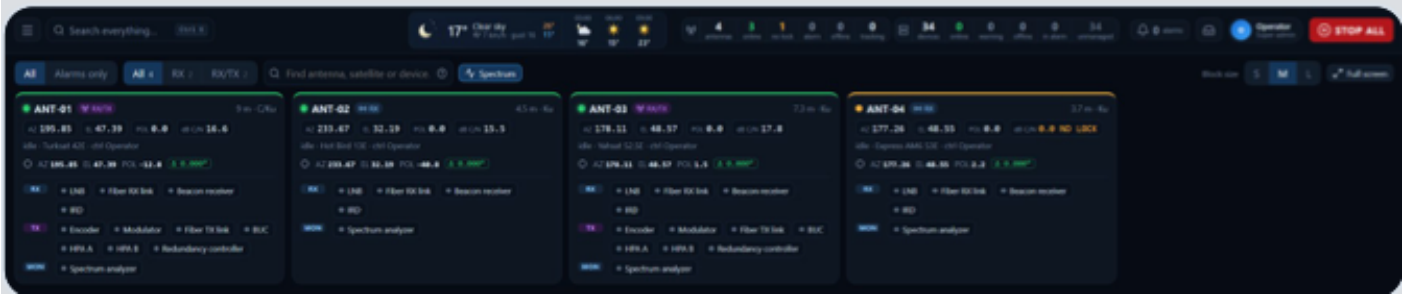
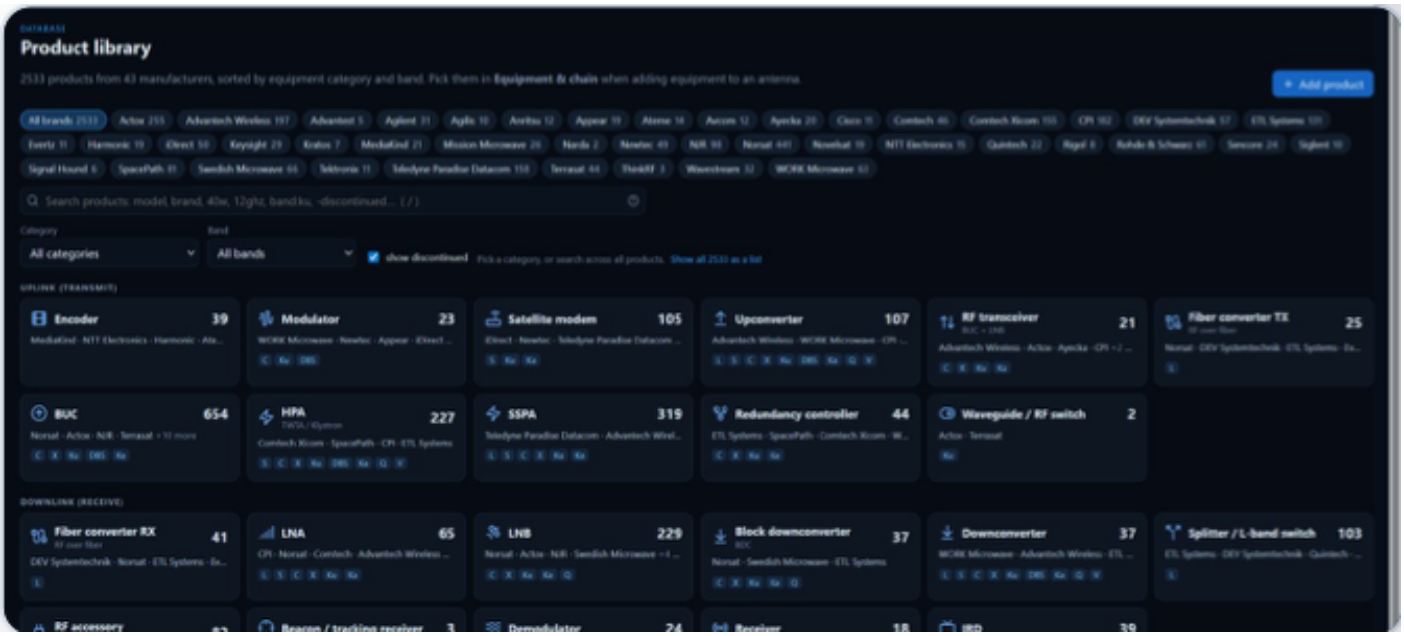
Daily operations & catalog

Video-wall monitoring, equipment selection and shift handover



Mosaic showing position, signal, tracking, de-icing and device state



Equipment catalog filtered by category, band and power

Guided set-up	Configure antenna, ACU, limits, redundancy and RF chains from a template. Catalog spans encoders, modulators, modems, converters, BUC, HPA/TWTA/klystron, SSPA/SSPB, redundancy and waveguide switches, LNA/LNB/BDC, RF-over-fiber, L-band, beacon receivers, IRDs and analyzers.
Shift & alerts	Critical, major, minor and warning levels. Audible and in-app alarms, SMTP email and SMS through Twilio, WhatsApp or HTTP gateway. Task board, shift notes and Ctrl+K search.

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Extensions & deployment notes

Controller integration, access and site services

Controller extensions	A common controller interface supports motion, tracking, limits, alarms and audit. Additional drivers, device protocols, pages and API functions can be added through software extensions or updates.
Plug-in deployment	Where the deployment includes the plug-in framework described in the original v1.5.9 datasheet, Python extensions load at startup and are listed in About and the audit log. Permissions apply to extension functions.
Site & de-icing	Enter site position manually, from a browser or via NMEA GPS. Calculate satellite look angles and get wind, snow, ice and frost advisories. LAN de-icing control depends on the ECU. Check CAN and heater-zone support against the installed firmware.
Security & records	Email and password sign-in, scrypt hashes, account lockout, four built-in roles and custom permissions. Demo account rollback, CSV audit export, token-authenticated REST and live WebSocket status.
Sizing & validation	Multi-view shows up to 16 stations at once. Size the server and network to the installed antenna, RF device, analyzer and operator counts. Verify ACU capabilities for GEO, inclined, MEO or LEO tracking and confirm satellite catalog values before use.

Specifications may vary with software release and installed hardware. Confirm satellite bands and beacon data with the satellite operator.

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