

Civilian Robotics Systems

8.4 Documentation New Users' Guide

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ATOS/E
SECURITY
ENHANCEMENTS
Release 12.0

COMPANION
8.4

Documentation scope

The goal of this document is to provide a reference and quick-start guide for new users and units running Companion 8.4. The information within may not remain relevant in version 8.5, or for the upcoming ATOS/CX. It is also not guaranteed to be comprehensive. Unlike our other documentation, it is written from a real-world perspective to make it more accessible. Customers are strongly encouraged to access support.nanite-systems.com and the Nanite Systems User Group in order to obtain the latest and most pertinent support for their products.

RestrainedLove (RLV/RLVa) required

To get the most out of our products, customers are strongly (even violently) urged to ensure that RLV is enabled. This makes it possible for us to restrict your viewer's functions at appropriate times, as well as listen for command input and modify what you see and say in local chat. Unlike some BDSM-related products, our system does not report to owners when RLV is disabled, as we respect that certain emergency situations may make it untenable to remain restrained at all times. However, the experience is extremely suboptimal.

For instructions on enabling RLV in your client, see:

http://wiki.phoenixviewer.com/phoenix:phoenix_restrained_love_support_rlv
http://catznip.com/index.php/How_to_enable_RLVa

A relay is not required.

Terminology

Unit. A robot or cyborg.

Operator. Any individual, either a person or a unit, who is accessing or currently in control of a unit.

(Main) controller. A device, usually back-mounted, that contains the majority of power control circuitry and the user interface for managing a unit. Other companies have called comparable devices “Power Supply Units” (PSUs), “Central Control Units” (CCUs), or simply “cores.”

Chassis. The body of the unit, not including the main controller.

System. The controller and any attached peripheral devices, or the software running on the controller.

In this guide

Getting started

Booting up for the first time, using the menus and the command line

Power management

Subsystems overview, working with power profiles, dealing with hazards

User and access management

Guests, users, managers, owners, and controlling who can use what

The Screen Console Manager

Getting around the Companion 8.4 HUD

Booting up

Menus

Command line

GETTING STARTED

Booting up

Instructions for getting your system working start on the next slide. However, there are some important things you should know first.

- Both the controller and battery must be attached **and connected** in order to function. This means that you will be **powered down** when the controller is first installed.
- You are a **robot**. This means you are **helpless** when you are powered down. It is possible to insert the battery and boot yourself up without assistance, but most require help the first time.
- Robots with main controllers installed are frequently **vulnerable**, either in that they are dependent on others or at the mercy of others. If you do not wish to be vulnerable, or do not trust those around you, these products may not be suitable for you.

Booting up

To insert the battery:

1. Attach both the main controller and the battery.

IMPORTANT: The battery is delivered unboxed. Do not rez it.

When the controller is attached, it will be powered off. You will not be able to speak, move, see, or send and receive IMs. (See previous slide.)

2. Touch the battery to insert it into the controller.
3. Touch the controller to power it on.

On most controllers, touching near the battery's insertion point will open the lid. (If this happens, keep poking.)

Menu access

There are two types of menu access: **dialog menus** (using standard SL dialogs) and **touch screen menus**. Both present the same information. Most of your interaction with the unit will be performed through these menus.

To access the dialog menus, simply touch the body of the controller.

Menu access

To access the touch screen menus:

Nightfall, Aide, DAX/2, SXD: these controllers have LCD or LED screens on them. They can be clicked immediately.

Aegis: touching the lid will open the holographic screen; to get the dialog menu, you must click the base part (either the rim of the controller before opening or the base once the lid is opened.)

XSU, MynK, DAX/3: the touch screen will open automatically when the dialog menu system is accessed.

Other controllers (DAX/2m, BaCdrive, Scout): these systems do not have touch screen functionality.

Main menu

subsystems	Control unit capabilities (vision, hearing, etc.)
cortex	Control speech settings (garblers, etc.)
personas	Set active personality overlay
applications	Run third-party programs
perform	Run a sequence of scripted actions
devices	Access installed peripherals
manage	System configuration (trusted users only)

Manage menu

feedback	Configure output messages (verbosity) and sounds
users	Set up who can access the system (and to what extent)
software	Add/remove packages and update the OS
identity	Configure name, gender, light color, etc.
policies	Configure curfew and access settings
EPS config	Configure auxiliary power and the distress beacon
commands	Run a system command

The command line

If you have RLV enabled, then by default your chat will be redirected through a speech processor called the *cortex pipeline*. This allows the controller to manipulate your speech in a wide variety of ways, as well as detect when you're using special commands.

There are three types of commands: **system**, **cortex**, and **bypass**.

System commands

Almost every management function in Companion can be carried out using a system command, including everything in the menus.

- To run a system command on yourself, type @ before it, e.g. @about
- If you haven't done so already, set up your name now with: @name <name>
- The @help system command lists and describes how to use each command and most major aspects of the OS

The @ prefix is only for using commands on yourself. Usually, documentation will not include it.

Local command access

System commands can be carried out on others. When you set your name, you'll see a message indicating that your **local command prefix** has changed. To issue a command to a robot nearby, use:

```
/1 <prefix> <command>
```

e.g. /1 rh about

This is similar to how commands in OpenCollar work.
(Notice the lack of @ sign.)

Cortex commands

A small number of simple commands, used for roleplaying effects, start with ! instead of @. These are not system commands and must be spoken by the unit directly.

- Cortex commands include !spark and !fault
- The most important is !release, which disables the chat redirect (Type /1capture to turn it back on)
- The relay system command can be used to send unit speech, including cortex commands

Cortex bypass commands

These are commands used to send preset messages instead of speech. This makes it easier to keep your text robotic-sounding and uniform.

- Type `.info` to see a list of available bypass commands
- The available preset messages change with your persona
- The `reLay` system command can also be used to send bypass commands

How do I shout?

RLV peripherals can't tell when you're pressing Ctrl+Enter or Shift+Enter, so instead we have special prefixes, "s " for shouting and "w " for whispering.

- e.g. "w Hello!" will whisper "Hello!"
- Other message prefixes include the familiar "/me " for actions, "d " for descriptions (actions that don't start with your name), and "ooc " for out-of-character
- Note that your ability to speak is at the mercy of your subsystems (see next section)

Subsystems overview

Working with profiles

Dealing with hazards

POWER MANAGEMENT

Power

Just like a real machine, your battery stores a certain amount of energy (measured in joules (J)) that must be expended to accomplish tasks. Power usage is generally measured in watts (W), which are joules per second.

- Normally the unit uses less than 1 kW (1000 J/sec)
- Most batteries store several megajoules (millions of joules) worth of power since there are 3600 seconds in each hour

Where's the power switch?

To turn off:

- **main menu › shutdown**
- `@shutdown -s now`
(or a number, in seconds)
- `@halt`
- `@off`

To turn on:

- `@on`
- `@boot`
- Touching the controller

To reboot:

- **main menu › reboot**
- `@reboot`
- `@shutdown -r now`
(or a number, in seconds)

Subsystems

These are the main way of determining what the robot may or may not do, similar to an RLV restraints menu on other devices. Most subsystems require power to run.

- Moving, flying, teleporting, and talking cost additional power (varies with amount and speed/volume)
- At full power, a unit uses **780 W** when idle
- This drops to **40 W** in sleep mode (5.12%)

See @power for an overview of your current status.

Subsystems menu

- **video:** See (windlight + pixelated view)
- **audio:** Hear (not emotes)
- **network › SMS send and receive:** Send and receive IMs
- **motors:** run/fly; walk/touch
- **FTL:** teleport, touch, sit at a distance
- **volume:** speak at all; speak above a whisper; shout
- **mind:** ability to form sentences
- **network › GPS:** see location and map
- **network › identify:** see names

Cooling

If you have ATOS/E installed, your unit also tracks temperature and system integrity (health).

- Cooling usually uses around **30 W** (on top of the base 780 W), with fan or liquid cooling speed measured in RPM (revolutions per minute) or CFM (cubic feet per minute)
- Units are always at least 5° C (9° F) warmer than the ambient air temperature
- A rapid beeping alarm will sound if you are over 80° C
- Damage will occur above 100° C

Profiles

The **subsystems › profiles** menu allows you to save and load power presets. These can also be accessed with the `@profile` command.

Low battery states

Passing certain thresholds of remaining battery life results in the system taking various actions for self-preservation:

- At 50% power, a notice message is produced
- At 20% power, every space you say is doubled
- At 10% power, every space is tripled, and certain subsystems are turned off (these can be turned back on without trouble)

Low battery states: 5%

At 5% power, the system starts a 30 second timer, after which it shuts down for safety. This is to protect you from completely running out of power by accident.

- If the system is turned back on after this, even more subsystems will be disabled
- To cancel the shutdown timer, type `@shutdown -c`
- To turn the controller on again, type `@on`

Auxiliary power

The controller stores 240 kW of power in a special capacitor for use when the unit is shut off, called the *auxiliary power capacitor*. This allows you to hear chat, partially see, send and receive IMs, and touch yourself until it runs out. The life of the auxiliary capacitor can be extended by disabling unnecessary features under the **manage › EPS config** menu.

- **EPS**: enables or disables auxiliary power
- **radio**: enables or disables IMs (both send and receive)
- **video**: enables or disables ability to see (partially)
- **audio**: enables or disables ability to hear local chat
- **GPS**: enables or disables location information (important for beacon)

The distress beacon

This sends a configurable message to your owner(s) in case you are stranded. See the **manage › EPS config** menu.

- **beacon**: enables or disables automatic beacon triggering when powered down
- **message**: sets text to include with distress beacon
- **interval**: sets rate of repeating the beacon when powered down
- **test beacon**: sends a beacon message to verify it is working properly
- **fire beacon**: fires the beacon immediately

The beacon may also be manually triggered with `@beacon fire` if you are powered on. Triggering the beacon uses 0.1 kW, so a repeating beacon will eventually stop once you run out of auxiliary power.

Interference

Companion uses the ACS interference protocol, which classifies environmental radiation by how it affects hardware function. Units will see messages of the form “Fault in <x> subsystem detected/resolved.”

With few exceptions, these conditions are temporary, and generated by localized sources. Common examples:

- other units teleporting in nearby (“FTL wakes” or “warp bubble collapses”)
- specially-designed weapons intended to disable robots
- radiation zones set up by land owners

Interference cannot be ignored, but it can be countered temporarily with a magnetic deflector shield, such as the MESH-2100.

Ranks

Guest management

Access options

USER & ACCESS MANAGEMENT

Managing users

Users are controlled through `manage › users`

- **list users:** view current users
- **add user:** add someone nearby as a user
- **save/load users:** back up or restore
- **clear users:** delete all users
- **domain (advanced):** get users and other settings from a central server

User ranks

Rank	Level	
Owner	2	Full system access
Manager	1	Can't affect owner accounts
User	0	Can't access the manage menu
Guest	–	Access may require unit's consent

Guests

A guest is someone who has not been added as a user. Like a normal level 0 user, guests may access any controller function other than those under the **manage** menu, but they are subject to two key restrictions:

1. They must have the unit's **consent**. (see next slide)
2. Access must be set to allow **all**.

Consent

By default, when a guest touches your controller, you will get a dialog with the following options:

trust: Permanently whitelists the operator. (“Any time!”)

ban: Permanently blacklists the operator. (“Go away forever.”)

allow: Whitelists the operator temporarily. (“Just for a bit.”)

deny: Blacklists the operator temporarily. (“Not now!”)

allow once: Permits one single action.

ignore: Refuses one single action.

Whitelists and blacklists

You can manage the contents of these lists (both temporary and permanent) with **manage › users › whitelist** and **manage › users › blacklist**, or using the `@guests` command.

Temporary blacklist and whitelist entries are refreshed every time the operator interacts with you, and expire after 10 minutes of inactivity.

These lists only apply to guests; users are not subject to consent, and are hence effectively permanently whitelisted.

Ownership and safewording

To give someone a rank, you must add them as a user and then **promote** them to the desired level from within the **list users** menu. Alternatively, the **submit** button makes them your sole owner.

If your owner runs away, @keychain reset will return you to self-ownership, just like **manage › users › clear users**. Your current owners will be notified.

Local access

User access can be filtered with the **manage › policies › access › local** menu option.

- all: normal behavior
- users: ignores guests
- group: treats members of your group as users (guests ignored)
- owners: level 2 required to access the system

This affects menus, local (/1) commands, the RLV relay, navigation nodes, and foreign device authorization.

Remote and self access

The **remote** menu option has the same options as **local**, and determines who can use a remote console to operate the unit.

The **self access** menu option prevents the unit from touching or controlling itself. Immediately. Use `@safeword` to cancel. When self access is denied, the unit is limited to cortex commands, bypass commands, consent, and basic speech, and has no other control over itself.

Other access settings

Also in **manage › policies › access**:

- **set PIN**: for locking local access
- **autolock**: automatically lock local access after 30 sec
- **consent**: require unit permission for guest access?
- **drain**: allow power to be taken via induction?
- **region bans**: prevent unit from visiting certain sims

Policies

These settings can be found in the **manage › policies** menu.

- **subsystems, personas, vox**: prevent these from being adjusted
- **SMS**: limit the unit's IMs to only contacting users (or only owners)
- **apparel**: prevent all outfit changes
- **bolts**: prevent removal of devices (auto: permitted only when off)
- **curfew**: sends the unit home at a certain time of day if in another sim
- **nav**: bypass consent for navigation nodes

Setup

Overview

Partition details

THE SCREEN CONSOLE MANAGER

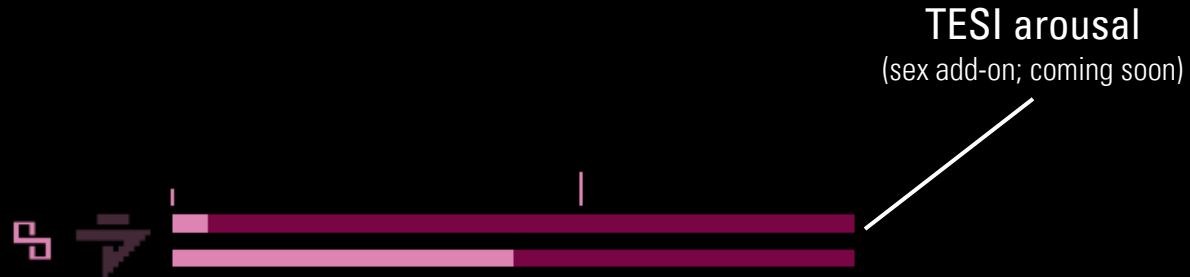
Local consoles

A *local console* is the HUD used by the unit to control the operating system. The local console included with Companion is called Screen Console Manager, or SCM. It is installed automatically in your inventory, in the directory #RLV/~NS/console and has the object name `_console-screen`. Each version of Companion includes a corresponding version of SCM.

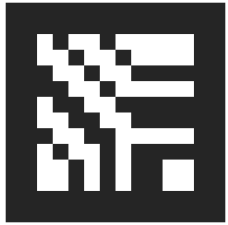
Getting the local console:

1. If you have an old version, a new one will be given to you when it attempts to attach.
2. Otherwise, use the command `@setup console`
3. If you see a bunch of `@getinv=123456` spam, **you have RLV turned off.**

The local console



System partition



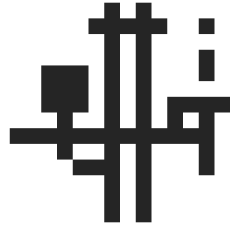
applications

Native SL scripts that can add new functionality to the controller.



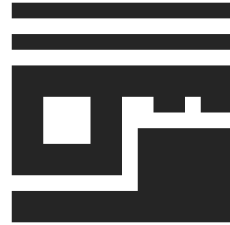
cortex

Control speech filters and related options.



devices

A list of installed peripherals, including the battery and HUD. Excludes passive devices such as lights.



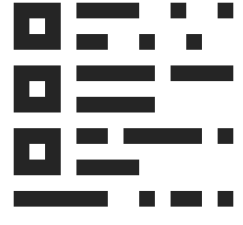
security

Access the complete manage menu for easy adjustment of users, policies, and more.



personas

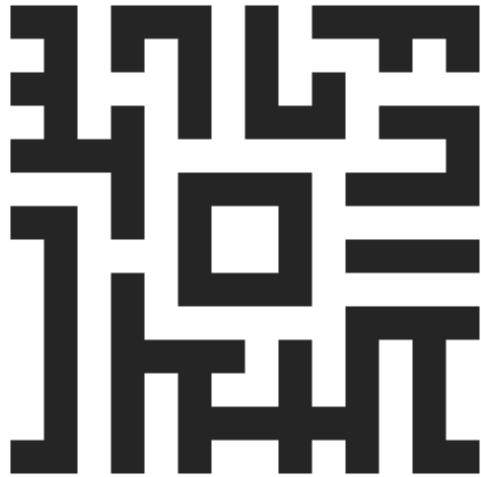
Behavior presets that change sound effects, AO, and more. If one is active its name will appear above this icon.



subsystems

Adjust the rate of power usage by choosing what the unit can sense and do.

ATOS/E



The ATOS/E combat add-on provides integrity (health) and temperature tracking. Hit points are indicated with ► and temperature is measured in degrees Celsius (° C).

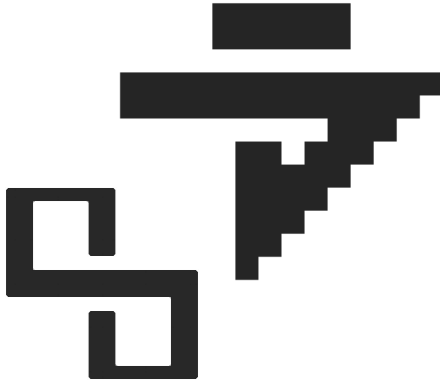
The **top gauge** indicates current hit points.

The **bottom gauge** indicates current temperature.

If the temperature gauge fills up past 100° C, then the unit will overheat and be forced to shut down.

If the unit has a compatible weapon equipped, it will have a partition similar to the ATOS/E main section, but displaying **ammunition** instead of integrity.

TESI



The TESI add-on provides lubricant management and simulation of sexual arousal inspired by products from Caeil, :mused:, and YT Recreant.

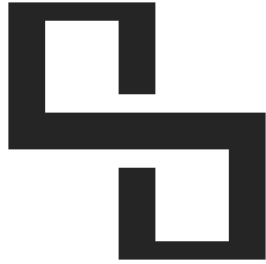
The **top gauge** indicates current arousal level. The large tick above it is the threshold required for orgasm.

The **bottom gauge** indicates current sensitivity. This affects the rate of arousal build/decay and the orgasm threshold.

The **large button** triggers orgasm.

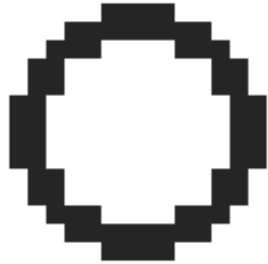
The **small button** moves the small tick to the current position. The unit's arousal may not fall below the small tick. This is called the *plateau level*.

Other devices



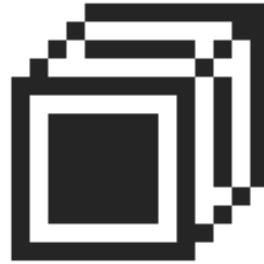
handles

Multiple handle devices will be combined into one on the HUD.

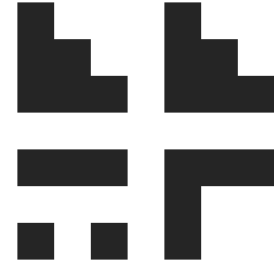


shield

Left: activate physical barrier.
Right: status.



superbit



icon

Opens a pop-out menu for easy control.

Adjusting SCM

The HUD uses the configuration file `_console-config` to choose its colors, position, and size. This is automatically copied over from the controller if the HUD has a different version, so make changes to the copy in the controller. This protects against updates.

The most common complaint is that the HUD is too far down on the screen. You can adjust its position by editing the `display-offset` value at the start of `_console-config`.

The most common reason for this complaint is the default placement of the interface buttons in Firestorm. We **strongly recommend** relocating these buttons to the right side of the screen with drag and drop in order to improve immersion. (Hint: try right-clicking.)

Other documentation sources

Topics not covered in this presentation

Reporting issues and software defects

NEXT STEPS

Obtaining additional information

This guide is meant to help new users get oriented with the system. It is by no means exhaustive documentation. More information is available at:

support.ns: Information for users and units

<http://support.nanite-systems.com>

develop.ns: Information for add-on creators

<http://develop.nanite-systems.com>

Nanite Systems User Group: Real-time chat, updates, and more

In-world SL group

On-board help system

See the `@help` command

How much more is there?

- Arabesque scripting
- Personas
- Navigation system
- Using the RLV relay
- Remote access
- Audience
- Charging
- Domain membership
- Module management
- Gender
- Color settings
- Installing packages
- Editing OEM chip data
- Installing custom files
- Creating applications
- Flicker (light) scripts
- Cortex (vox) filters
- Leashing/following
- Handle devices
- Boot style settings
- Delayed shutdown
- BaCdrive differences
- The output pipe
- Menu sessions
- Tutorial mode
- Using ATOS/E
- Chassis specification

Some of these topics may be discussed in future presentations, but for the time being you are encouraged to consult the previous slide for more information.

Unresolved issues and reporting bugs

If all else fails, contact Nanite Systems support directly via email at:

support@nanite-systems.com

Please be sure to include a full description of the issue and, if appropriate, your SL username, so we can help settle the matter as quickly as possible. A response can usually be expected within 24 hours.

If you believe you have found a software defect, contact **rhetOrica.resident** in world if online (weekends only), or email the address above. As with all bug reports, we strongly encourage you to provide complete, reproducible steps that led to the issue in question. Direct public submission to our bug tracker is not yet available.

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