



CORTEX SERIES · VERSION 6.20

A new web server, rebuilt from the ground up.

The most significant CORTEX Firmware release in years. The entire web architecture has been rewritten, and a long list of new functions has been built on top of it.

4×

less data transfer per
configuration screen
on the new web server

128

I/O folded into one
alarm point with
Summary States

8×

more custom log
memory for samples



CORTEX 360

Site controller for large
and expandable sites



CORTEX 320

Compact site controller



CORTEX SERIES

One firmware,
the whole family

The headline change

A completely new web architecture behind the CORTEX interface

Almost everything else in version 6.20 sits on top of this one change. We rebuilt the CORTEX web interface from the ground up. The screens you know are still the screens you know. The engine underneath them is new.

The difference shows up first on the backhaul links where data throughput is expensive. A cellular modem on a mountaintop, a satellite backhaul, a VPN that adds latency to every single request.



Loaded once, reused everywhere

The browser now holds far more of the interface in memory. The first screen you open may pull a little more. Every screen after that pulls less.



Leaner data on the wire

The data format behind the configuration screens has been reworked. Same content on screen, a fraction of the traffic.



Fewer round trips

On a high-latency link, the number of requests costs you more than the number of bytes. We cut both.

What all this adds up to

Measured on firmware 6.20.1227 against 6.16.40

The same configuration screen, measured two ways: the raw data it holds, and the far smaller payload that actually crosses the link once compressed. Both got leaner, and it takes fewer requests to fetch them.

4.0× less

Over the link, compressed (what you pay for on the wire)

12.32 KB → 3.09 KB

3.2× less

The same screen, raw (before compression)

48.67 KB → 15.3 KB

3.0× fewer

HTTPS requests to load the main page after login

122 requests → 41 requests

Measured internally, same unit, same configuration, without the workspace. Your own figures will vary with the size of your configuration.

The new web server also gives our engineering team far more freedom in how screens are designed, and it takes less time to build them. New functions will reach your sites sooner.

Modernized configuration screens

Redrawn on the new web server, with live feedback while you configure

Larger type, a clear tab structure, controls that respond as you work. Choose a logic operator and the gate symbol, as well as the truth table, will redraw immediately, so you can confirm what the logic will do before you save it.

Virtual logic gate configuration - 1V2

☒ Enable
ID 1V2 - VSWR QUALIFIER
Show Description
Refresh

Descriptions
Actions

Action Type : CMD
System log

Alarm Call Instructions :

Qualifier :

Logic Operator

AND
NAND
OR
NOR
XOR
XNOR

Operands

1 1V1
2 1A11
3
4
5

1	2	Result
Normal	Normal	Normal
Normal	Active	Normal
Active	Normal	Normal
Active	Active	Active

Controlled Output

1
2
3
4
5
6

Virtual Logic Gate configuration (1V2). Operator, operands, live gate diagram, truth table and controlled outputs, all on one screen.

Alarm Call Instructions

64 sets of 256 characters, attached to any alarm call

The operator who takes the call at 3 a.m. reads exactly what you want done about *that* alarm, on *that* site. No instruction binder to hunt down, and nobody has to wake up the one person who knows the site.

Descriptions	Actions
Action Type :	MAJOR1 System log ☒
Alarm Call Instructions :	1ACI1 - GENERATOR FAIL
Qualifier :	1D1

The Alarm Call Instructions field, here with a saved instruction selected. The text it holds is shown below. It appears on every alarm-capable point, Summary States and SNMP traps included.

WHAT FITS IN 256 CHARACTERS

GENERATOR FAIL, SITE 14. Check utility status on 1D3 before dispatching. If utility is up, call the on-call technician. If utility is down, call the power utility first. Fuel level is on the SITE POWER workspace.

The instructions live in their own catalogue, so one text is shared by as many points as you want. Change the on-call number once and every alarm that references it is updated.

Stop memorizing I/O numbers

The new I/O search tool

Any field that expects an I/O identifier now opens a search panel. Pick the category, type part of the description, select from the list.

ID	Description
1A1	INDOOR TEMP
1A2	INDOOR HUMIDITY
1A7	CH 1 RF POWER
1A8	CH 2 RF POWER

Filter by category and description, then apply.

The technician who wired the site two years ago is the only one who remembers that **1A7** is CH 1 RF POWER. Everyone else can now just look it up.

It saves time on every screen: no more digging through the as-built drawings to find an identifier. It also removes the most common source of configuration errors: the right function pointed at the wrong point.

A real toolbar in the Workspace editor

Building a site mimic is now a drawing job



The new tool palette, docked to the left edge of the editor.

A proper tool palette runs down the left edge: selection, shapes, logic symbols, lines, text, images, meters, status indicators and live I/O boxes, with undo, redo, save, open and download always within reach.

Workspaces are what your operators look at all day. A rack elevation with live readings on it. A channel overview. A site map with a status indicator per shelter.

Each unit holds 32 workspace slots, and each user is assigned the one that suits their job. The dispatcher, the RF technician and the building manager can each get their own screen from the same unit.

Summary States

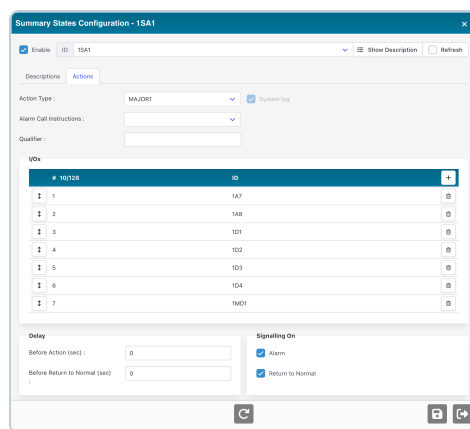
Roll up to 128 I/O into one state. Thirty-two times over.

Your NOC rarely needs to see all of a site's points. It needs to know whether *this site*, or *this transmitter*, is healthy. **A Summary State collects up to 128 I/O points into a single reading that goes active as soon as any member of the list goes active.**

One Summary State per shelter turns a 200-point site into a handful of lines on a dispatch screen. One per subsystem tells a technician whether the problem is in the RF chain, the power plant or the building.

It behaves like a normal I/O point, so it can be alarmed, logged, trended, placed on a workspace and read via SNMP like anything else.

Delays before action and before return to normal are set separately, so a point that aggregates 128 inputs does not chatter every time one of them blinks.



The I/O table header counts 10 of a possible 128 members.

Summary State or Virtual Logic Gate?

They sit next to each other on the menu. They do different jobs.

	SUMMARY STATE (1SA)	VIRTUAL LOGIC GATE (1V)
What it does	Aggregates a list of I/O. Active as soon as any member is active.	Evaluates a boolean expression on its operands.
Capacity	Up to 128 I/O points per state, 32 states per unit.	Up to 5 operands with AND, NAND, OR, NOR, XOR or XNOR. 128 gates per unit, 192 with the VLG-PLUS option.
Reach for it when	You want site health or subsystem health folded into one line at dispatch.	You need to qualify an alarm, build an interlock, or say "only when the generator is running".

Eight times the log memory

Same hardware, no option to buy

A CORTEX unit shares one pool of sample memory across all of its custom logs. In version 6.20 that pool has expanded eightfold, from 1,024 samples to 8,196, on the same hardware. You decide how to spend it: spread it across many logs, or give most of it to the one trend that matters.

8×

Shared custom log sample memory

1,024 → 8,196 samples, for the whole unit

5.7 days

One log at a one-minute sampling period

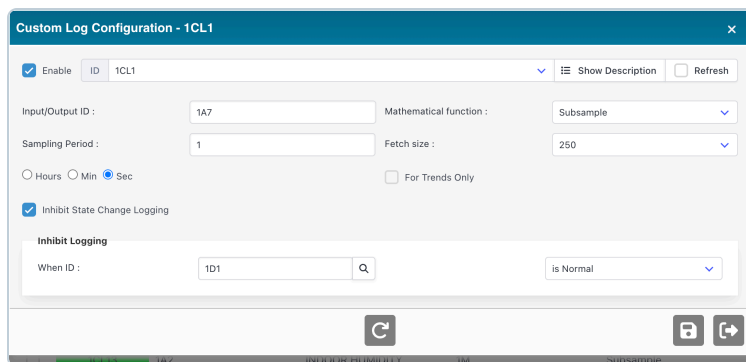
17 hours → 136.6 hours, close to six days

The pool is shared across all 32 custom logs. Give it to one critical trend and it spans close to six days; split it across several and each takes its share.

Stop filling the memory with noise

Two new controls on every custom log

Inhibit State Change Logging keeps a chatty digital point out of the log entirely. **Inhibit Logging** makes the whole log conditional. Point it at a transmitter's on-air status and the log records only the periods that carry meaning.

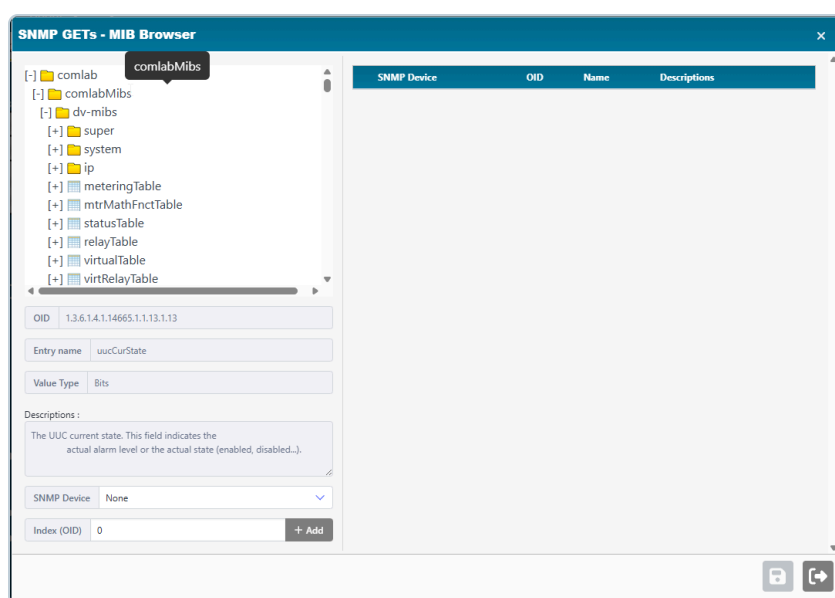


Custom log configuration (1CL1). Here, sampling of the RF power reading pauses whenever 1D1 is normal.

A MIB browser built into the unit

SNMP without the OID transcription

Integrating a third-party device used to mean opening its MIB in a separate browser on a PC and transcribing the OID by hand. **Load the MIB into the CORTEX unit and you can now browse it right there.**



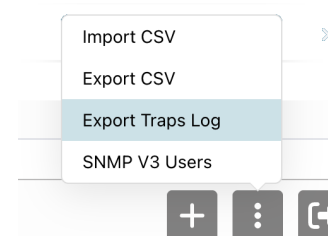
Select an object and its OID, entry name, value type and description come with it. Assign it to an SNMP device and add it in one step.

Take the evidence with you

New exports on the SNMP screens

Export Traps Log. When a third-party device sends something and the unit does not react the way you expect, the export shows exactly what arrived and when. A two-party argument becomes a one-minute check.

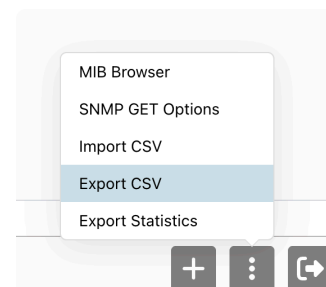
Export SNMP GET statistics. The polling statistics come out the same way, for record-keeping and offline review.



Bulk configuration by CSV LICENSED OPTION

Export the current configuration, edit hundreds of rows in a spreadsheet, import it back. For a network where every site carries the same 200 OIDs with a different IP address, this is the difference between an afternoon and a week.

Contact dvsales@davicom.com for availability on your units.



Debugging and system monitoring



USB storage usage statistics

The status and the loading of a USB storage device can now be monitored remotely. A fuel gauge for your on-site log storage, read from the NOC instead of from the ladder.



CPU and memory usage in Hardware Monitoring

Usage percentages have been added to the Hardware Monitoring screen, for the special cases where a system has to be debugged from a distance.

Retired in 6.20



Fax support

Carried since 1993 for alarms and log transfers. Given how few fax machines are left in 2026, it was time to let it go.



Inter-user chat

Added about twenty years ago so site personnel could reach NOC operators. Cell coverage has made it redundant.

Cybersecurity

Aligned with current standards for IoT and Internet-facing devices



No more default passwords

All default passwords have been removed. On the first connection to a unit, or after a factory reset, a fresh user-generated password must be entered for the Director user before start-up can continue. Lower-level roles no longer carry default values either.



Stronger SNMPv3

Authentication now supports HMAC-SHA-224, 256, 384 and 512. Privacy adds AES192 and AES256. Algorithms a security team will recognize on an audit sheet.

About the Linux vulnerabilities recently reported in the media

Following verification of the Linux version and the code used in our products:

Dirty-Frag: the version of Linux that we use is not subject to this vulnerability.

Fragnesia: our software bill of materials does not include the modules targeted by this vulnerability.

Before you upgrade

Read the release notes on DEX for the complete list of changes, and plan the first connection after the upgrade: the Director password has to be set before the unit finishes starting up.

Get firmware 6.20 today

Version 6.20 and the full release notes are on DEX at dex.davicom.com.
Questions about the update, or about the licensed CSV option? Write to dvsales@davicom.com.

dex.davicom.com