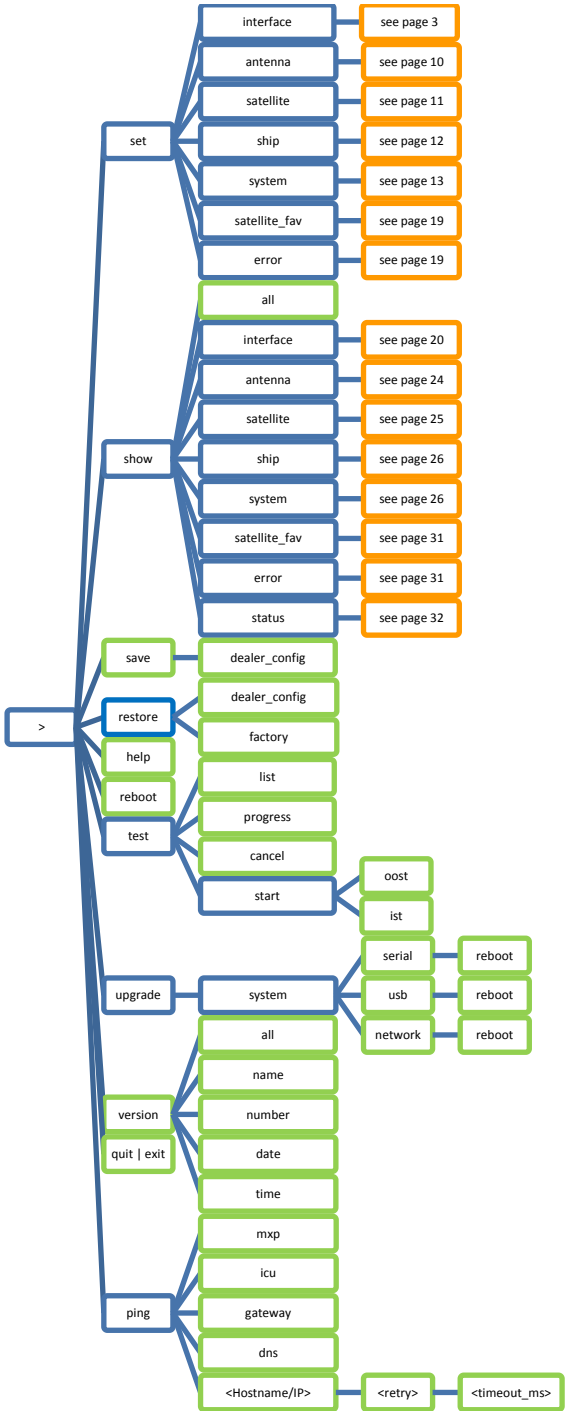
Approval:

Approving Authority	Signature	Date
Supervisor, Software Engineering:	Gareth Howlett / Signature on file.	05/16/12
VP, Engineering:	Joan Phillips / Signature on file.	5/16/12
Chief Engineer:	Pete Blaney / Signature on file.	5/16/12
Author:	Haryono Dianto / Signature on file.	5/16/2012

Revision History

Rev.	Software	ECO	Description of Change	Date
A	B0.83	9469	Initial Public Beta Release	04/13/2012
B	1.00	9647	Update to reflect Release 1.00	05/16/2012

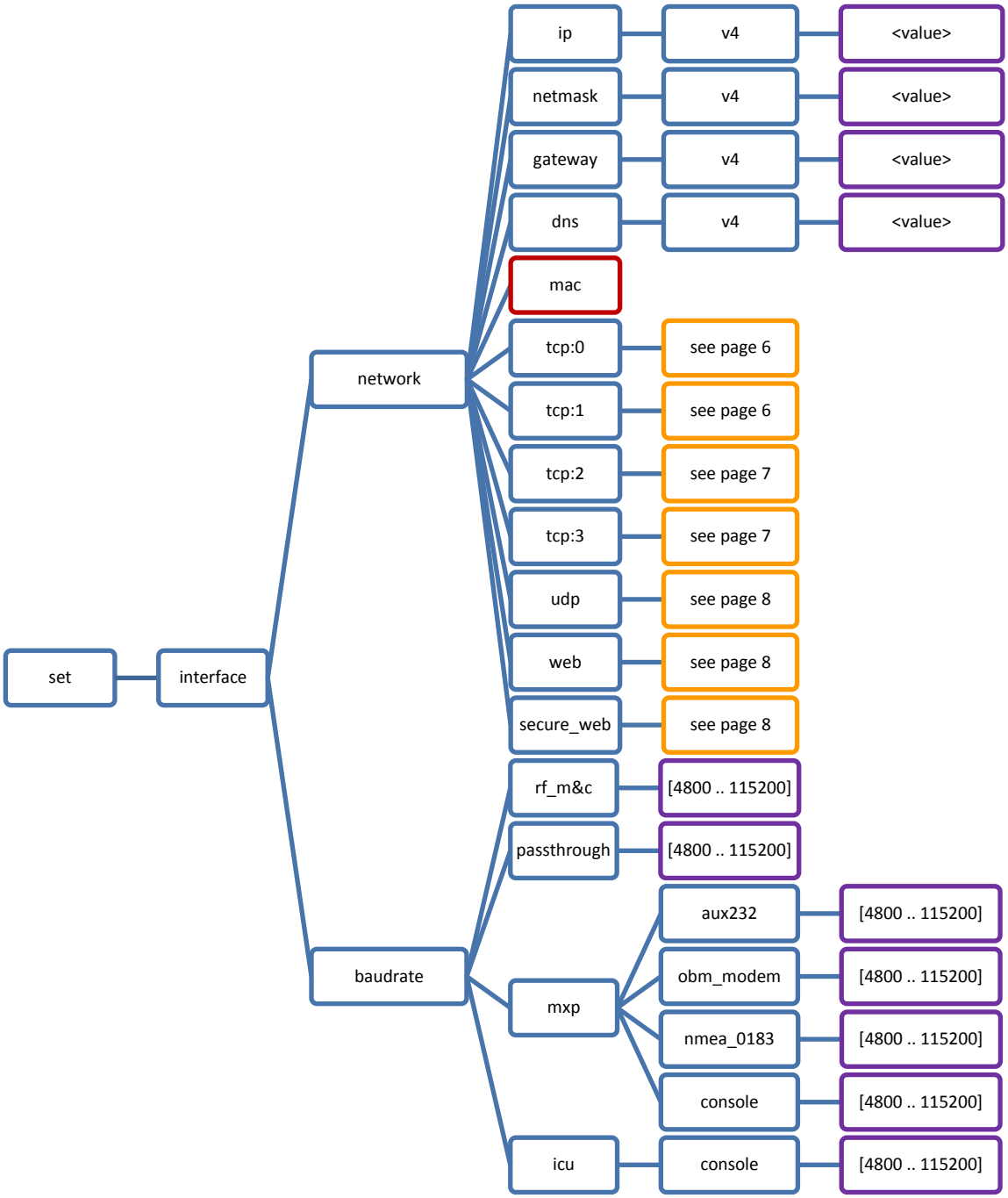
Command Line Tree Structure:



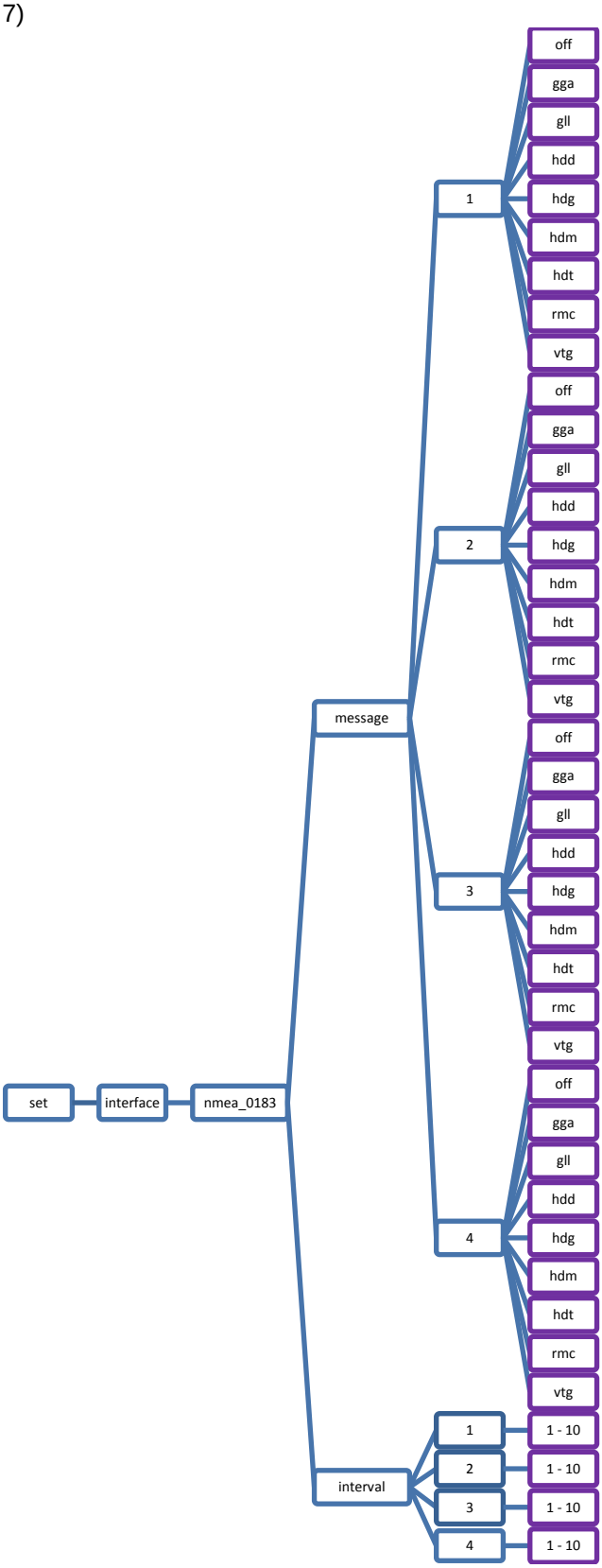
Legend:

- Normal
- End of command
- Information
- End of command with “default”
- Not supported

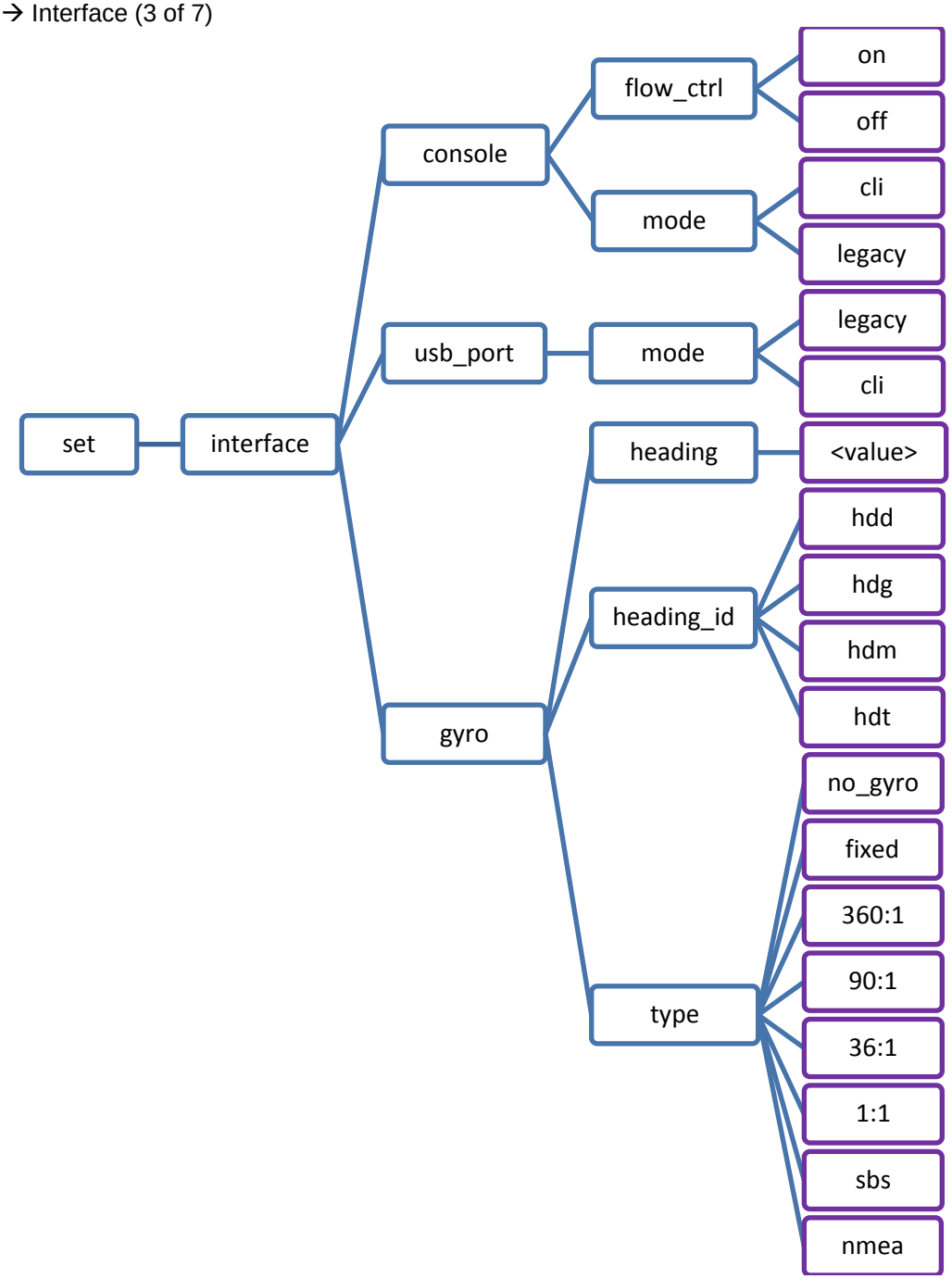
Set → Interface (1 of 7)



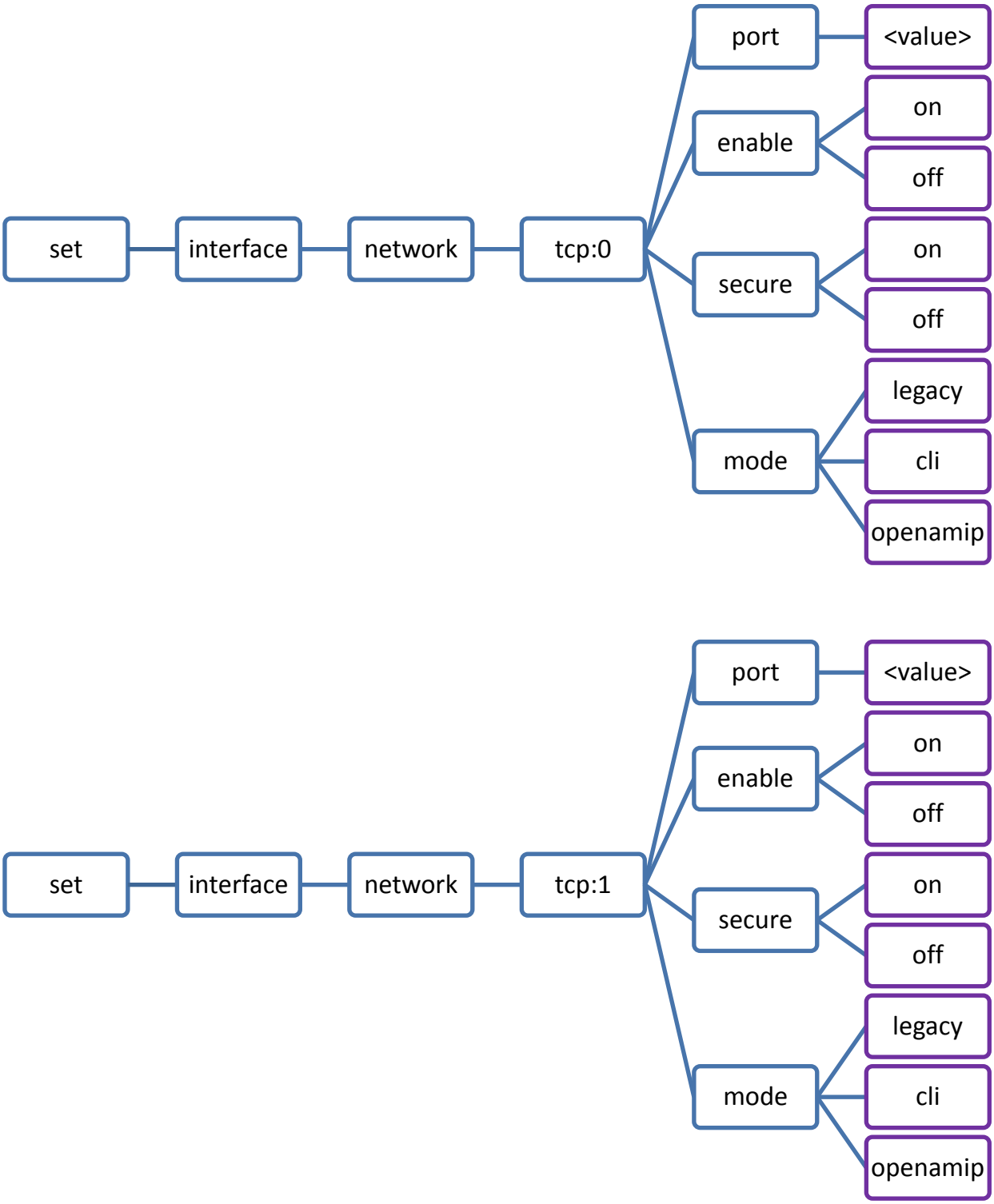
Set → Interface (2 of 7)



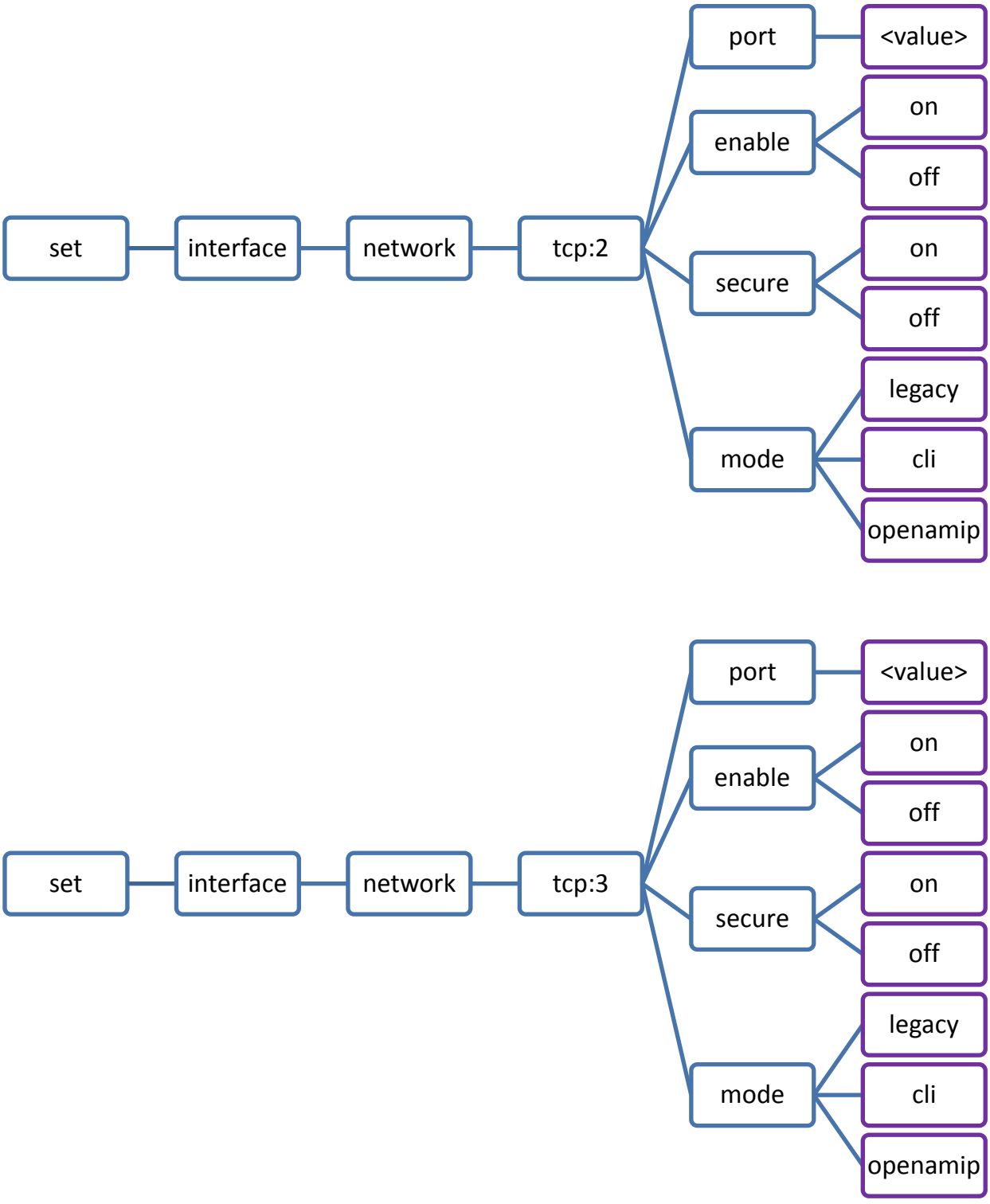
Set → Interface (3 of 7)



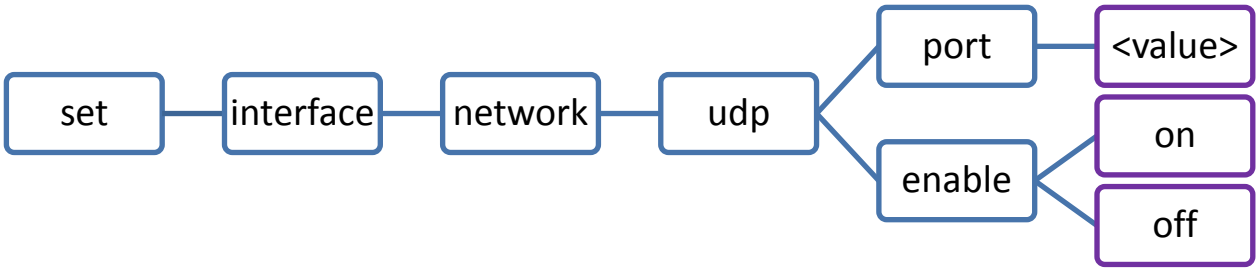
Set → Interface (4 of 7)

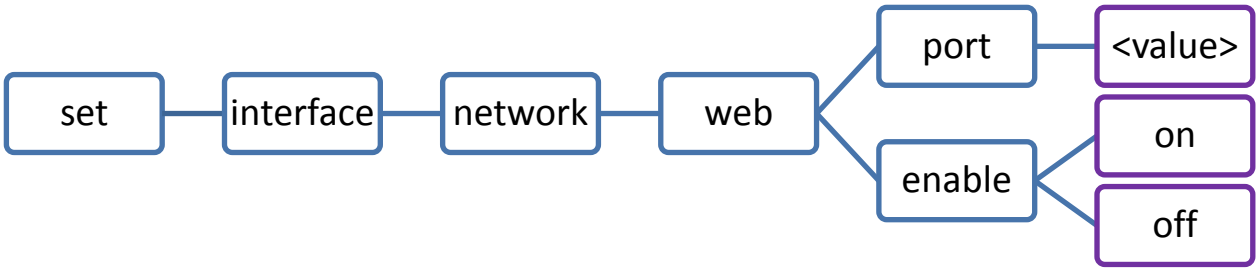


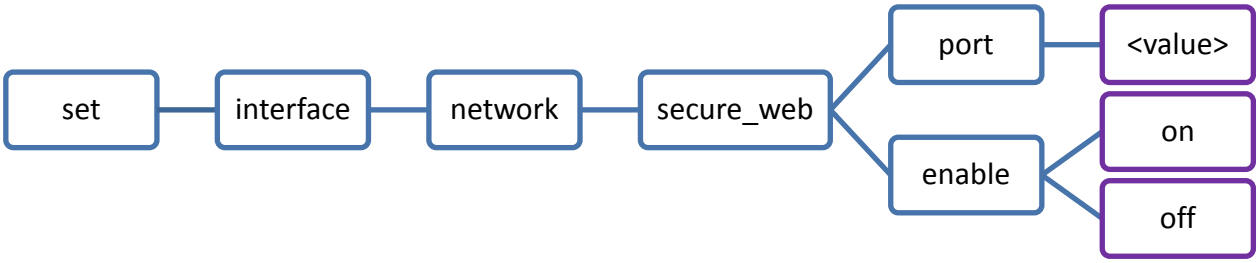
Set → Interface (5 of 7)



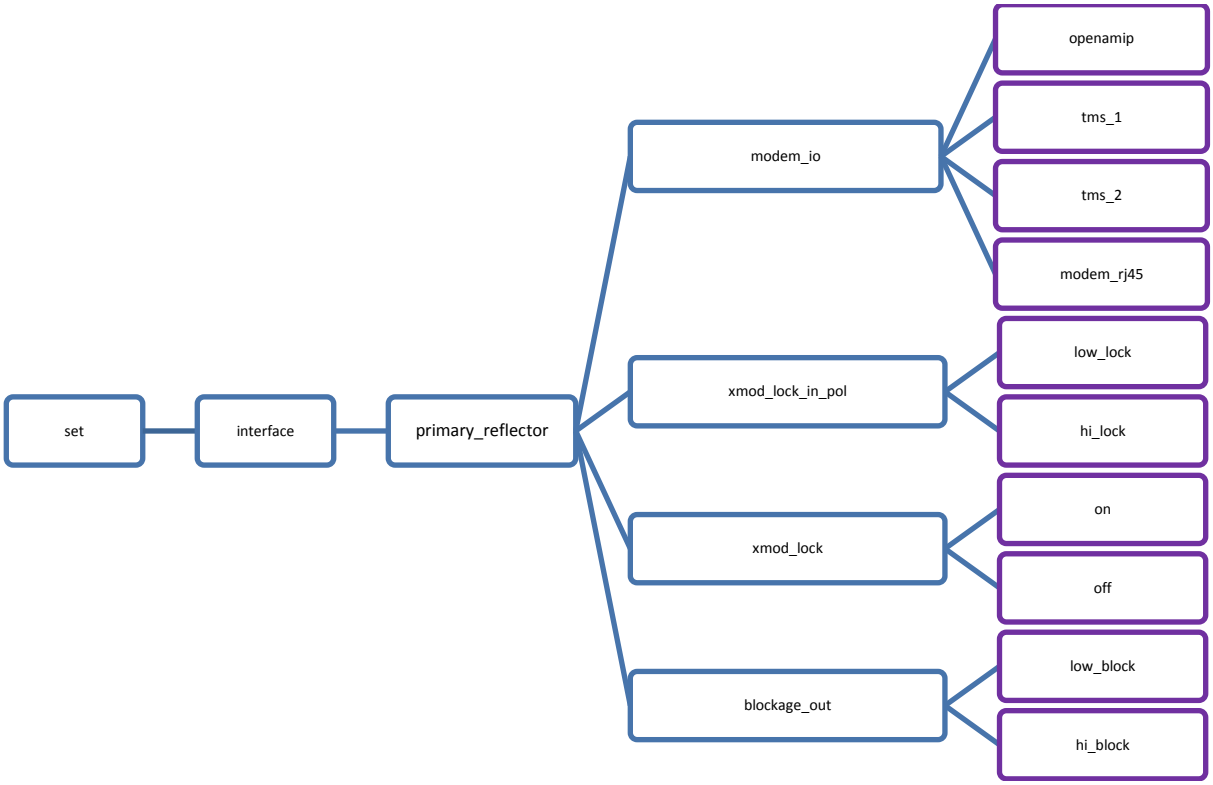
Set → Interface (6 of 7)

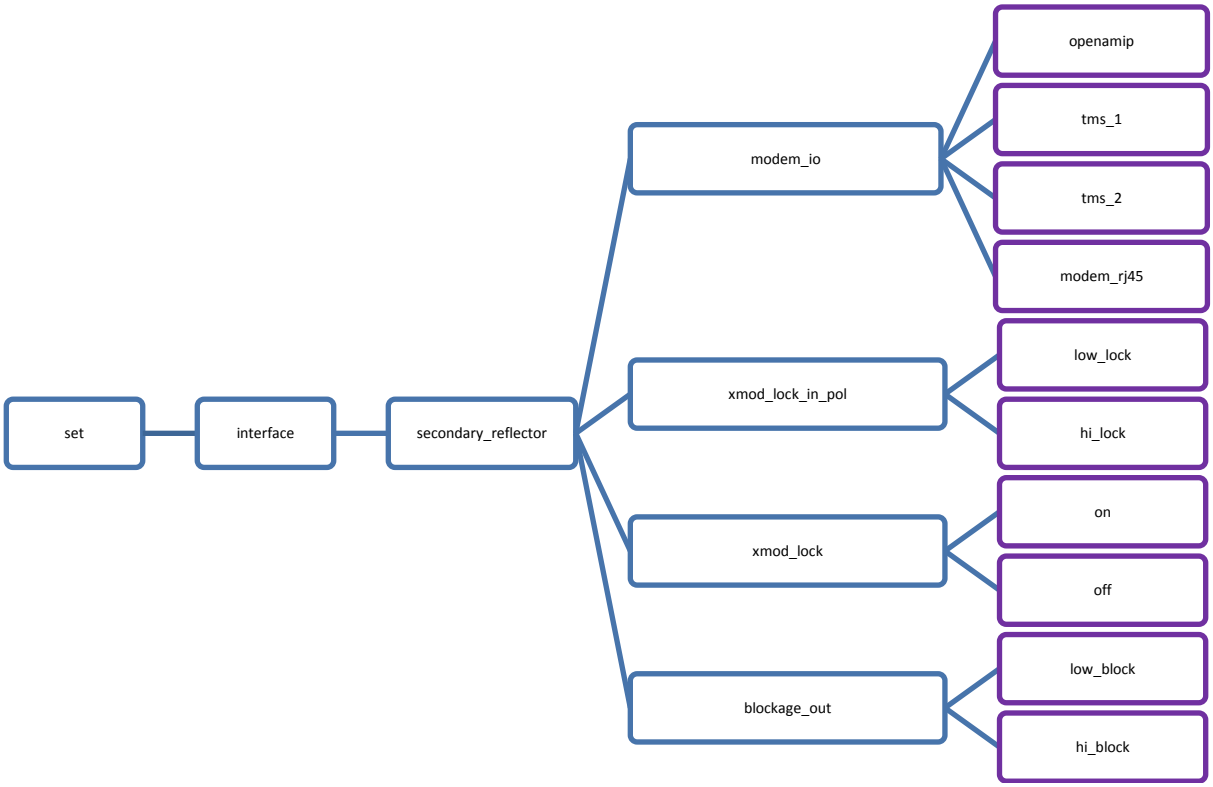


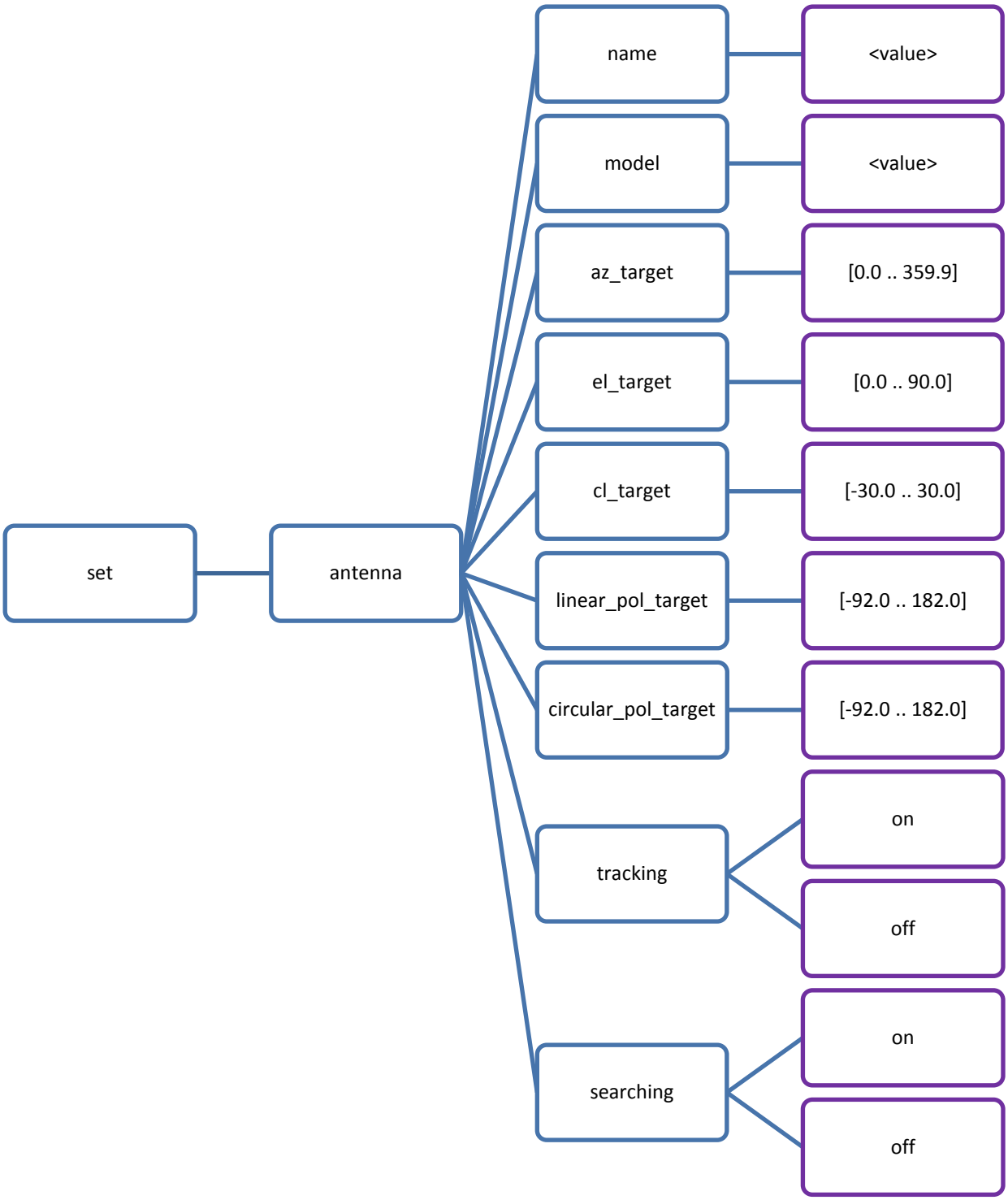


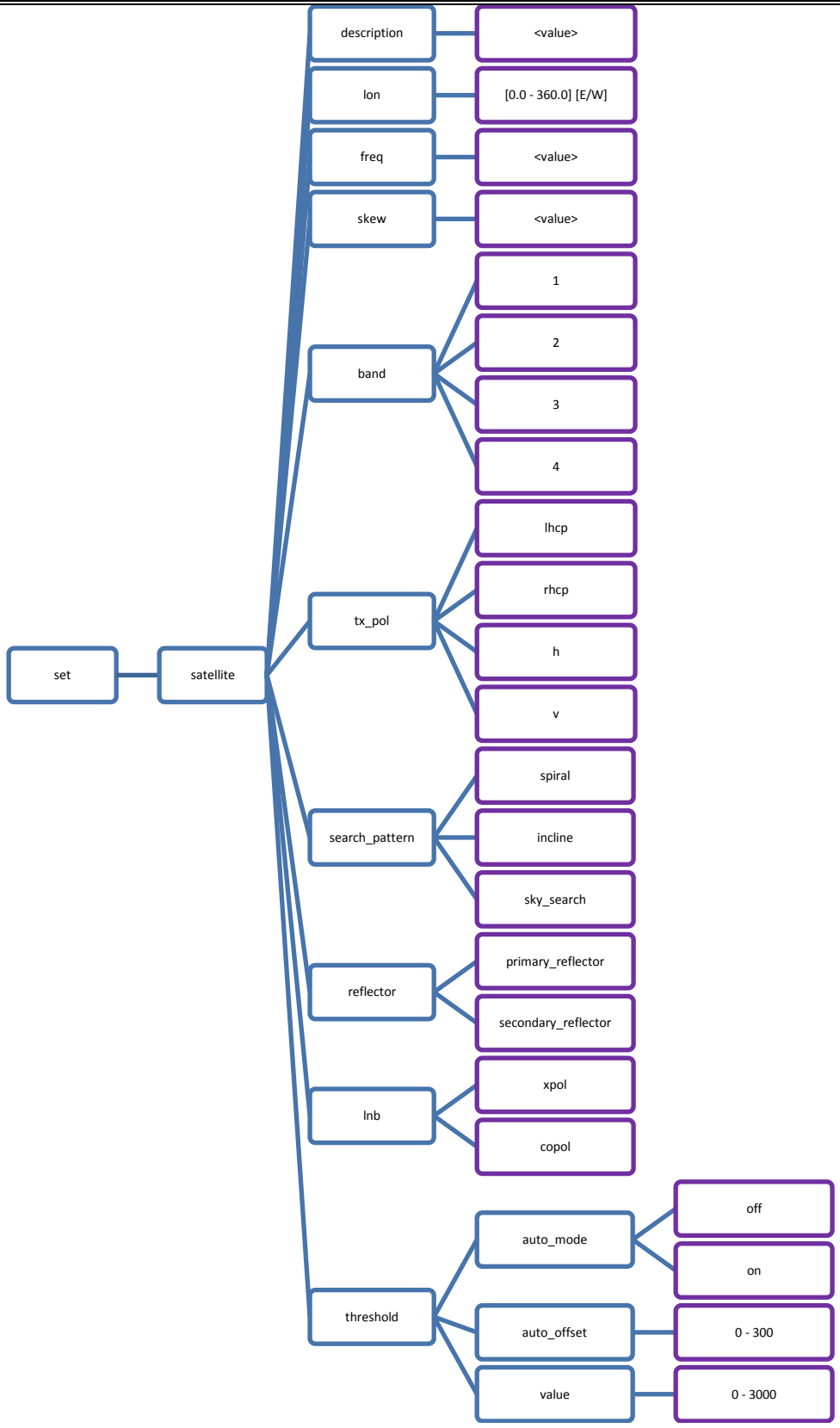


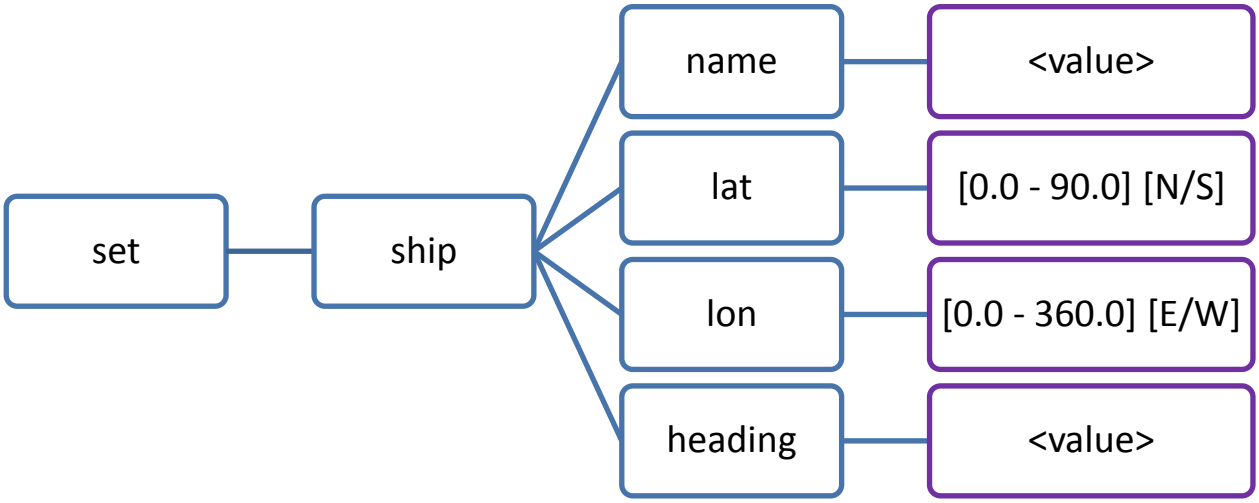
Set → Interface (7 of 7)



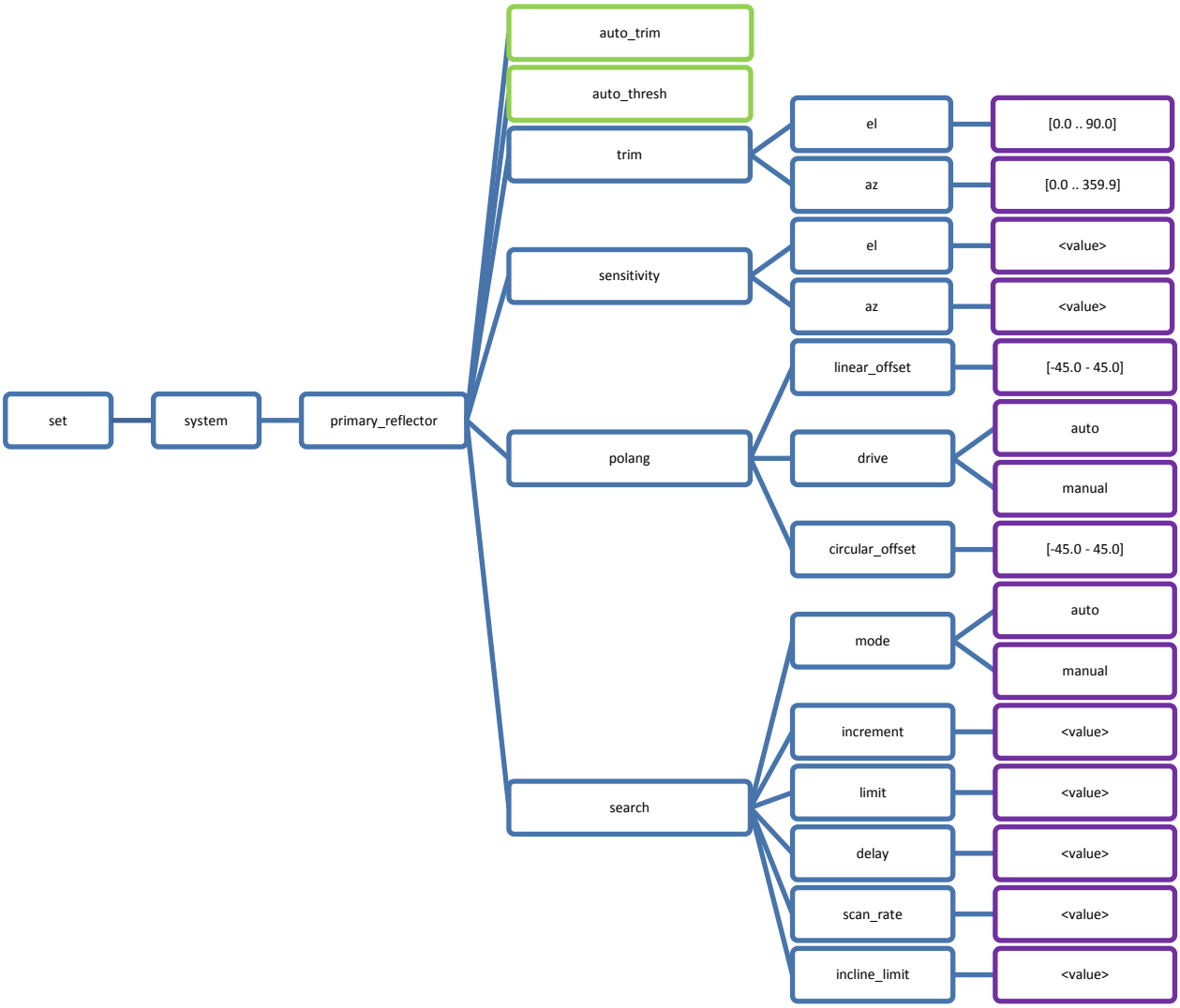



set
antenna
name
<value>
model
<value>
az_target
[0.0 .. 359.9]
el_target
[0.0 .. 90.0]
cl_target
[-30.0 .. 30.0]
linear_pol_target
[-92.0 .. 182.0]
circular_pol_target
[-92.0 .. 182.0]
tracking
on
off
searching
on
off

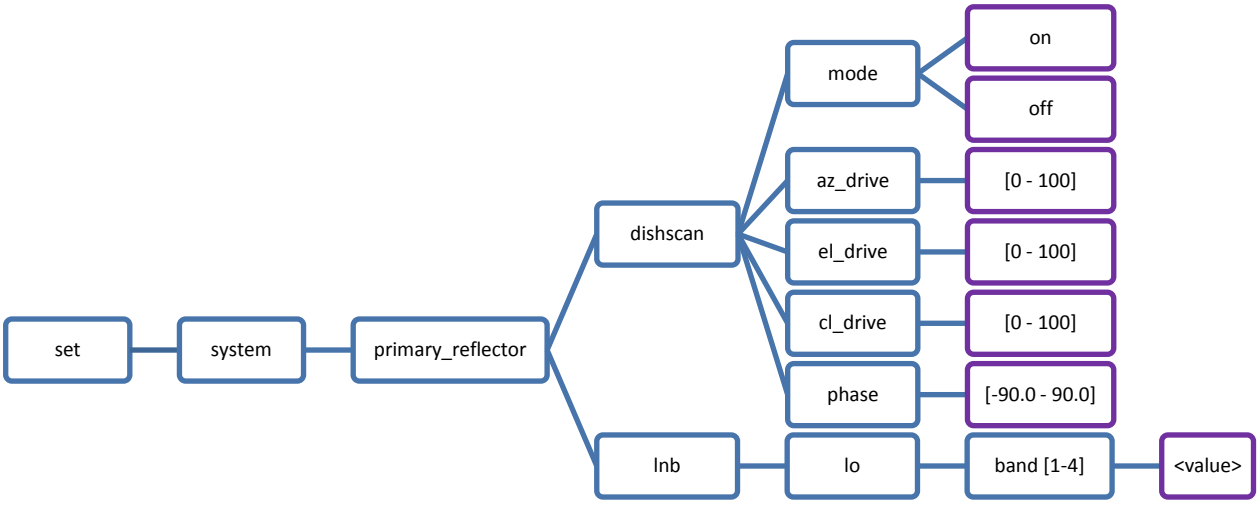

set
satellite
description
<value>
lon
[0.0 - 360.0] [E/W]
freq
<value>
skew
<value>
band
1
2
3
4
tx_pol
lhcp
rhcp
h
v
search_pattern
spiral
incline
sky_search
reflector
primary_reflector
secondary_reflector
lnb
xpol
copol
threshold
auto_mode
off
on
auto_offset
0 - 300
value
0 - 3000


set
ship
name
<value>
lat
[0.0 - 90.0] [N/S]
lon
[0.0 - 360.0] [E/W]
heading
<value>

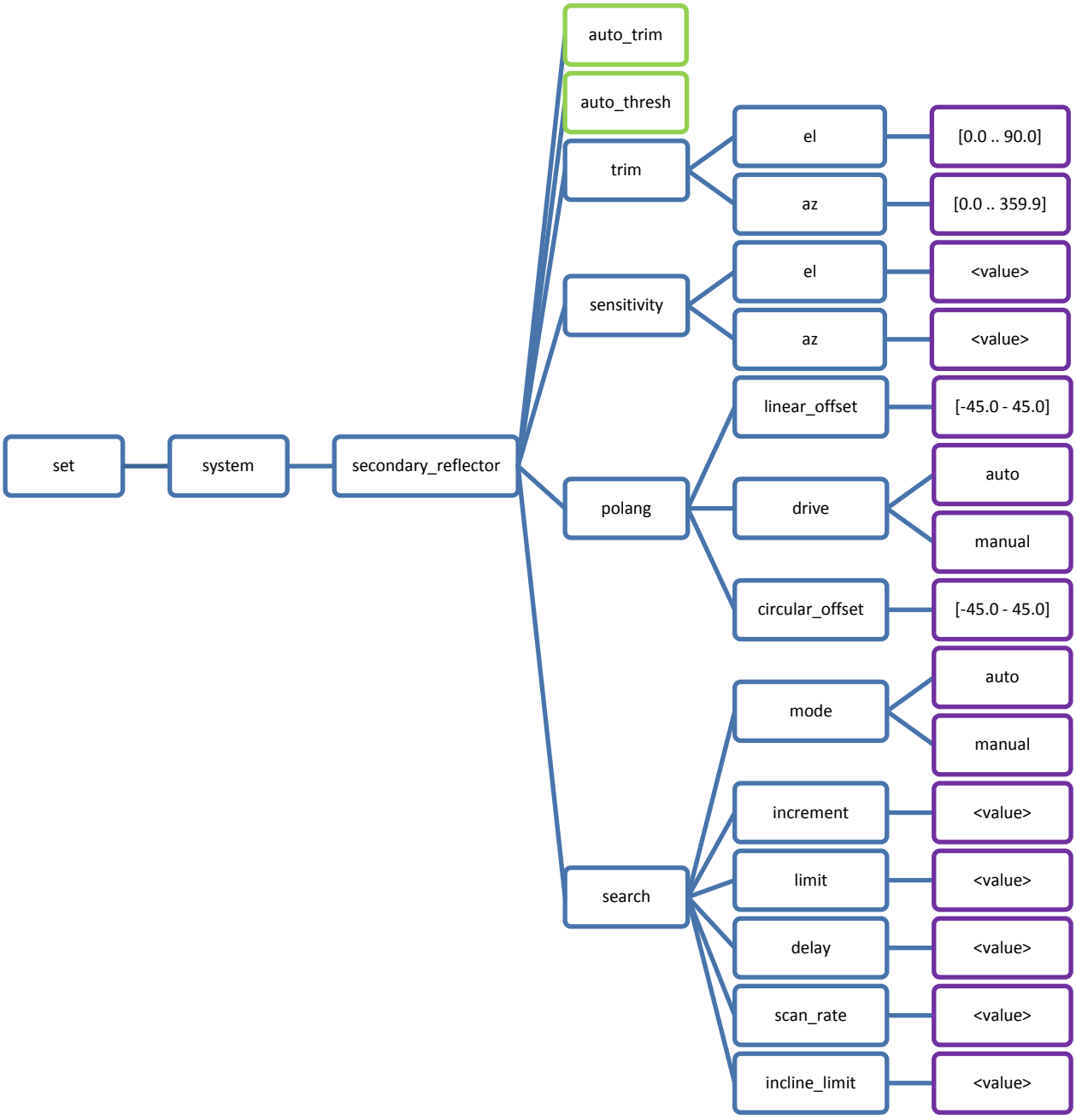
Set → System (1 of 6)



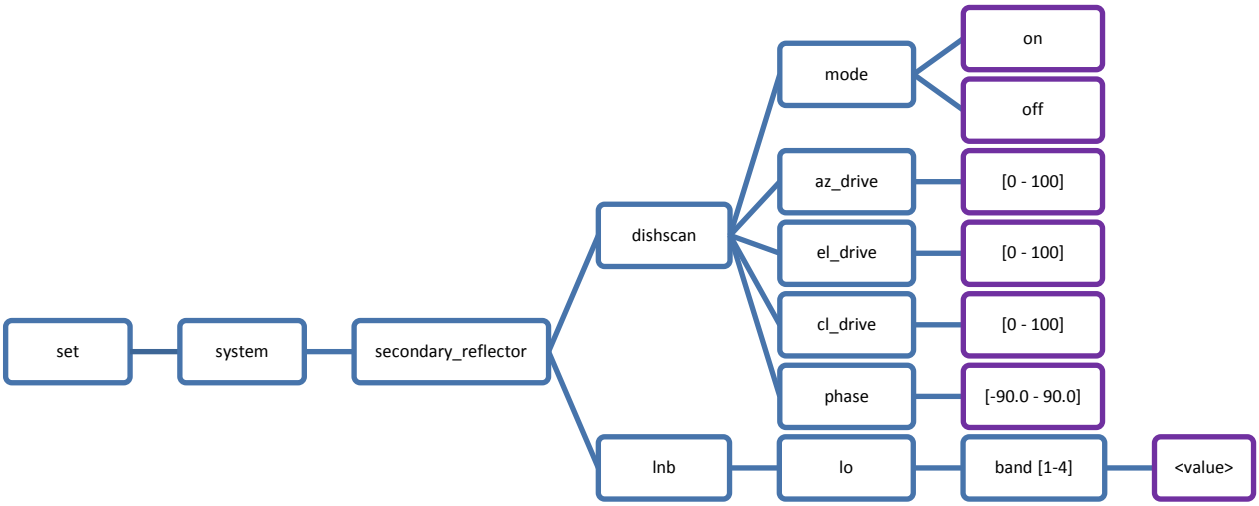
Set → System (2 of 6)



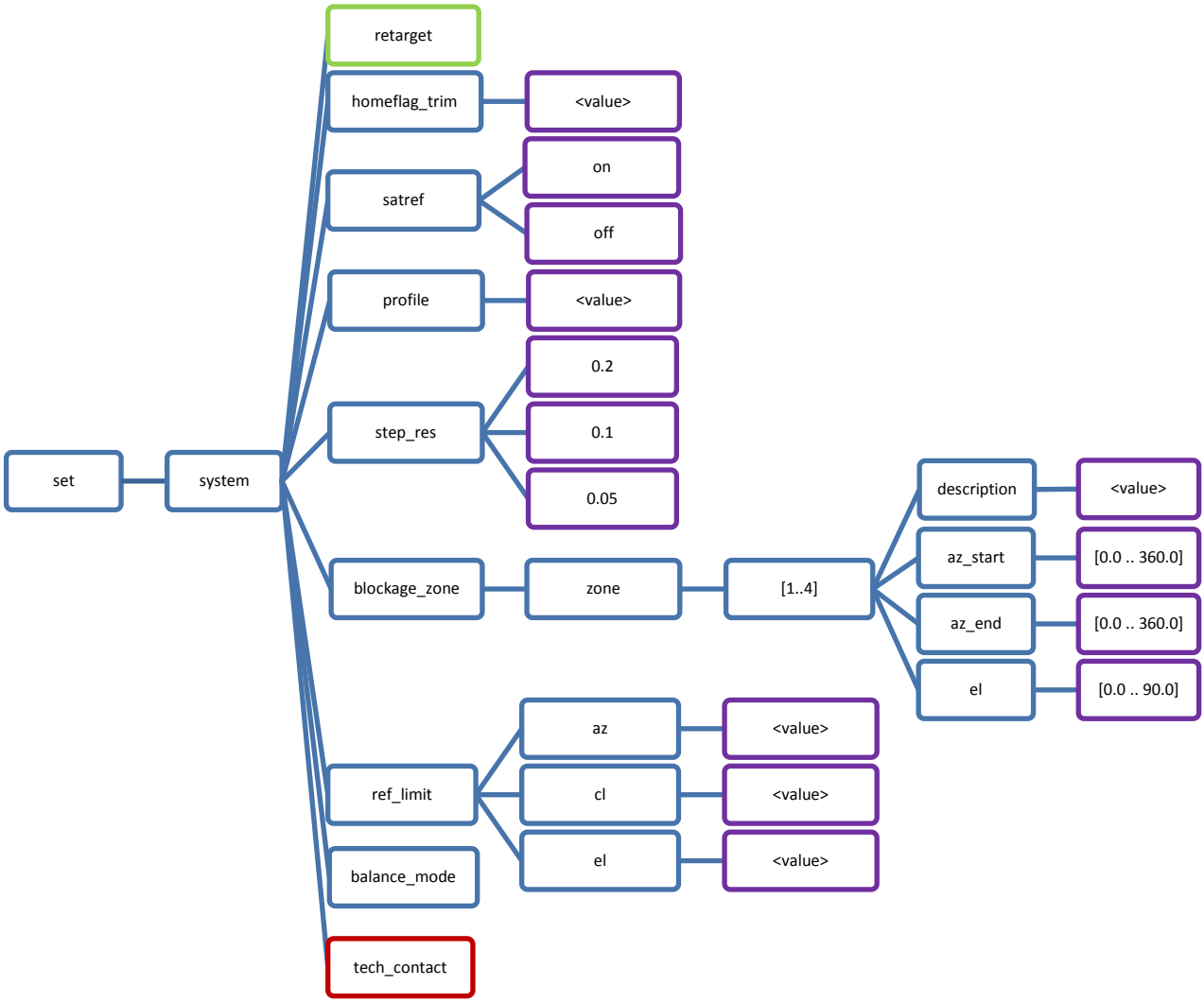
Set → System (3 of 6)



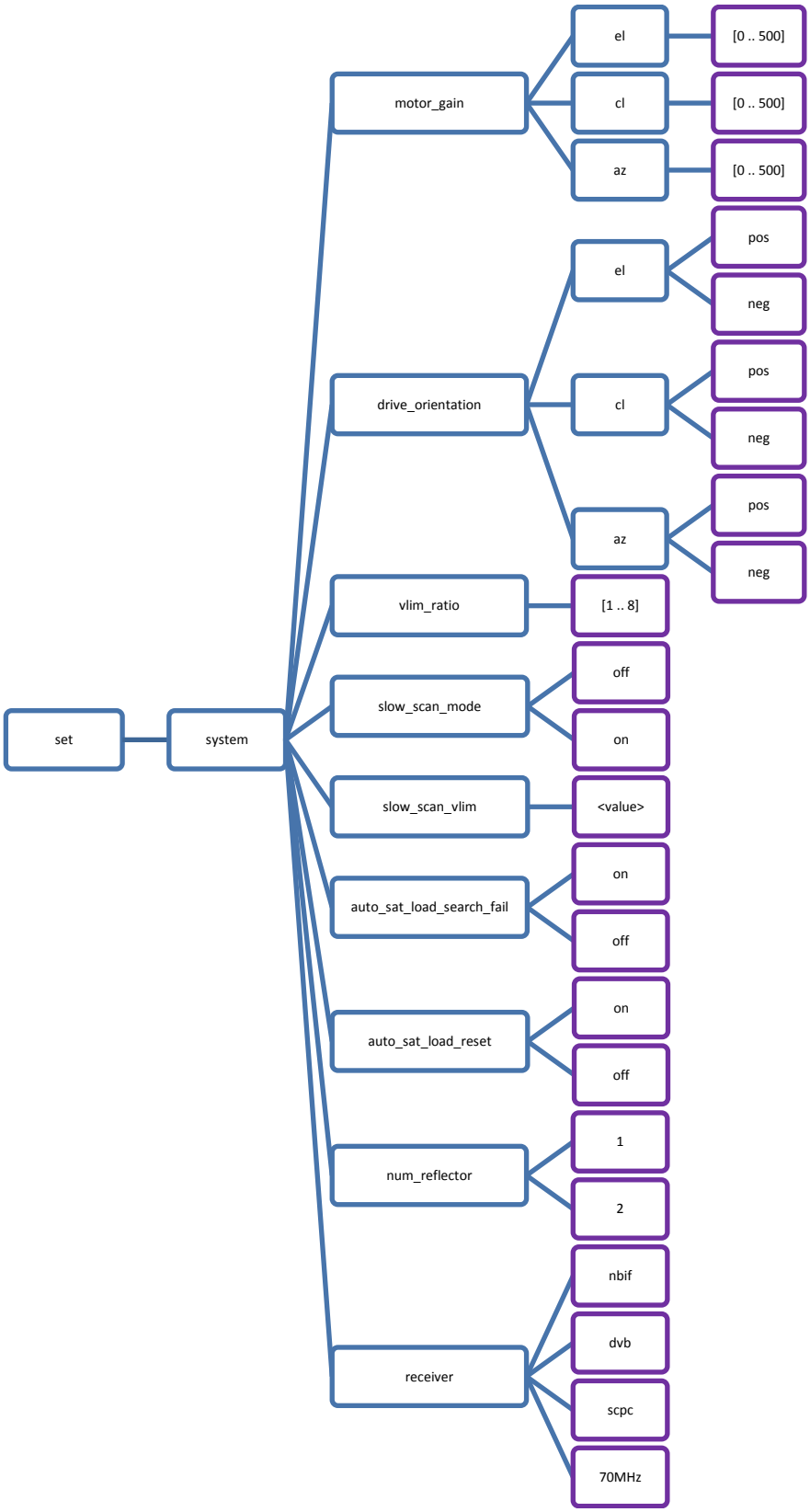
Set → System (4 of 6)

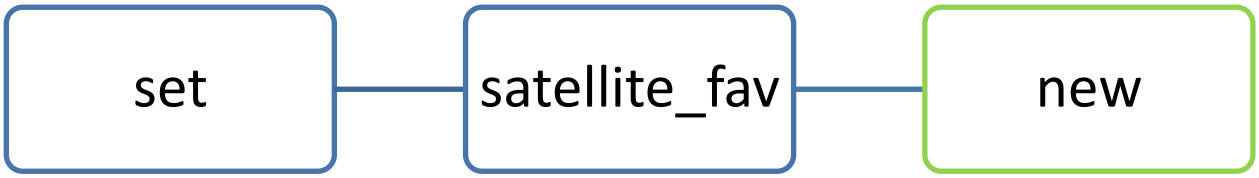

set
system
secondary_reflector
dishscan
lnb
mode
az_drive
el_drive
cl_drive
phase
lo
on
off
[0 - 100]
[0 - 100]
[0 - 100]
[-90.0 - 90.0]
band [1-4]
<value>

Set → System (5 of 6)

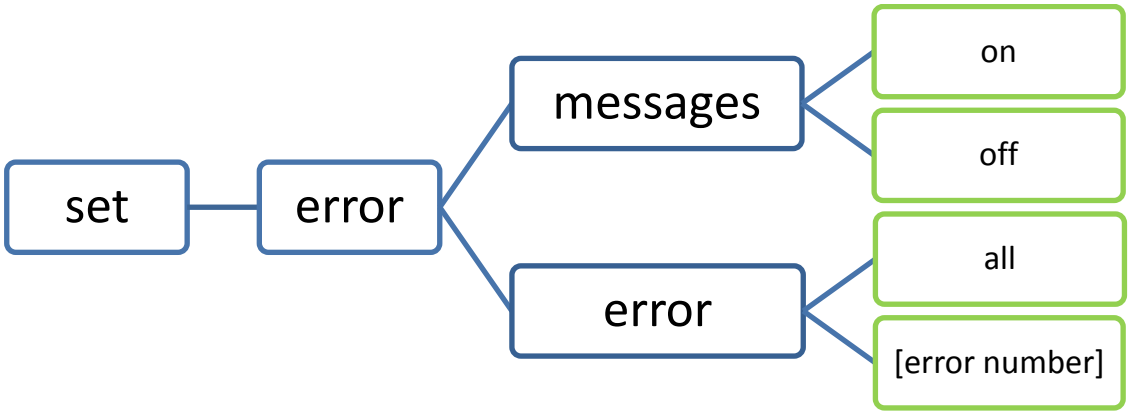


Set → System (6 of 6)

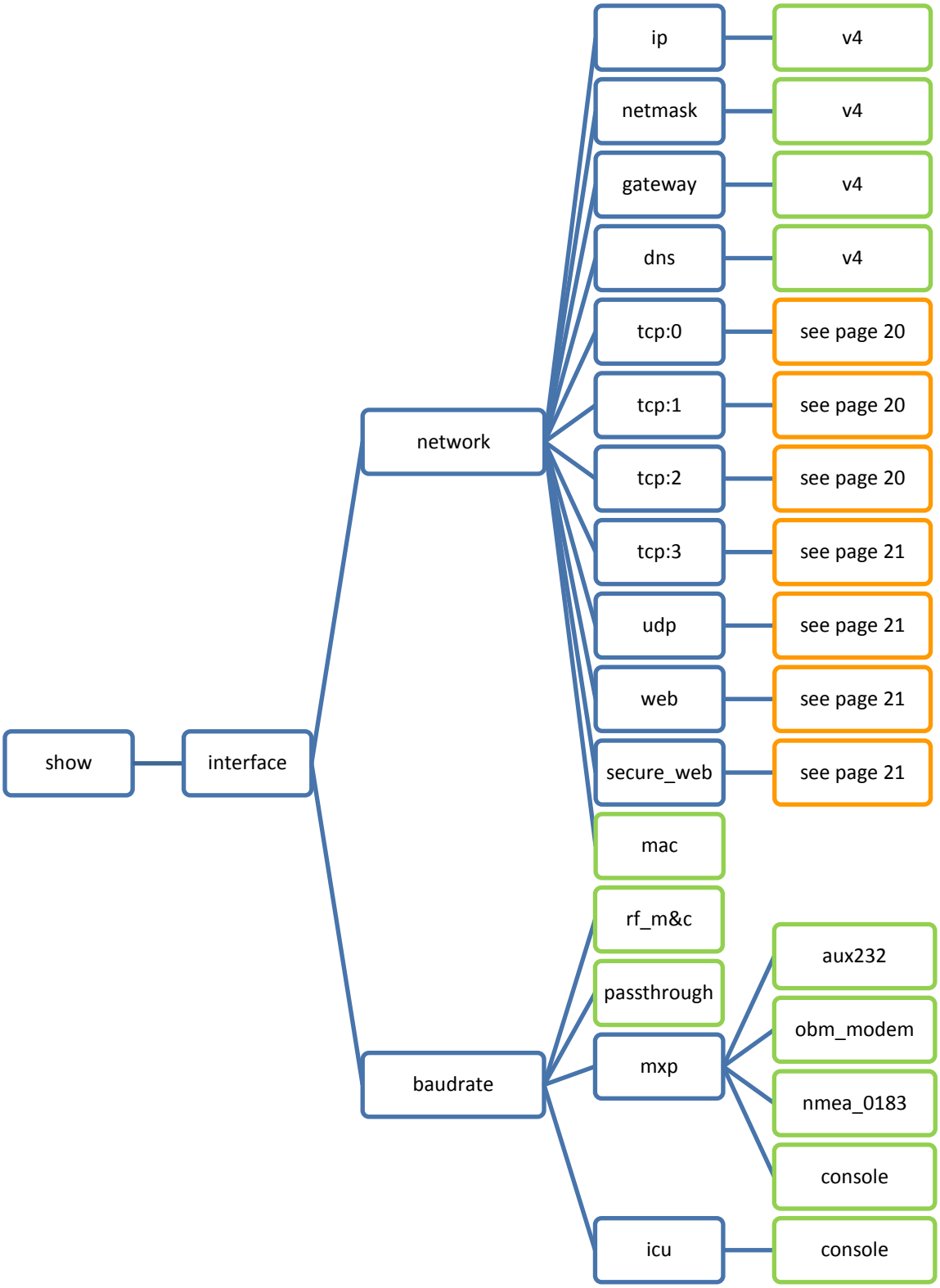



set
satellite_fav
new

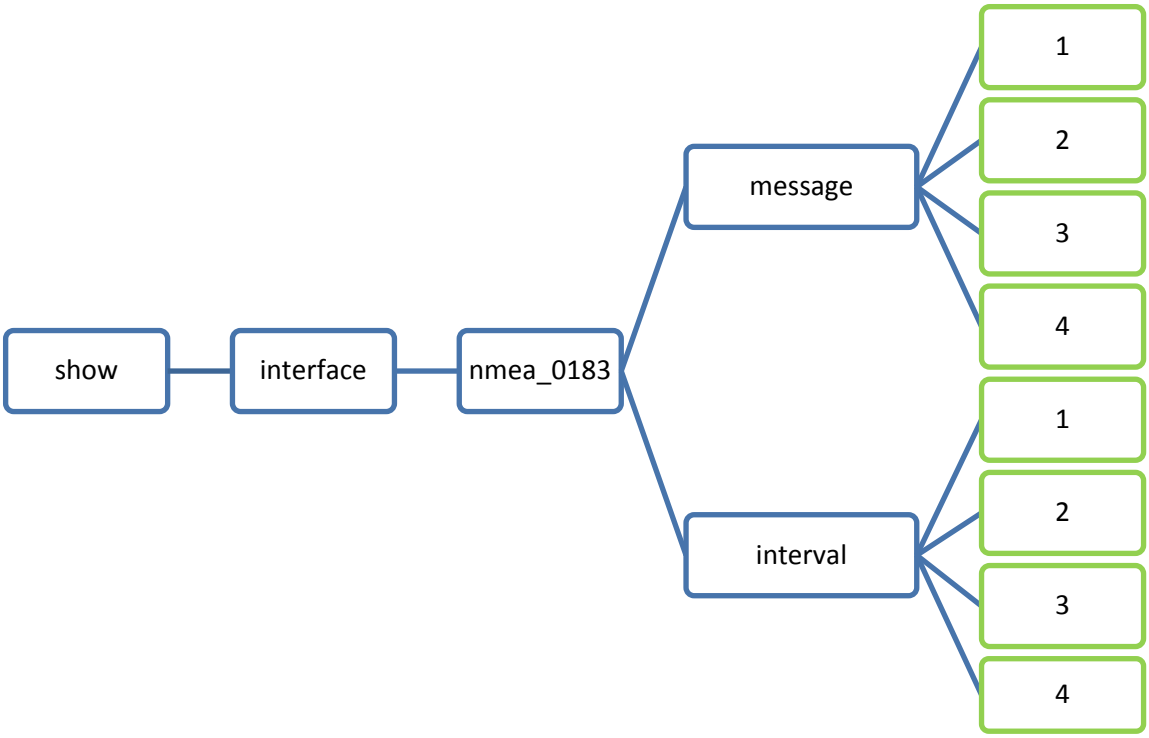

set
satellite_fav:x
active
clear

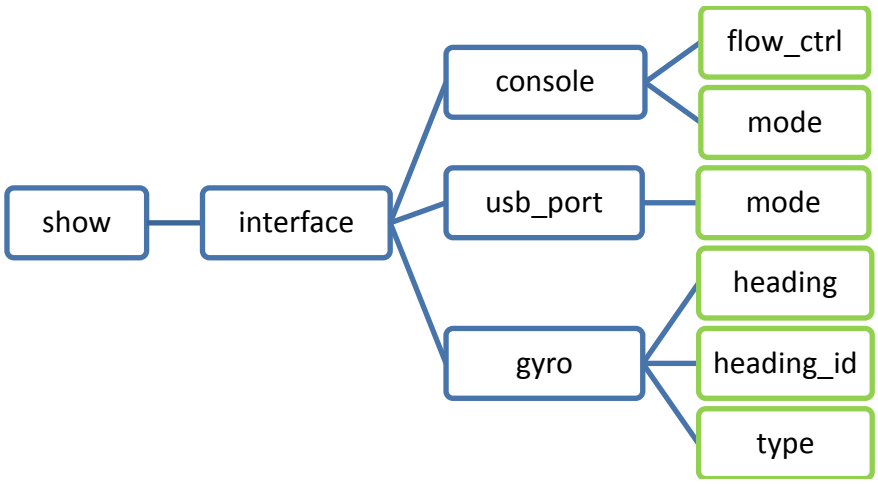

set
error
messages
on
off
error
all
[error number]

Show → Interface (1 of 5)

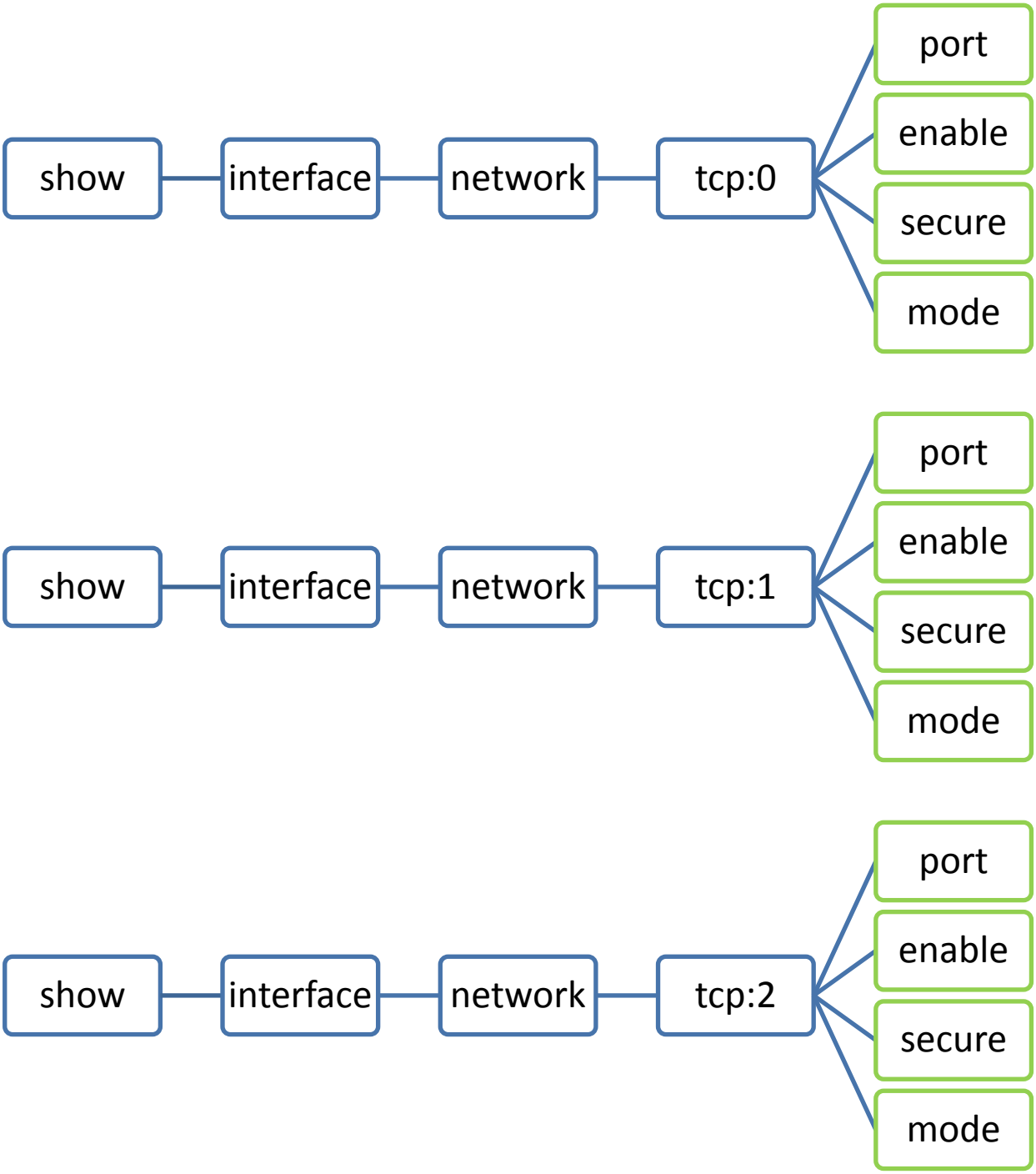


Show → Interface (2 of 5)

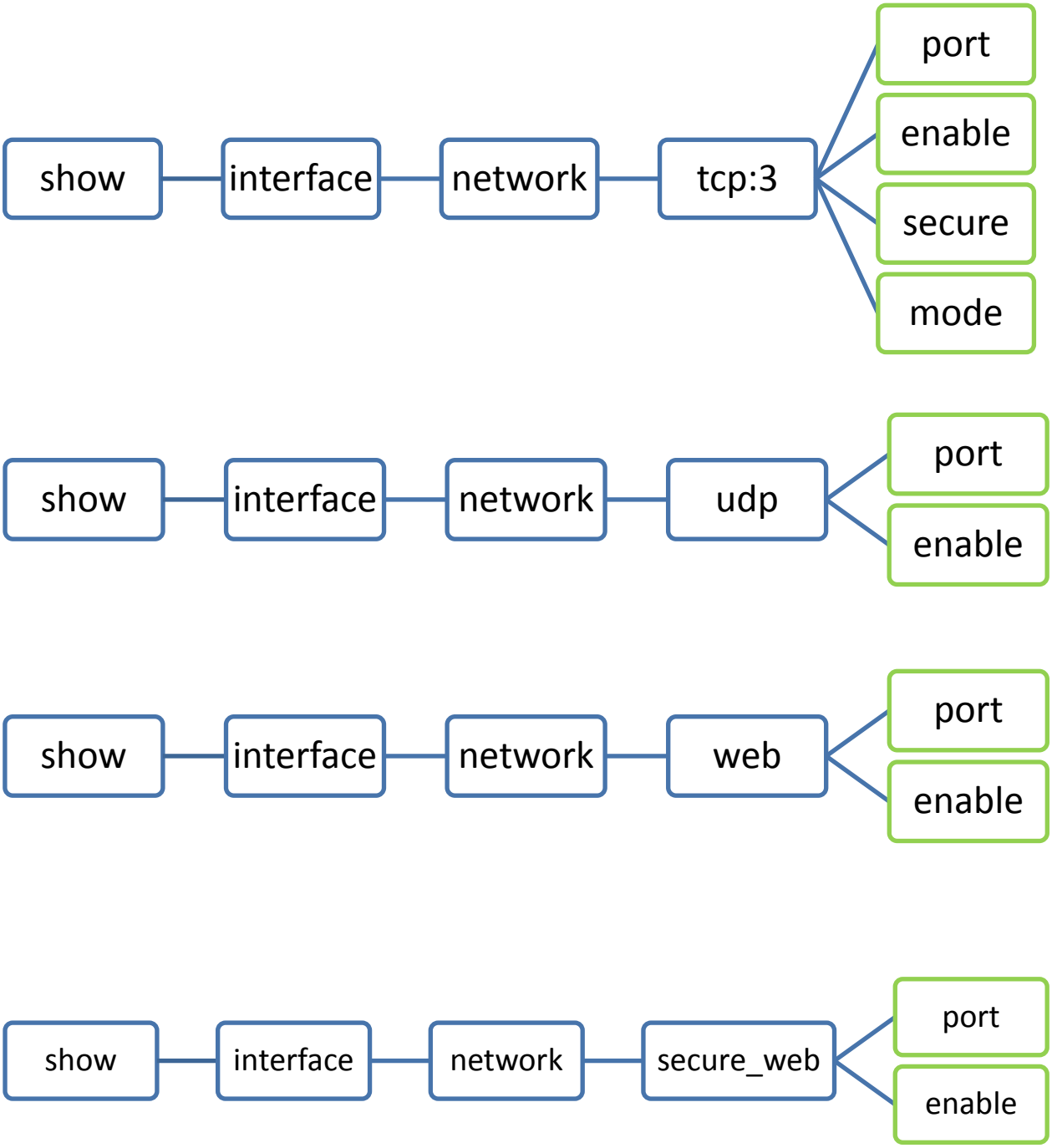




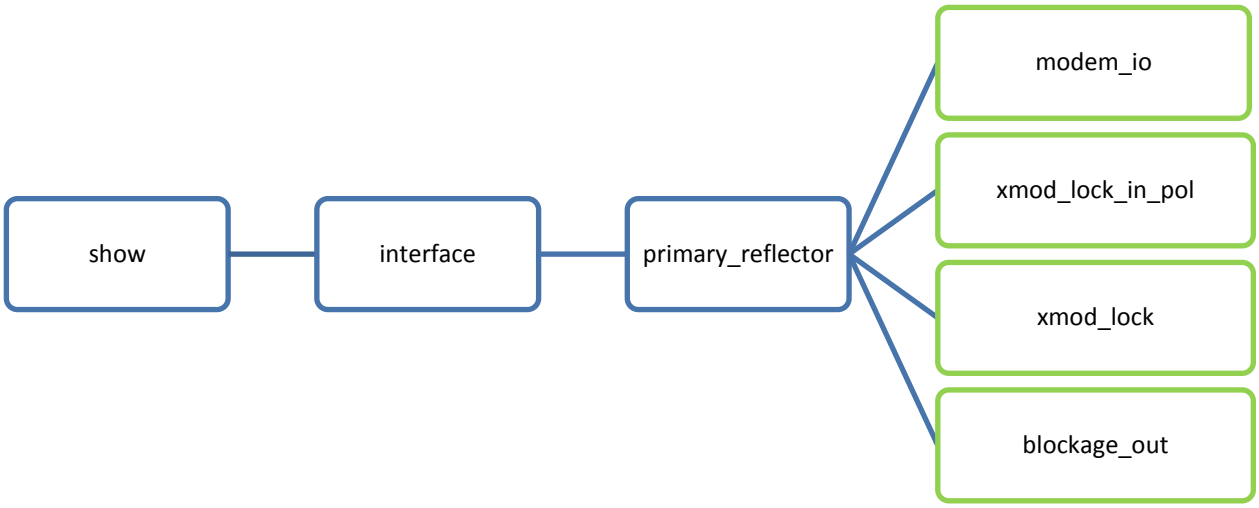
Show → Interface (3 of 5)

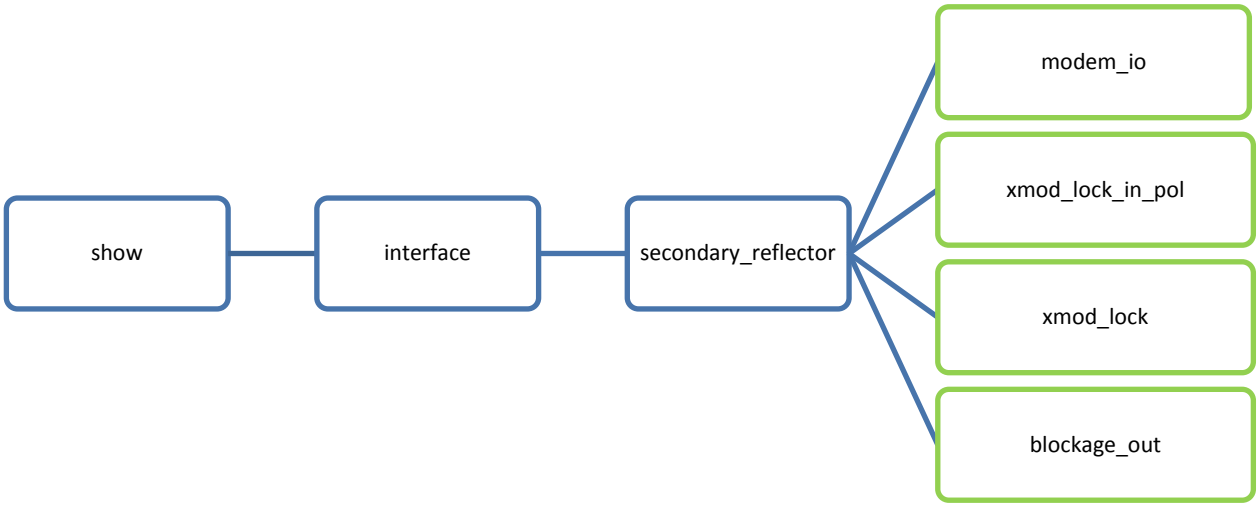


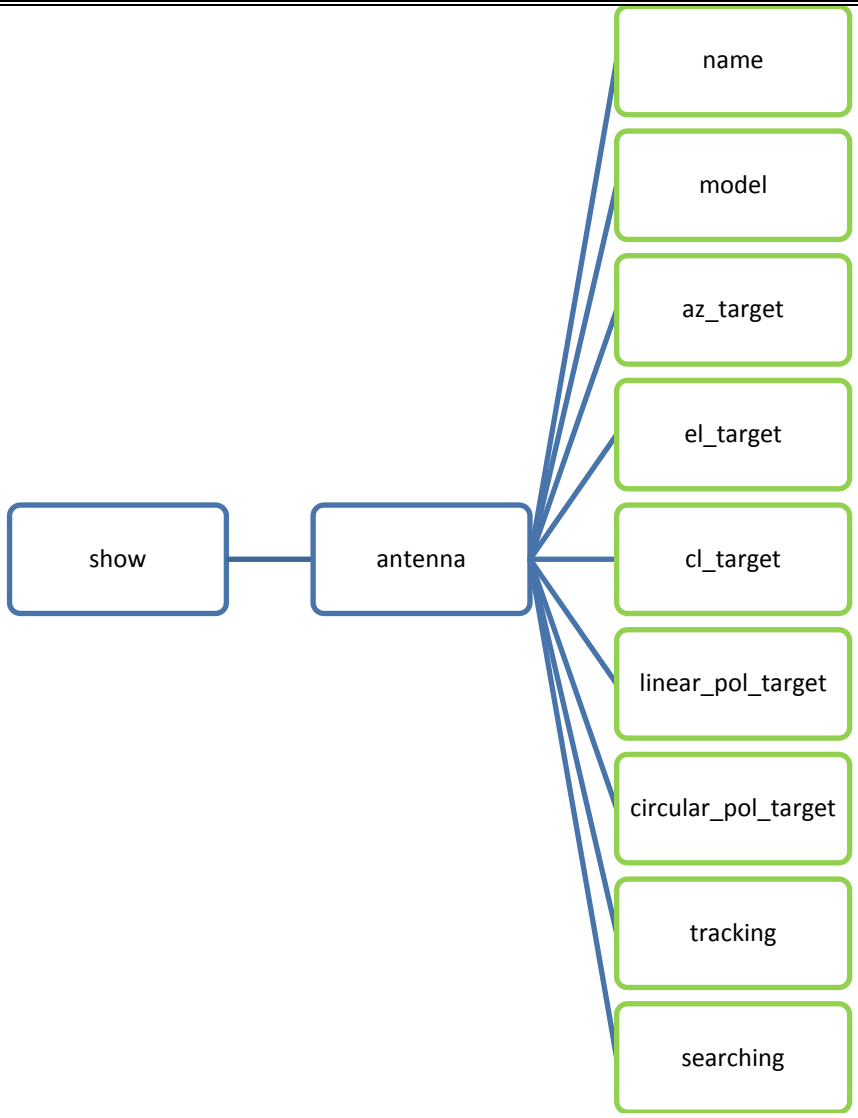
Show → Interface (4 of 5)

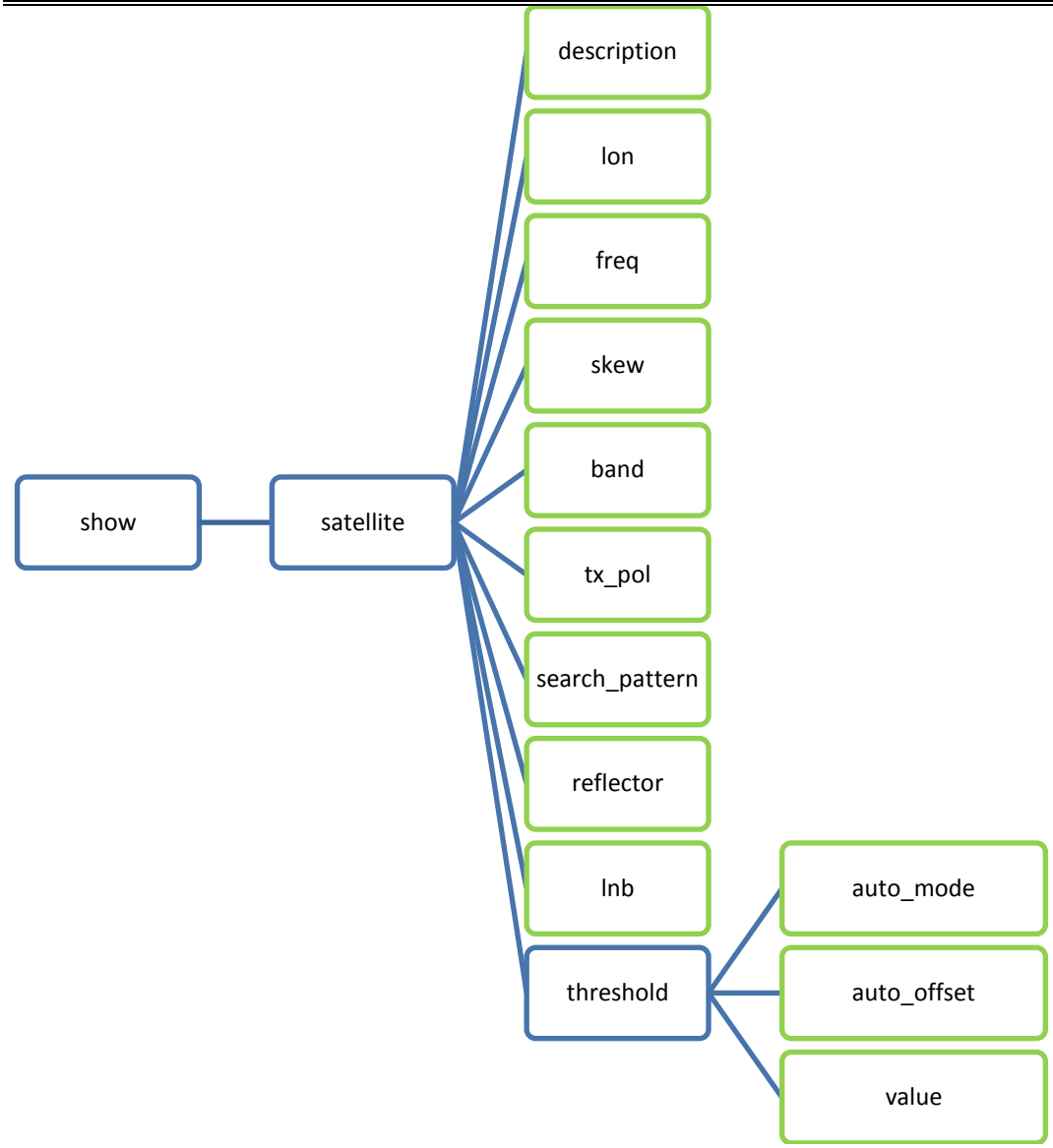


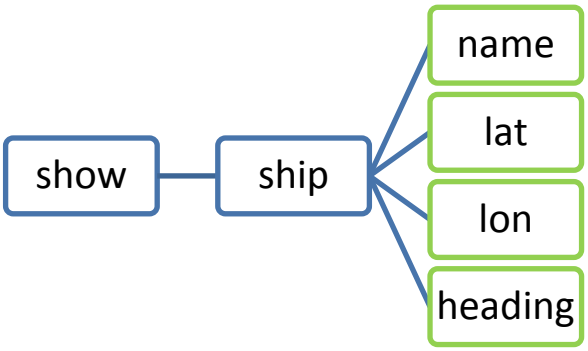
Show → Interface (5 of 5)



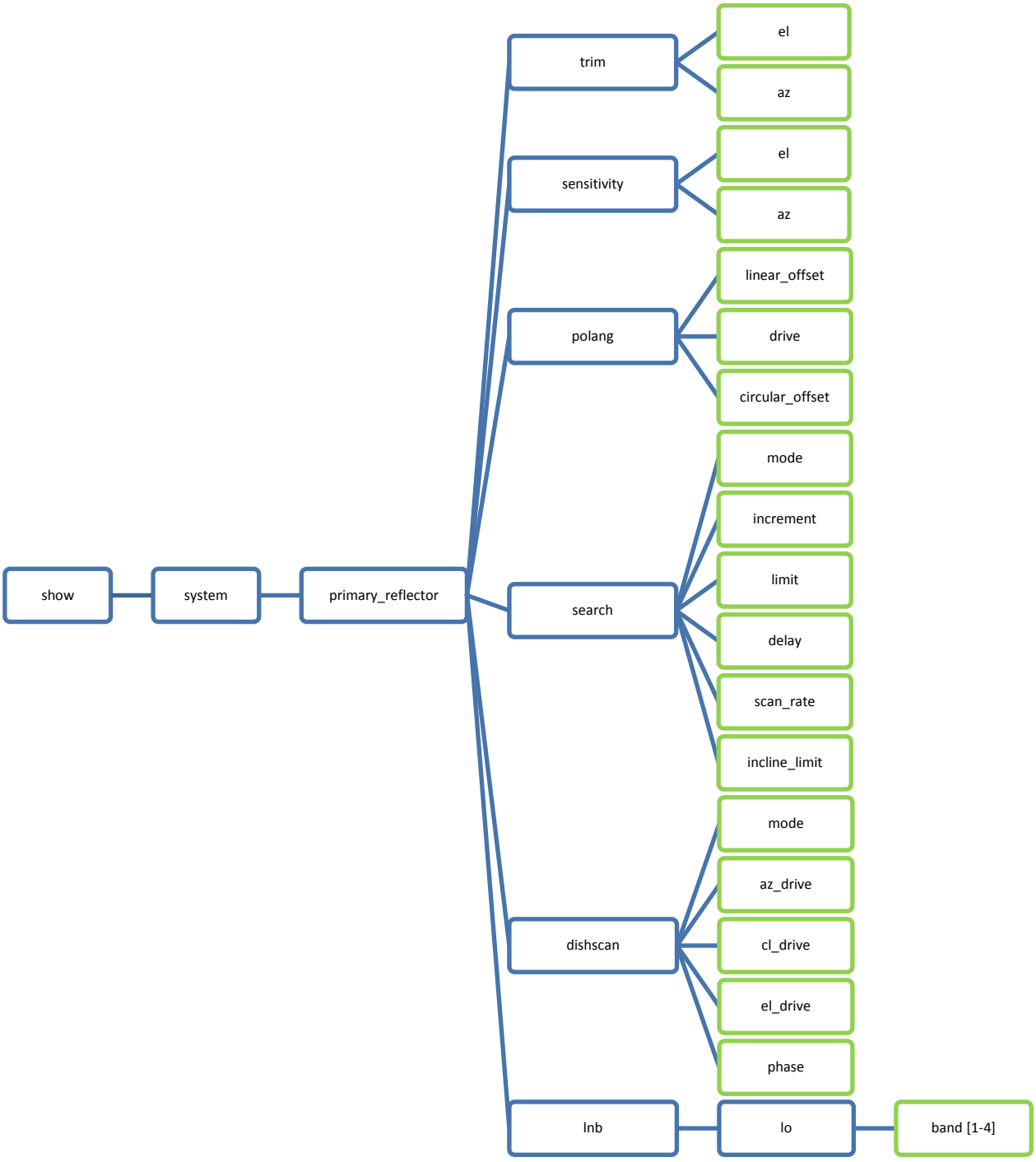



show
antenna
name
model
az_target
el_target
cl_target
linear_pol_target
circular_pol_target
tracking
searching

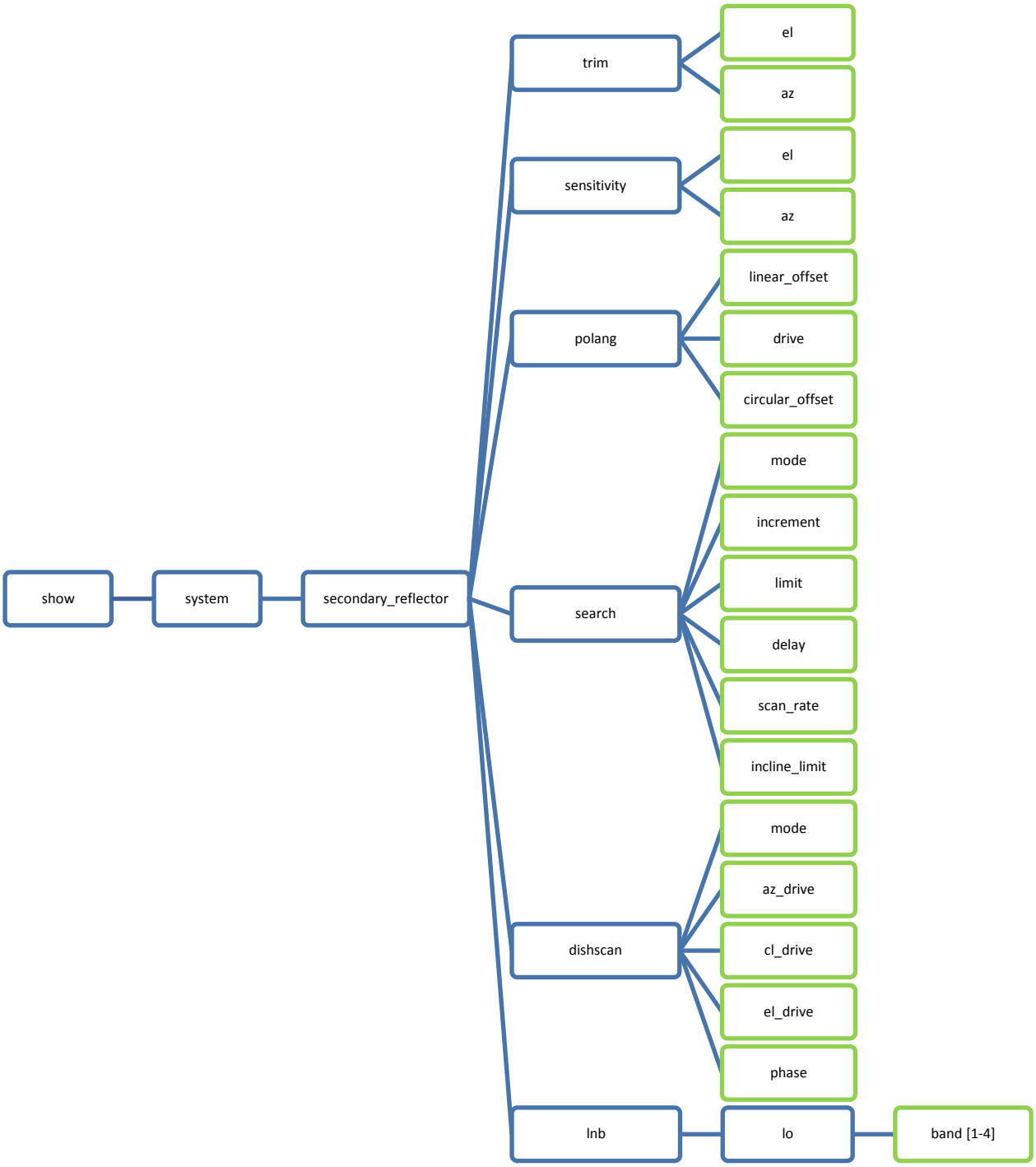

show
satellite
description
lon
freq
skew
band
tx_pol
search_pattern
reflector
lnb
threshold
auto_mode
auto_offset
value


show
ship
name
lat
lon
heading

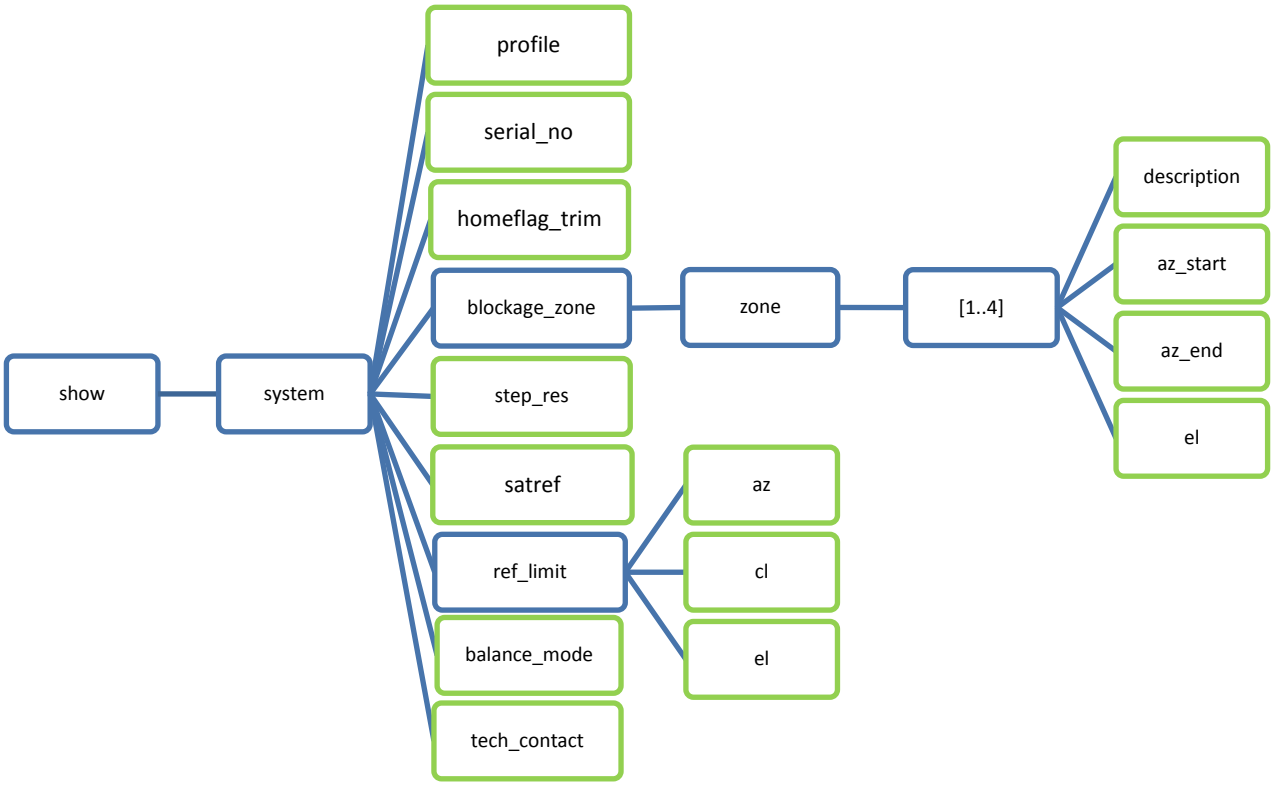
Show → System (1 of 4)



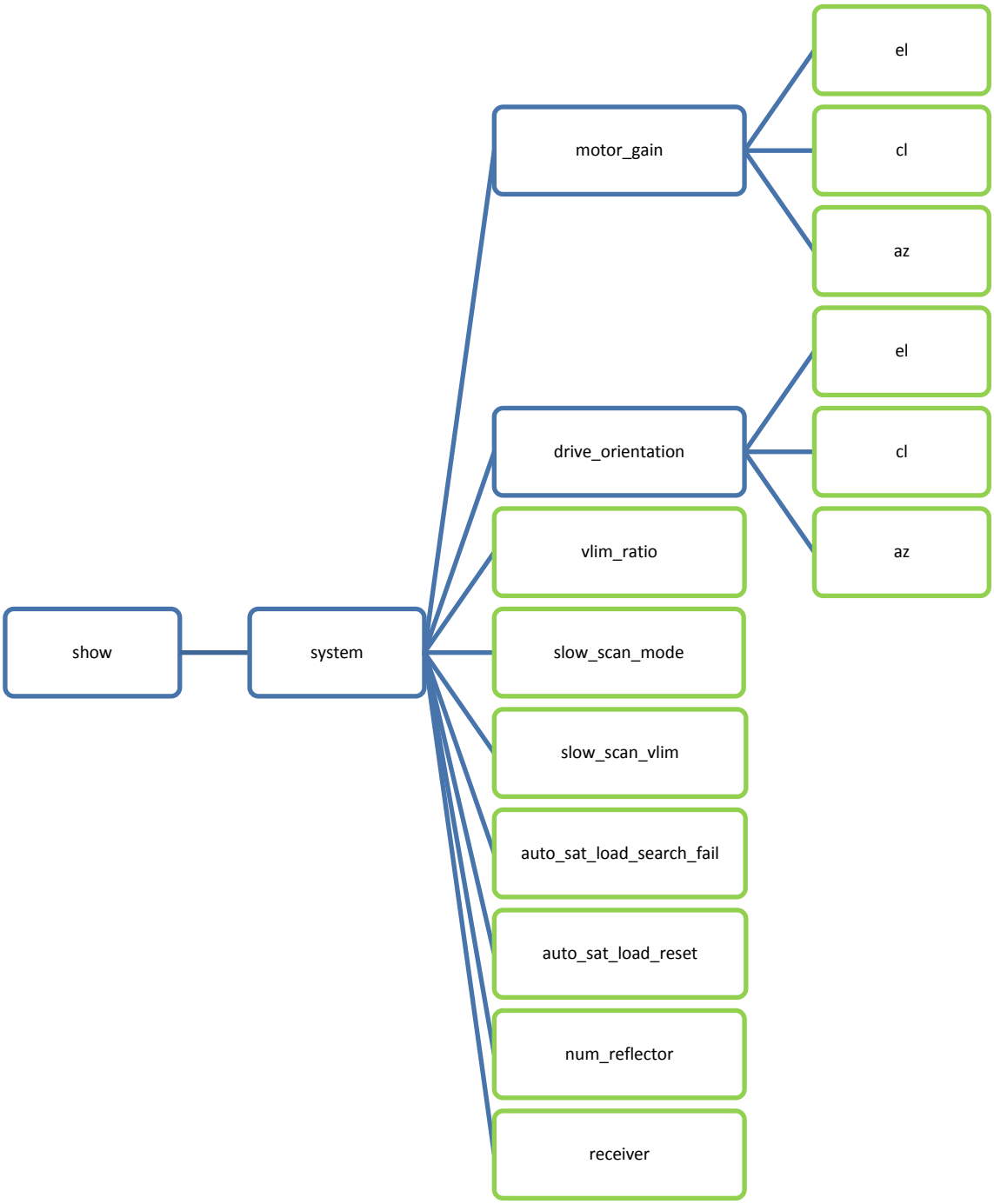
Show → System (2 of 4)



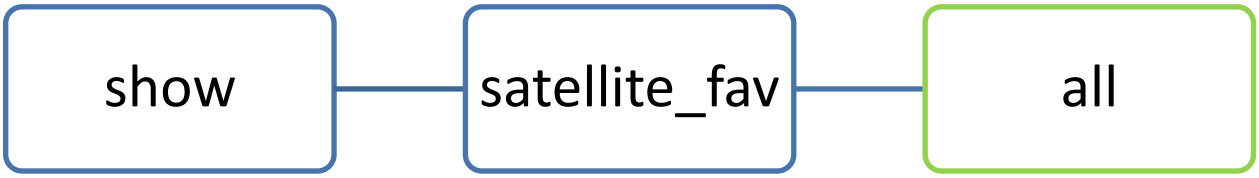
Show → System (3 of 4)

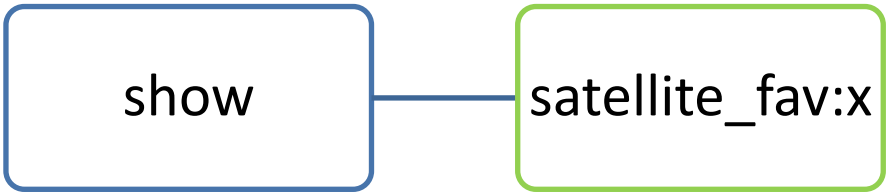


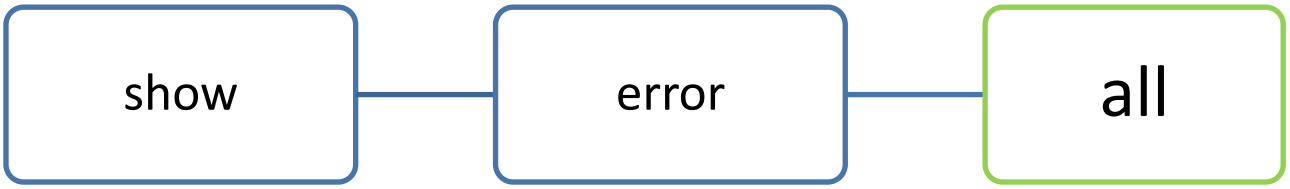
Show → System (4 of 4)

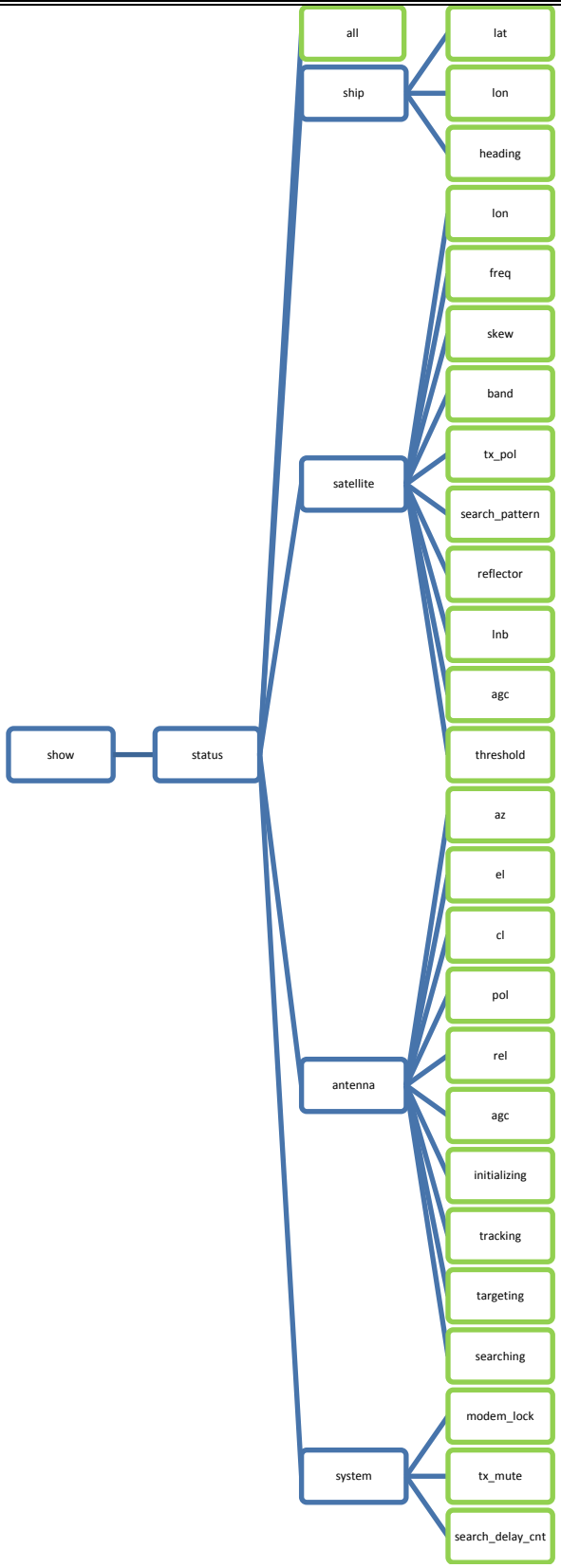



show
parameter
profile


show
satellite_fav
all


show
satellite_fav:x


show
error
all


show
status
all
ship
lat
lon
heading
satellite
lon
freq
skew
band
tx_pol
search_pattern
reflector
lnb
agc
threshold
antenna
az
el
cl
pol
rel
agc
initializing
tracking
targeting
searching
system
modem_lock
tx_mute
search_delay_cnt

1.0 Command Description:

set	Change active settings or parameters.
show	Display/query active settings or parameters.
quit	Close CLI Ethernet connection.
exit	Close CLI Ethernet connection.
save	Save parameters or settings to the flash (INI file).
help	Display a description for proper command usage.
default all	Reset the system to default settings.
reboot	Reboot the system.
upgrade	Upgrade firmware.
version	Display unit name, software date and time of build, and version.
test	Run automated tests programmed as part of the system.

2.0 Detailed Command Description:

3. set/show

Set command changes the active settings or parameters. Show command displays the active settings or parameters.

3.1 interface

Stores all interface related settings of the system.

3.1.1 network

Stores all Ethernet related settings, such as IP address, gateway, and port information.

3.1.1.1 mac

Stores the MAC address of the system. Show only.

3.1.1.2 ip_addr

Stores the IP address of the system.

3.1.1.2.1 v4 <default | value>

This set/show the IPv4 address of the system. New IP will take effect after save and reboot.
Range: (0-223).(0-255).(0-255).(0-255).
Default: 10.1.1.100

3.1.1.3 netmask

Stores the network mask of the system.

3.1.1.3.1 v4 <default | value>

This set/show the IPv4 network mask of the system. New netmask IP will take effect after save and reboot.
Range: (0-223).(0-255).(0-255).(0-255).
Default: 255.255.255.0

3.1.1.4 gateway

Stores the gateway address of the system.

3.1.1.4.1 v4 <default | value>

This set/show the IPv4 gateway of the system. New gateway IP will take effect after save and reboot.
Range: (0-223).(0-255).(0-255).(0-255).
Default: 10.1.1.1

3.1.1.5 dns

Stores the DNS (Domain Name System) server address in the network.

3.1.1.5.1 v4 <default | value>

This set/show the IPv4 DNS server in the network.
Range: (0-223).(0-255).(0-255).(0-255).
Default: 10.1.1.205

3.1.1.6 udp

Stores the UDP port information.

3.1.1.6.1 port <default | value>

This set/show the UDP port number.
Range: 0-65535.
Default: 3000

3.1.1.6.2 enable <default | value>

Enable or disable the port.
Value: on, off.
Default: on.

3.1.1.7 web

Stores the Web port information.

3.1.1.7.1 port <default | value>

This set/show the Web port number.
Range: 0-65535.
Default: 80

3.1.1.7.2 enable <default | value>

Enable or disable the port.
Value: on, off.
Default: on.

3.1.1.8 secure_web

Stores the Secure Web port information.

3.1.1.8.1 port <default | value>

This set/show the Web port number.
Range: 0-65535.
Default: 443

3.1.1.8.2 enable <default | value>

Enable or disable the port.
Value: on, off.
Default: on.

3.1.1.9 tcp:0, tcp:1, tcp:2, tcp:3

These groups store the TCP port information.

3.1.1.9.1 port <default | value>

This set/show the port number.
Range: 0-65535.
Default:

tcp:0 = 2000
tcp:1 = 2001
tcp:2 = 2002
tcp:3 = 2003

3.1.1.9.2 enable <default | value>

Enable or disable the port.
Value: on, off.
Default: on.

3.1.1.9.3 mode <default | value>

This set/show the mode of the port.
Value: legacy, openamip, cli.
Default:

tcp:0 = legacy
tcp:1 = legacy
tcp:2 = openamip
tcp:3 = cli

3.1.1.9.4 secure <default | value>

This set/show the secure mode of this interface. ON means access to this interface will require proper credential (login). OFF means no credential required.
Value: on, off.

Default:
tcp:0 = off
tcp:1 = off
tcp:2 = off
tcp:3 = on

3.1.2 baudrate

Stores the baud rate for all serial ports.

3.1.2.1 rf_m&c <default | value>

This set/show the baud rate of rf_m&c serial port.
Range: 4800 – 115200 (bps).
Default: 9600 bps.

3.1.2.2 passthrough <default | value>

This set/show the baud rate of passthrough serial port.
Range: 4800 – 115200 (bps).
Default: 9600 bps.

3.1.2.3 mxp

This set/show the baud rate of MXP's serial port.

3.1.2.3.1 aux232 <default | value>

This set/show the baud rate of Aux232 serial port.
Range: 4800 – 115200 (bps).
Default: 9600 bps.

3.1.2.3.2 obm_modem <default | value>

This set/show the baud rate of OBM_Modem serial port.
Range: 4800 – 115200 (bps).
Default: 4800 bps.

3.1.2.3.3 nmea_0183 <default | value>

This set/show the baud rate of NMEA 0183 port.
Range: 4800 – 115200 (bps).
Default: 4800 bps.

3.1.2.3.4 console <default | value>

This set/show the baud rate of console port.
Range: 4800 – 115200 (bps).
Default: 115200 bps.

3.1.2.4 icu

This set/show the baud rate of ICU's serial port.

3.1.2.4.1 console <default | value>

This set/show the baud rate of console serial port.
Range: 4800 – 115200 (bps).
Default: 115200 bps.

3.1.3 nmea_0183

Stores NMEA 0183 settings.

3.1.3.1 message

Stores the GPS message the system sends/streams. Support up to four different settings (defined by the index).

3.1.3.1.1 1, 2, 3, 4 <default | value>

This set/show the GPS message the system sends/streams for particular index.
Value: OFF, GGA, GLL, HDD, HDG, HDM, HDT, RMC, VTG.
Default:
1 = GLL
2 = GGA
3 = OFF
4 = OFF

3.1.3.2 interval

Stores the interval of the GPS message the system sends/streams. Support up to four different settings (defined by the index).

3.1.3.2.1 1, 2, 3, 4 <default | value>

This set/show the interval of the GPS message the system sends/streams for particular index.
Range: 1 - 10.
Default:
1 = 5
2 = 5
3 = 1
4 = 1

3.1.4 console

Stores console settings.

3.1.4.1 flow_ctrl <default | value>

This set/show the console's hardware flow control (RTS/CTS).
Value: on, off.
Default: off.

3.1.4.2 mode <default | value>

This set/show the console's mode.
Value: cli, legacy.
Default: cli.

3.1.5 usb_port

Stores USB port settings.

3.1.5.1 mode <default | value>

This set/show the USB port's mode. In CLI mode it requires credential (login).
Value: legacy, cli.
Default: cli.

3.1.6 gyro

Stores gyro setting.

3.1.6.1 heading_id <default | value>

This set/show the NMEA 0183 heading ID the system listens to.
Value: HDD, HDG, HDM, HDT.
Default: HDT.

3.1.6.2 heading <default | value>

This set/show the fixed heading.
Value: 0.0 – 360.0
Default: 0.0

3.1.6.3 type <default | value>

This set/show gyro mode.
Value: no_gyro, fixed, 360:1, 90:1, 36:1, 1:1, sbs, nmea.
Default: fixed.

3.1.7 primary_reflector, secondary_reflector

Stores reflector-specific settings.

3.1.7.1 modem_io <default | value>

This set/show external modem IO type.
Value: modem_rj485, tms_1, tms_2, openamip.
Default: modem_rj485.

3.1.7.2 xmod_lock_in_pol <default | value>

This set/show external modem lock input polarity for selected modem IO. Determines the polarity (high or low) used by the external modem to indicate lock state.
Value: low_lock, hi_lock.
Default: low_lock.

3.1.7.3 blockage_output <default | value>

This set/show external modem lock input polarity for selected modem IO. Determines the polarity (high or low) used by the external modem to indicate block state.
Value: low_block, hi_block.
Default: low_block.

3.1.7.4 xmod_lock <default | value>

This set/show external modem lock state. Determines whether the system listen to the lock signal from external modem or not. For Tx/Rx system this option should be on because it is the modem that identifies the satellite. For Rx only system this option should be off since it either uses NID to identify the satellite (via DVB) or the signal-above-threshold.
Value: on, off.
Default: on.

3.2 antenna

Stores all antenna related settings of the system.

3.2.1 name <default | value>

This set/show antenna name. Support up to 32 characters.
Default: [Enter Description]

3.2.2 model <default | value>

This set/show antenna model. Support up to 32 characters.
Default: [Enter Model]

3.2.3 az_target <default | value>

This set/show Azimuth target, a position on azimuth axis that the antenna will target.
Range: 0.0 – 359.9 (degree)
Default: 0.0

3.2.4 el_target <default | value>

This set/show Elevation target, a position on elevation axis that the antenna will target. 0° is the position when the reflector is facing horizon, parallel to the ground. 90° is the position when the reflector is perpendicular to the ground (high look).
Range: 0.0 – 90.0 (degree)
Default: 0.0

3.2.5 cl_target <default | value>

This set/show Cross-Level target, a position on cross-level axis that the antenna will target.
Range: -30.0 – 30.0 (degree)
Default: 0.0

3.2.6 linear_pol_target <default | value>

This set/show linear polarity angle target.
Range: -92.0 – 182.0 (degree)
Default: 0.0

3.2.7 circular_pol_target <default | value>

This set/show circular polarity angle target.
Range: -92.0 – 182.0 (degree)
Default: 0.0

3.2.8 tracking <default | value>

This set/show tracking mode state.
Value: on, off.
Default: on.

3.2.9 searching <default | value>

This set/show searching mode state.
Value: on, off.
Default: off.

3.3 satellite

Stores all antenna related settings of the system.

3.3.1 description <default | value>

This set/show satellite description. Support up to 32 characters.
Default: [Enter Description]

3.3.2 lon <default | value>

This set/show satellite longitude.
Range: [0.0 - 360.0] [E/W]
Default: 101.0 W

3.3.3 freq <default | value>

This set/show satellite frequency.
Range: 950.0 – 2150.0 (MHz)
Default: 1234.567

3.3.4 skew <default | value>

This set/show satellite skew.
Range: -90.0 – 90.0 (degree)
Default: 0.0

3.3.5 band <default | value>

This set/show satellite band.
Range: 1 - 4
Default: 2

3.3.6 tx_pol <default | value>

This set/show satellite transmit polarity. The possible values cover linear and circular polarization.
Value: H, V, L, R.
Default: H.

3.3.7 search_pattern <default | value>

This set/show search pattern that is used to search this satellite.
Value: spiral, inclined, sky_search.
Default: spiral.

3.3.8 reflector <default | value>

This set/show the antenna or reflector that is used for this satellite.
Value: primary_reflector, secondary_reflector.
Default: primary_reflector.

3.3.9 lnb <default | value>

This set/show the LNB that is used for this satellite.
Value: copol, xpol.
Default: xpol.

3.3.10 threshold

Stores the threshold settings. The threshold value serves as the main signal threshold to be used for search and dishscan operation.

3.3.10.1 auto_mode <default | value>

This set/show the threshold mode used for this satellite.
Value: on, off
Default: on.

3.3.10.2 auto_offset <default | value>

This set/show the offset for auto threshold mode. Applicable only when threshold mode is auto.
Value: 0 - 300
Default: 100.

3.3.10.3 manual_value <default | value>

This set/show the manual threshold value. Applicable only when threshold mode is auto.
Value: 0 - 3000
Default: 100.

3.4 ship

Stores ship related settings.

3.4.1 name <default | value>

This set/show the ship name. Support up to 32 characters.
Default: [Enter Ship Name]

3.4.2 heading <default | value>

This set/show the ship heading.
Range: 0.0 – 360.0
Default: 0.0

3.4.3 lat <default | value>

This set/show the ship latitude.
Range: [0.0 - 90.0] [N/S]
Default: 0.0 N

3.4.4 lon <default | value>

This set/show the ship longitude.
Range: [0.0 - 360.0] [E/W]
Default: 0.0 E

3.5 system

Stores system related settings, both reflector-specific and common settings.

3.5.1 primary_reflector, secondary_reflector

Stores reflector-specific settings.

3.5.1.1 auto_thresh

This set will start/initiate calculate Auto Theshold operation. This is an action command.

3.5.1.2 auto_trim

This set will start/initiate calculate Auto Trim operation. This is an action command.

3.5.1.3 trim

Stores trim setting property. Trim is used to apply offset to align the antenna.

3.5.1.3.1 el <default | value>

This set/show trim for elevation axis.
Value: -45.0 – 45.0 (degree)
Default: 0.0

3.5.1.3.2 az <default | value>

This set/show trim for azimuth axis.
Value: -180.0 – 180.0 (degree)
Default: 0.0

3.5.1.4 sensitivity

Stores sensitivity settings for elevation and azimuth axes. Sensitivity affects the signal threshold used in dishscan operation. Higher the sensitivity lower the threshold will be.

3.5.1.4.1 el <default | value>

This set/show sensitivity for elevation axis.
Range: 10 – 100 (%)
Default: 50

3.5.1.4.2 az <default | value>

This set/show sensitivity for elevation axis.
Range: 10 – 100 (%)
Default: 50

3.5.1.5 polang

Stores polarity angle of the antenna feed.

3.5.1.5.1 drive <default | value>

This set/show polang drive type.
Value: auto, manual.
Default: auto

3.5.1.5.2 linear_offset <default | value>

This set/show linear polarity angle offset. Applicable only if the type is linear.
Range: -45.0 – 45.0 (degree)
Default: 0.0

3.5.1.5.3 circular_offset <default | value>

This set/show circular polarity angle offset. Applicable only if the type is circular.
Range: -45.0 – 45.0 (degree)
Default: 0.0

3.5.1.6 search

Stores search operation settings. Search operation is performed when the antenna is unable to locate a satellite.

3.5.1.6.1 auto <default | value>

This set/show auto search mode. When auto search mode is on (recommended) the antenna will do the search automatically.
Value: on, off.
Default: on

3.5.1.6.2 increment <default | value>

This set/show search increment value. The increment value determines how big the antenna needs to increment relative to the previous search path/line. Smaller the increment finer the antenna will scan the search area, and it will take longer to reach the search limit.
Range: 0.1 – 10.0 (degree)
Default: 1.0

3.5.1.6.3 limit <default | value>

This set/show search limit. The limit defines how big the search area. It is measured from the start search position.
Range: 1.0 – 20.0 (degree)
Default: 20.0

3.5.1.6.4 delay <default | value>

This set/show search delay. This delay determines how long the antenna will wait before initiating the next search when the current search failed. It also determines how long the antenna waits before initiating search operation when the signal dropped below the threshold (lost satellite indication).
Range: 0 – 200 (second)
Default: 30

3.5.1.6.5 scan_rate <default | value>

This set/show search scan rate. Determines how fast the antenna move during search operation. It is in angular velocity measurement unit.
Range: 0.1 – 10.0 (degree/second)
Default: 2.0

3.5.1.6.6 incline_limit <default | value>

This set/show incline search limit. Applicable when the search pattern is inclined search. The limit defines how big the search area is. It is measured from the start search position.
Range: 2.0 – 40.0 (degree)
Default: 16.0

3.5.1.7 dishscan

Stores dishscan operation settings. Dishscan enabled the antenna to keep pointing to a position that give the strongest signal read. During dishscan operation the antenna makes small, circular movement.

3.5.1.7.1 mode <default | value>

This set/show dishscan mode. Enable or disable dishscan.
Value: on, off.
Default: on.

3.5.1.7.2 az_drive <default | value>

This set/show azimuth axis dishscan multiplier value. 0 means no dishscan for azimuth axis. Higher the number bigger the dishscan motion.
Range: 0 – 100
Default: 10

3.5.1.7.3 cl_drive <default | value>

This set/show cross-level axis dishscan multiplier value. 0 means no dishscan for cross-level axis. Higher the number bigger the dishscan motion.
Range: 0 – 100
Default: 10

3.5.1.7.4 el_drive <default | value>

This set/show elevation axis dishscan multiplier value. 0 means no dishscan for elevation axis. Higher the number bigger the dishscan motion.
Range: 0 – 100
Default: 10

3.5.1.7.5 phase <default | value>

This set/show dishscan phase. Dishscan phase is used to control motor output due to movement lagging due to inertia. Large pedestal needs bigger number.
Value: -45, 0, 45, 90
Default: 0

3.5.1.8 lnb

Stores LNB related setting.

3.5.1.8.1 lo

Stores Local Oscillator related setting.

3.5.1.8.1.1 band:1, band:2, band:3, band:4 <default | value>

This set/show local oscillator frequency of the LNB. The local oscillator frequency should match the carrier used by the satellite.
Range: 1.0 – 200.0 (GHz)
Default:
band:1 = 10.000
band:2 = 10.700
band:3 = 11.300
band:4 = 9.750

3.5.2 retarget

This set will start/initiate retarget operation. This is an action command.

3.5.3 homeflag_trim <default | value>

This set/show home-flag trim value. Determines the adjustment offset for home-flag sensor.
Range: -180.0 – 180.0 (degree)
Default: 0.0

3.5.4 satref <default | value>

This set/show satellite reference mode. When Satellite Reference mode is on, the antenna will ignore ship heading and it uses satellite signal to track.
Value: on, off.
Default: off.

3.5.5 blockage_zone

Stores all blockage-zone configurations.

3.5.5.1 1, 2, 3, 4

Stores blockage-zone configurations based on index.

3.5.5.1.1 description <default | value>

This set/show blockage-zone description. Support up to 32 characters.
Default: [Enter Description]

3.5.5.1.2 rel_start <default | value>

This set/show blockage-zone relative start. The relative start for this zone.
Range: 0.0 – 360.0 (degree)
Default: 0.0

3.5.5.1.3 rel_end <default | value>

This set/show blockage-zone relative end. The relative end for this zone.
Range: 0.0 – 360.0 (degree)
Default: 0.0

3.5.5.1.4 el <default | value>

This set/show blockage-zone elevation. Determines the end of elevation for this zone. The start of elevation is always at elevation = 0°.
Range: 0.0 – 90.0 (degree)
Default: 90.0

3.5.6 profile <default | value>

This set/show hardware profile ID of the system. Please find the hardware profile ID on the sticker attached to the antenna.
Default: 0.

3.5.7 serial_number

Stores serial number. Show only.

3.5.8 auto_sat_load_search_fail <default | value>

This set/show auto satellite load after search failed. When the mode is on, the antenna will load and go to the last known good satellite when the search operation failed.
Value: on, off.
Default: on.

3.5.9 auto_sat_load_reset <default | value>

This set/show auto satellite load after hot reset or power up. When the mode is on, the antenna will load and go to the last known good satellite upon hot reset or power up.
Value: on, off.
Default: on.

3.5.10 step_res <default | value>

This set/show step resolution. Step resolution determines the step size for 1° move during search operation.
Value: 0.2, 0.1, 0.05 (degree)
Default: 0.1

3.5.11 balance_mode <default | value>

This set/show balance mode. When in balance mode the antenna will not moving and allow the technician to balance the antenna.
Value: on, off.
Default: off

3.5.12 ref_limit

Stores reference limit mode for all axes. When Reference Limit mode is on, the system will clip the error to 3°. This is mainly used in the land, where the abrupt erratic movement of the vehicle introduces abrupt error.

3.5.12.1 az <default | value>

This set/show reference limit mode for azimuth axis.
Value: on, off.
Default: off.

3.5.12.2 cl <default | value>

This set/show reference limit mode for cross-level axis.
Value: on, off.
Default: off.

3.5.12.3 el <default | value>

This set/show reference limit mode for elevation axis.
Value: on, off.
Default: off.

3.5.13 motor_gain

Stores motor gain for all axes. The gain determines the motor torque. Antenna system with large pedestal required higher gain than the one with smaller pedestal.

3.5.13.1 az <default | value>

This set/show azimuth motor gain.
Range: 0 - 500.
Default: 15 (model specific database will override).

3.5.13.2 cl <default | value>

This set/show cross-level motor gain.
Range: 0 - 500.
Default: 15 (model specific database will override).

3.5.13.3 el <default | value>

This set/show azimuth motor gain.
Range: 0 - 500.
Default: 15 (model specific database will override).

3.5.14 drive_orientation

Stores motor drive orientation all axes. This setting will determine how the motor installed or mounted on the pedestal (model-specific). E.g. Clockwise move is forward move for Azimuth axis. If the azimuth motor is installed in reverse position, a positive output to the motor will result in the pedestal move counter clockwise on azimuth axis. In this case the drive orientation for azimuth motor will be *reverse*.

3.5.14.1 az <default | value>

This set/show azimuth motor drive orientation.
Value: fwd, rev.
Default: fwd (model specific database will override).

3.5.14.2 cl <default | value>

This set/show cross-level motor drive orientation.
Value: fwd, rev.
Default: fwd (model specific database will override).

3.5.14.3 el <default | value>

This set/show elevation motor drive orientation.
Value: fwd, rev.
Default: fwd (model specific database will override).

3.5.15 vlim_ratio <default | value>

This set/show velocity limit ratio. Velocity limit ratio is the scale factor that is applied to prevent the overshooting from happening by limiting the velocity of the antenna. Closer the antenna to the target, lower the limit will be. Bigger the pedestal, bigger the ratio will be.
Value: 1 - 8.
Default: 1 (model specific database will override).

3.5.16 slow_scan_mode <default | value>

This set/show slow scan mode. When the mode is on, the antenna will be in slow scan mode. This is used for testing and diagnostic only.
Value: on, off.
Default: off.

3.5.17 slow_scan_vlim <default | value>

This set/show slow scan velocity limit. Similar to velocity limit, but this one applies when the antenna is in slow scan mode.
Range: 0.1 – 9.9.
Default: 2.0.

3.5.18 num_reflector <default | value>

This set/show the number of reflectors the antenna has. When the number of reflector is one, only the *primary* sections under *system* will be available.
Range: 1 – 2.
Default: 1.

3.5.19 receiver <default | value>

This set/show the receiver type.
Range: NBIF, SCPC, DVB, 70MHZ.
Default: SCPC.

3.5.20 tech_contact

This show technical contact information. Show only.
Value: Sea Tel Inc., a Cobham company
4030 Nelson Ave.
Concord, CA 94520
USA

E: seatelservice@cobham.com
T: +1 (925) 798-2399

3.6 satellite_fav

3.6.1 new

Add a new favorite satellite. This is interactive mode command. First it will display the index of this new favorite satellite, and then it will prompt to enter each satellite parameters one by one.

3.6.2 0 - 499

Favorite satellite with index. It's written with colon as separator. Example: **satellite_fav:1**

3.6.2.1 clear

This deletes the favorite satellite.

3.6.2.2 active

This sets the favorite satellite to be the active satellite. The antenna will target this satellite.

3.7 status

3.7.1 ship

Show ship related settings.

3.7.1.1 heading

This show the ship heading.
Range: 0.0 – 360.0
Default: 0.0

3.7.1.2 lat

This show the ship latitude.
Range: 90.0 N – 90.0 S
Default: 0.0 N

3.7.1.3 lon

This show the ship longitude.
Range: [0.0 - 360.0] [E/W]
Default: 0.0 E

3.7.2 satellite

Stores all antenna related settings of the system.

3.7.2.1 lon

This show satellite longitude.
Range: 180.0 W – 180.0 E
Default: 0.0 E

3.7.2.2 freq

This show satellite frequency.
Range: 950.0 – 2150.0 (MHz)
Default: 1234.567

3.7.2.3 skew

This show satellite skew.
Range: -90.0 – 90.0 (degree)
Default: 0.0

3.7.2.4 band

This show satellite band.
Range: 1 - 4
Default: 1

3.7.2.5 tx_pol

This show satellite transmit polarity.
Value: H, V, L, R.
Default: H.

3.7.2.6 search_pattern

This show search pattern that is used to search this satellite.
Value: spiral, inclined, sky_search.
Default: spiral.

3.7.2.7 reflector

This show the reflector that is used for this satellite.
Value: primary_reflector, secondary_reflector.
Default: primary_reflector.

3.7.2.8 lnb

This show the LNB that is used for this satellite.
Value: copol, xpol.
Default: xpol.

3.7.2.9 agc

This show the AGC value.

3.7.2.10 threshold

This show the actual threshold value being used by the antenna.

3.7.3 antenna

Stores all antenna related settings of the system.

3.7.3.1 az

This show current Azimuth position.
Range: 0.0 – 360.0 (degree)
Default: 0.0

3.7.3.2 el

This show current Elevation position.
Range: 0.0 – 90.0 (degree)
Default: 0.0

3.7.3.3 cl

This show current Cross-Level position.
Range: -30.0 – 30.0 (degree)
Default: 0.0

3.7.3.4 relative

This show current Relative position.
Range: 0.0 – 360.0 (degree)
Default: 0.0

3.7.3.5 linear_pol

This show current linear polarity angle.
Range: -92.0 – 182.0 (degree)
Default: 0.0

3.7.3.6 circular_pol

This show current circular polarity angle.
Range: -92.0 – 182.0 (degree)
Default: 0.0

3.7.3.7 agc

This show AGC value.

3.7.3.8 initializing

This show initializing mode state.
Value: on, off.

3.7.3.9 tracking

This show tracking mode state.
Value: on, off.

3.7.3.10 targeting

This show targeting mode state.
Value: on, off.

3.7.3.11 searching

This show searching mode state.
Value: on, off.

3.7.4 system

Stores system related settings.

3.7.4.1 modem_lock

This show modem lock status the system got from modem.
Value: on, off.

3.7.4.2 tx_mute

This show the cause of transmit mute. Transmit mute can happen because the antenna is in the blockage zone, manually muted, or due to stability.
Value: manual, stability, block, and threshold.

3.7.4.3 search_delay_count

This show the search delay count left. It is a countdown.

3.8 error

Clears/acknowledges or shows error(s).

3.8.1 messages

This set enables/disables the critical error messages on Console port. For “off”, it disables temporarily (for 5 minutes).
Value: on, off.

3.8.2 clear

This set clears/acknowledges error.
Value: all, [error number].

3.8.3 all

This show displayed all errors.

4. save

Save without any parameter will perform system settings save.

4.1.1 dealer_config

This will create a dealer_config file. The dealer will later can restore this config.

5. restore

Restore settings.

5.1.1 dealer_config

This will restore settings from dealer_config file in the system.

5.1.2 factory

Reset all parameters back to factory default. **Exception:** profile ID and all settings under interface (such as: IP configuration, serial baudrate, gyro, modem settings).

6. Login

There are three usernames with different level of authorization, and they are case-sensitive: Dealer (default password: seatel3), SysAdmin (default password: seatel2), and User (default password: seatel1).

7. Control Character

Character Name	Hex Value	Impact
Carriage Return	0x0D	Command Terminator
Line Feed	0x0A	Command Terminator
Space	0x20	Command and Argument Delimiter
Backspace	0x08	Delete one character on the left side of the cursor.
Escape	0x1B	Abort Current Command
Up Arrow	0x1B 0x5B 0x41	Previous Command History
Down Arrow	0x1B 0x5B 0x42	Next Command History

8. Planned Features

8.1.1 Auto Complete using Tab button.

8.1.2 Machine to Machine IMA CLI Protocol

3.0 Legacy M&C and Modem Commands:

In order to ensure full backwards compatibility for existing modems and automated user interfaces, the following commands from the DAC commands set (PN: 127060) have been implemented.

Commands	Name	Notes
esc	References	
H	Relative AZ / Ships Heading	
q	Tuner Information	
S	Status	
P	Az/El/Cl Position Decimal	
p	Az/El/Cl Position Hex	
u	Read Polang, Aux/Ext AGC, Threshold	
C	Tracking (Step Track / DishScan) ON.	
D	Tracking (Step Track / DishScan) OFF.	
W	Write parameters to NV RAM. Use '\0087·'.	
&	Clear current Error Status	
V	Software Version	
F↵	Target current Satellite (Find)	
?? ↵	gets raw coarse PCU GPS position	
?= ↵	gets raw fine PCU GPS position	
?x↵	IVCs	
?y↵	TCs	
?@ ↵	Qualified GPS query, 1 min resolution	
?V↵	gets PCU Version Number	
Aaaaa↵	Azimuth	
Baaaa↵	Set ships heading to 'aaa.a' degrees	
Eaaaa↵	Elevation	
Oxxxx↵	Set PCU Digital output ports to 'xxxx'.	
Tnnnn↵	Satellite longitude	
baaaa↵	Set ships heading to 'aaa.a' degrees without changing azimuth.	
c0028↵	Set ADE Band Aux OFF(Xp) and Reflector B	
c0029↵	Set ADE Band Aux ON(Cp) and Reflector B	
c0030↵	Set active Reflector to Reflector A	
c0031↵	Set active Reflector to Reflector B	
c0032↵	Set DVB receiver tone OFF	maps to c0048
c0033↵	Set DVB receiver tone ON	maps to c0049
c0034↵	Set DVB receiver volt = 13 V	maps to c0038
c0035↵	Set DVB receiver volt = 18 V	maps to c0039
c0036↵	Set ADE Band Aux Off	
c0037↵	Set ADE Band Aux On	
c0038↵	Set ADE Band Volt = 13	
c0039↵	Set ADE Band Volt = 18	
c0040↵	Set ADE Band T, Band V, Band Aux (0,0,0)	
c0041↵	Set ADE Band T, Band V, Band Aux (0,1,0)	
c0042↵	Set ADE Band T, Band V, Band Aux (0,0,1)	
c0043↵	Set ADE Band T, Band V, Band Aux (0,1,1)	
c0044↵	Set ADE Band T, Band V, Band Aux (1,0,0)	
c0045↵	Set ADE Band T, Band V, Band Aux (1,1,0)	
c0046↵	Set ADE Band T, Band V, Band Aux (1,0,1)	
c0047↵	Set ADE Band T, Band V, Band Aux (1,1,1)	
c0048↵	Set ADE Band Tone Off	

c0049↲	Set ADE Band Tone On	
cnnnn↲	Tuning freq (MHz) or DVB/RF mode	Also, c00XX cmds above
dnnnn↲	Baudrate or KHz	
gnnn↲	Set 24v polang position to 'nnn'.	
tnnnn↲	Target NID	
wV***↲	Read DVB Version	
Jaaaa↲	Move azimuth to ship relative 'aaa.a' degrees	
nAnnn↲	Set or Read PCU "N" parameter at index 'A' with value 'nnn'	
mbnnn↲	Lat	
mcnnn↲	Lat	
mdnnn↲	Lat ns	
m•nnn↲	TDisp□	
m}nnn↲, m~nnn↲	Saved (Target) NID	
mAnnn↲ A=138	SatSkew	
mhnnn↲, minnn↲	Satellite Long	
mjnnn↲	Satellite E/W	
mQnnn↲	24v Polang Offset	
munnn↲	FEC Tone Volt	
mWnnn↲	Polang Tx Type	
mEnnn↲	NA	
mFnnn↲	agc th	
mGnnn↲	El Step Size	
mHnnn↲	Az Step Size	
mInnn↲	Step Integral	
mNnnn↲	System Type	
mOnnn↲	Gyro Type	
mPnnn↲	Polang Type	
mRnnn↲	24v Polang Scale	
mSnnn↲	Az Limit 1	
mTnnn↲	Az Limit 1	
mUnnn↲	AZ Limit 2	
mVnnn↲	AZ Limit 2	
mWnnn↲	Polang Tx Type	
mYnnn↲ mZnnn↲	AZ Limit3	
m[nnn↲ m\nnn↲	AZ Limit4	
m]nnn↲ m^nnn↲	AZ Limit5	
m_nnn↲ m`nnn↲	AZ Limit6	
m~nnn↲	Saved (Target) NID	
munnn↲	FEC Tone Volt	
mJnnn↲	Search Inc	
mKnnn↲	Search Limit	
mLnnn↲	Search Delay	
mMnnn↲	Scan rate	
mAnnn↲ mBnnn↲	El Trim	
mgnnn↲ mhnnn↲	Lon	
minnn↲	Lon ew	
mCnnn↲ mDnnn↲	Az Trim	
mhnnn↲ minnn↲	SAT	
mjnnn↲	Sat ew	
monnn↲ mpnnn↲	THRS	
mqnnn↲ mrnnn↲	MHZ	

msnnn↵ mtnnn↵	KHZ	
mvnnn↵	POL SEL	
m{nnn↵ m|nnn↵	Remote POL	
m'nnn↵ mƒnnn↵	AZ Limit7 / Pol5 O/S	
m†nnn↵	EL Limit12	
m‡nnn↵	EL Limit34	
mˆnnn↵	EL Limit56	
$mmmm↵	NMEA Latitude - Longitude / Heading input (GLL / HDT / HDM format).	
\nnnn↵	Send Utility command '\nnnn' to ACU. See section 2.2 for details(below)	
\0066↵	Perform Auto Trim and start Auto Threshold calculations.	
\0067↵	Complete Auto Threshold calculation	
\0080↵	Start ACU FLASH Programming Mode	
\0082↵	Reset ACU Parameters to factory defaults	
\0087↵	Write ACU Parameters to Non Volatile storage	
\0090↵	Reboot the ACU.	
\0091↵	MXP Bootloader Version	
\0092↵	ICU Bootloader version	
^nnnn↵	Send Utility command '^nnnn' to PCU. See PCU command summary	
[V↵	View CommIF version	
[0nnnnn	Set TCP/IP-0 port number (M&C Port 0, Sea Tel)	
[1nnnnn	Set TCP/IP-1 port number (M&C Port 1, Sea Tel)	
[2nnnnn	Set TCP/IP-2 port number (M&C Port 2, OpenAMIP).	
[Gnnn.nnn.nnn.nnn	Set Gateway address	
[Innn.nnn.nnn.nnn	Set IP address	
[Nnnn.nnn.nnn.nnn	Set Net mask	
[Qnnn or [Q	Set the port security mask	
[S	Start serial upload mode (for advanced users only)	
[Tnnnnn	Set HTTP port number (Webserver).	
[Unnnnn	Set UDP port number (SHD Software Upload)	
[W	Write Comm IF parameters to flash.	
[Z	Soft reboot the Comm IF module.	
[?x↵	View settings for 'x' where 'x' is any combination of: - Null for CommIF settings (legacy default) - A for Antenna Control Unit settings. - P for Pedestal Control Unit settings - M for Motor Control Unit firmware version - > for Above Decks Modem firmware version - < for Below Decks Modem firmware version - R for Receiver firmware version - C for CommIF settings - Z for a parameter dump of all settings	
[Xssssssss	Set the access username to "ssssssss". Must be 4-8 characters long	
[Yssssssss	Set the access password to "ssssssss". Must be 4-8 characters long	
[Dxnnnnn or [Dx	Set the local oscillator on band 'x' to nnnnn	

4.0 Profile Number Table:

The following table defines which system corresponds to which Profile numbers inside the profile number database:

System Name	Profile Number	Software Version Implemented
4012GX	1	Initial

5.0 Error Table:

The following table defines the total number of errors which may be reported by the IMA software:

Error Code	Description	Type	Front Panel LED*			(Un)Latched**
			Type	State	Color	
1001	Stability Limit	Error	Error	Solid	Red	Unlatched
1002	Az Reference Error (Encoder Read)	Error	Error	Solid	Red	Latched
1003	AGC Below Noise Threshold	Error	Error	Solid	Red	Unlatched
1004	Software Update Did not Load Properly	Warning	Error	Solid	Red	Latched
1005	Comm Error w/ Motor Driver	Error	Error	Solid	Red	Latched
1006	Motor Driver Fault Detected	Error	Error	Solid	Red	Latched
1007	DishScan Disabled	Error	Error	Solid	Red	Unlatched
1008	AZ Reference Error (Home Flag Read)	Error	Error	Solid	Red	Latched
1009	Tilt Sensor Error	Error	Error	Solid	Red	Unlatched
1010	Rate Sensor Error	Error	Error	Solid	Red	Unlatched
1011	Over Speed Error	Error	Error	Solid	Red	Latched
1012	POST Failure	Debug	Error	Solid	Red	Latched
1013	OS Errors	Warning	Error	Solid	Red	Unlatched
1014	Flash Failure	Error	Error	Solid	Red	Latched
1015	MXP/ICU Link Error	Warning	Error	Solid	Red	Unlatched
1016	Az Servo Limit	Error	Error	Flashing	Red	Latched
1017	LV Servo Limit	Error	Error	Flashing	Red	Latched
1018	CL Servo Limit	Error	Error	Flashing	Red	Latched
1019	No GPS String	Error	Error	Flashing	Red	Unlatched
1020	No Profile Set in PCU	Error	Error	Flashing	Red	Latched
1021	NMEA HDD Heading Not Received for 10 Seconds	Error	Error	Solid	Red	Latched
1022	NMEA HDG Heading Not Received for 10 Seconds	Error	Error	Solid	Red	Latched
1023	NMEA HDM Heading Not Received for 10 Seconds	Error	Error	Solid	Red	Latched
1024	NMEA HDT Heading Not Received for 10 Seconds	Error	Error	Solid	Red	Latched
1025	GPS String Invalid	Warning	Error	Flashing	Yellow	Unlatched
1026	Antenna Not Balanced	Warning	Error	Flashing	Red	Unlatched
1027	Satellite Out of Range	Info	Target	Solid	Red	Unlatched
1028	Temp In Radome Above/Below Operating Specs	Warning	Error	Solid	Yellow	Unlatched
1029	Antenna about to enter a Programmed Block Zone	Notice	Tracking	Flashing	Yellow	Unlatched
1030	Antenna Within a Programmed Block Zone	Notice	Tracking	Solid	Yellow	Unlatched
1031	AGC Below Threshold	Info	Tracking	Solid	Yellow	Unlatched
1032	Latest Parameters Not Saved	Notice	Error	Flashing	Yellow	Unlatched
1033	Software Update In Progress	Info	Initializing	Flashing	Yellow	Unlatched
1034	Block Zone Test/Simulation	Info	Tracking	Flashing	Yellow	Unlatched
1035	MXP-ICU Sync Timeout	Info	Error	Flashing	Yellow	Unlatched
1036	Parameter Sync Error	Warning	Error	Flashing	Red	Latched
1037	Time Sync Error	Warning	Error	Flashing	Red	Latched
1038	System Serial Number Mismatch	Error	Error	Solid	Yellow	Unlatched
1039	System Serial Number Invalid	Error	Error	Solid	Yellow	Unlatched
1040	INI Integrity Error	Warning	Error	Flashing	Red	Latched
1041	NMEA HDD Received with Bad Checksum	Notice	Error	Solid	Yellow	Latched
1042	NMEA HDG Received with Bad Checksum	Notice	Error	Solid	Yellow	Latched
1043	NMEA HDM Received with Bad Checksum	Notice	Error	Solid	Yellow	Latched
1044	NMEA HDT Received with Bad Checksum	Notice	Error	Solid	Yellow	Latched
1045	Step by Step Gyro Took Invalid Step Size	Warning	Error	Solid	Yellow	Latched
1046	Step by Step Gyro Not Connected Correctly	Error	Error	Solid	Red	Latched
1047	Step by Step Gyro Requires Initial Heading	Notice	Error	Solid	Red	Unlatched
1048	36:1 Synchro Gyro Requires Initial Heading	Notice	Error	Solid	Red	Unlatched
1049	90:1 Synchro Gyro Requires Initial Heading	Notice	Error	Solid	Red	Unlatched
1050	360:1 Synchro Gyro Requires Initial Heading	Notice	Error	Solid	Red	Unlatched
1051	1:1 Synchro Gyro Is Not Properly Connected	Error	Error	Solid	Red	Latched
1052	36:1 Synchro Gyro Is Not Properly Connected	Error	Error	Solid	Red	Latched
1053	90:1 Synchro Gyro Is Not Properly Connected	Error	Error	Solid	Red	Latched
1054	360:1 Synchro Gyro Is Not Properly Connected	Error	Error	Solid	Red	Latched
1055	Polang skew entry results in target out of range	Error	Error	Flashing	Red	Latched
1056	Motor failed to reach Target	Error	Error	Solid	Red	Latched

* Front Panel LEDs have the following priority, from highest to lowest: Solid Red, Flashing Red, Solid Yellow, Flashing Yellow, Solid Green, Flashing Green.

** An unlatched error can automatically clear itself, if the system corrects the condition which caused the error. A latched error can only be cleared explicitly by the user.