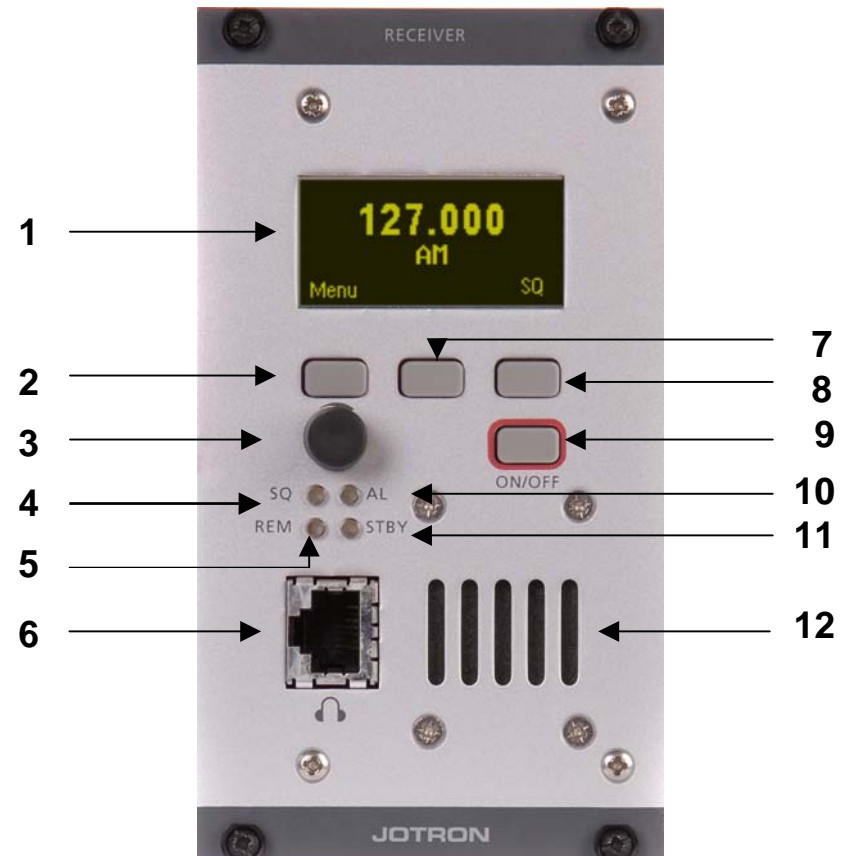




RA - 7203

VHF Receiver

- 1 DISPLAY
- 2 FbA (Function button A)
- 3 RS (Rotary switch)
- 4 SQUELCH LED
- 5 REMOTE LED
- 6 FRONT CONNECTOR
- 7 FbB (Function button B)
- 8 FbC (Function button C)
- 9 ON/OFF
- 10 ALARM LED
- 11 STANDBY LED
- 12 LOUDSPEAKER





RA - 7203

Front RJ45 connector

Front Connector, RJ45		
Name	PIN	Purpose
SEL	1	
TDO	2	
Headset	3	
RS232	4	RS232 Tx
RS232	5	RS232 Rx
TMS	6	
+12VDC	7	+12 VDC to external equipment (10mA)
GND	8	Common ground





RA - 7203

Technical data, 1 of 4

Standards;	ICAO annex 10, EN300 676(AM, AM-MSK), EN301 841(VDL2 – Physical layer)
Environmental:	Temperature range -20°C to +55°C (operating) - 40°C to +70°C (storage) Humidity 90% @+40°C (non condensing)
Shock Transport:	IEC-721-3-2, Class 2M3
Vibration Transport:	IEC-68-2-32, Class 2M3. IEC-68-2-6 EMC EN 301 489 – part 22
Weight:	1.7 kg
Dimension:	71mm (14TE)(W) * 230mm(D) * 128mm (H)





RA - 7203

Technical data, 2 of 4

Frequency response:	300-3400 Hz 350-2500 Hz
Data ports:	RS232, RS485, 100/10BaseT
Protocol:	(SNMP v.2) Simple Network Management RS232/RS485 Jotron proprietary
BITE monitoring:	VSWR, Voltages, Currents, Levels, Lock detect, Temperature, Output power, Reflected power, a.o.
Supply voltage:	AC 115/230VAC +15/-10% / 50-60Hz Supply voltage, DC 21.6 - 31.2VDC negative ground
MTBF:	>10 years / unit
MTTR:	<30 minutes at lowest replaceable unit





RA - 7203

Technical data, 3 of 4

<i>Receiver</i>	<i>AM 25kHz</i>	<i>AM 8.33kHz</i>
Sensitivity analogue @1μV / 30% pd:	10dSINAD(CCITT)	
Adjacent channel rejection:	>70dB	>60dB
Intermodulation (3 signal):	>70 dBc	
IF bandwidth:	+/- 11kHz	+/-2.8kHz
Image and IF frequency response:	>110 dB	
Squelch operation:	Adjustable 107dBm, 30dB S/N + carrier override Activation time <20ms Hysteresis <3dB	
Audio AGC:	30%-90%, <1dB variation	
Noise blanker:	IF: Selectable ON/OFF	
Signal / Noise:	>45dB on any output @100 μ V, 30%	





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Technical data, 4 of 4

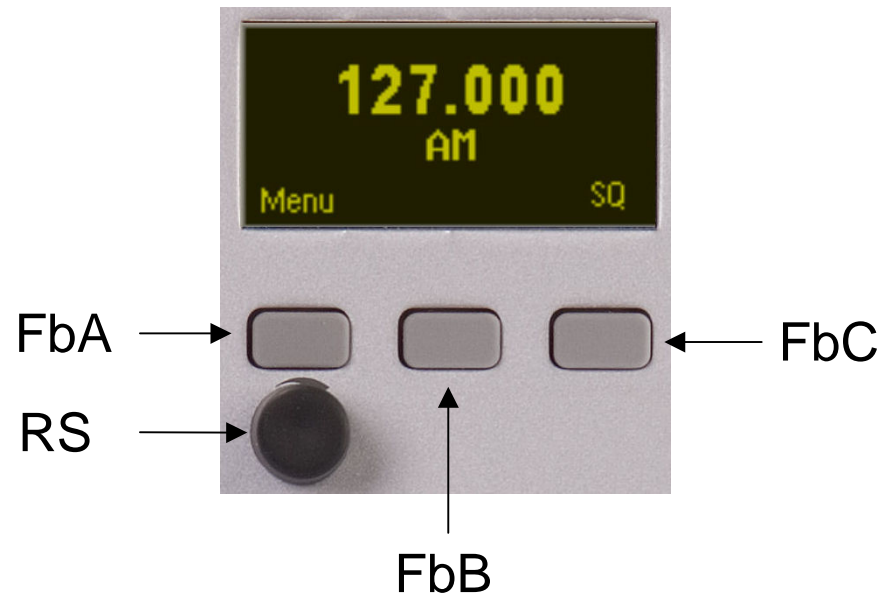
AGC range:	-107dBm to +5dBm
AGC attach time:	<50ms
AGC decay time:	<200ms
Inband squelch signal:	Configurable tones: 150-3400Hz
Line output:	600Ω, -36 - +7dBm @90% modulation
Harmonic distortion:	<3% @90% AM (line output)
Crossmodulation:	>85dB @ 100 kHz frequency offset
Blocking:	>100dB @1MHz offset, >110 dB out of band signals
Dynamic range:	>110dB
Spurious response rejection:	>90dB





RA - 7203

Menus, 1 of 16



NOTE!

RS can be pressed and turned.

The radio is controlled through an advanced menu system. The access for each menu is restricted by a user parameter. The System Operator can change all user parameters from SNMP, or from the menu using a hardware key.





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Menus, 2 of 16

There are four access user levels:

User parameter:	Name of menu:	Access and restrictions:
1	System operator	Full access to all parameters (R/W by System Operator)
2	Technician	Access to some settings in RX menu system + bite (R/O)
3	Operators	Access only to Volume, Frequency and memory store and recall
4	Restricted	Restricted to Volume, Squelch and memory recall



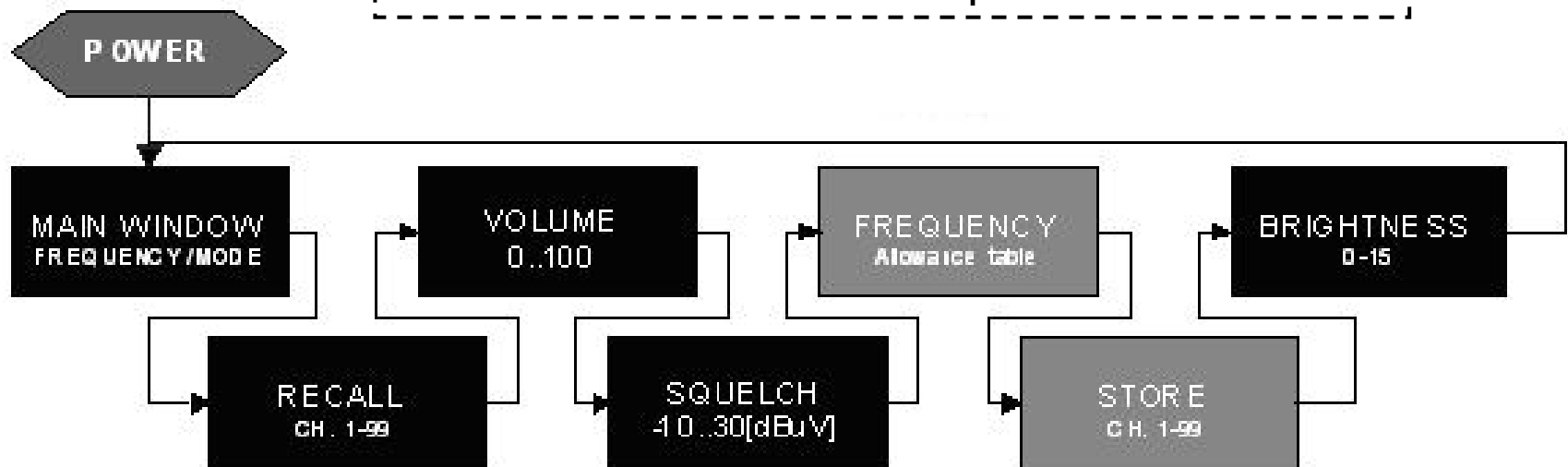


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Menus, 3 of 16

When operated locally, the operator has full access to all facilities using the various controls at the front panel.

Push RS to switch in the operator menu

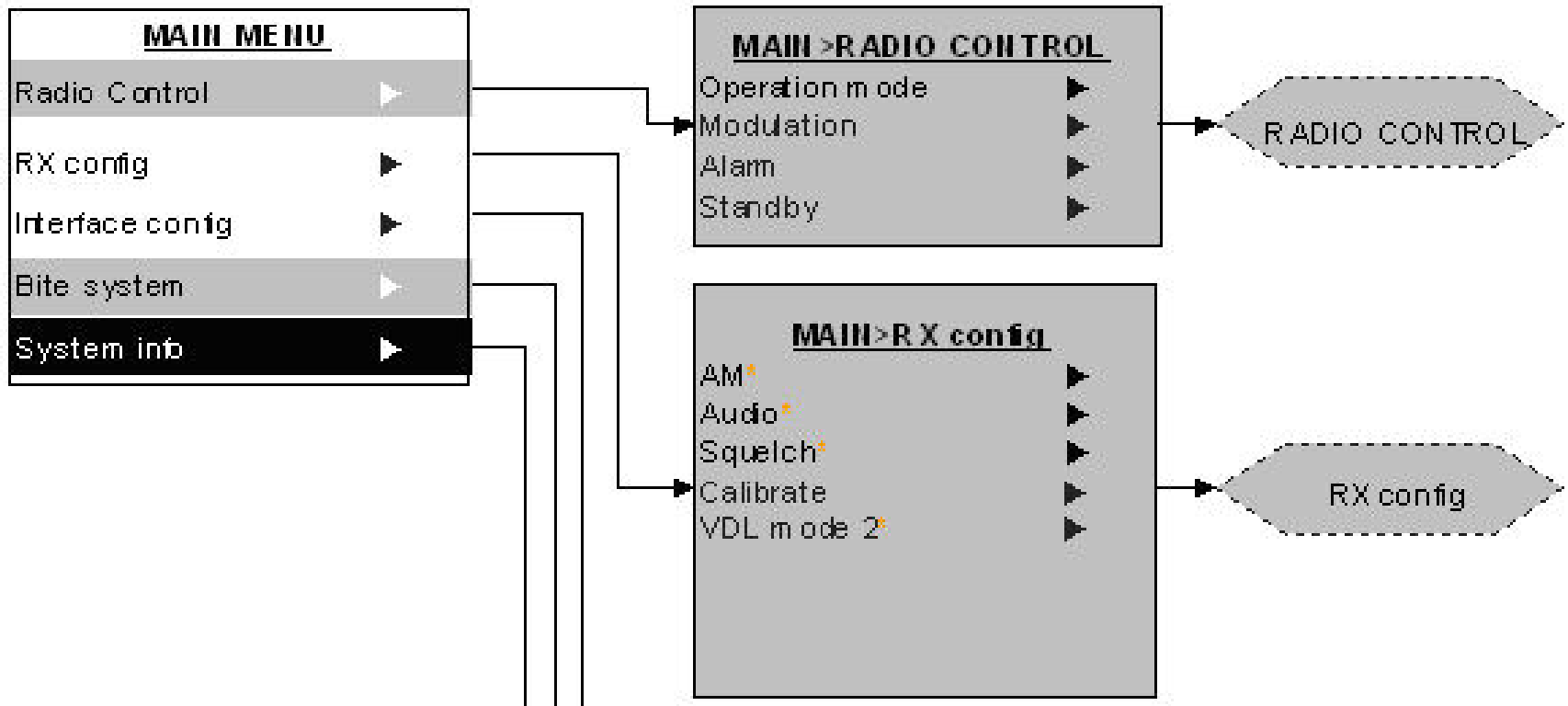




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Menus, 4 of 16

Push menu button to enter MAIN MENU





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Menus, 5 of 16

LEGEND:

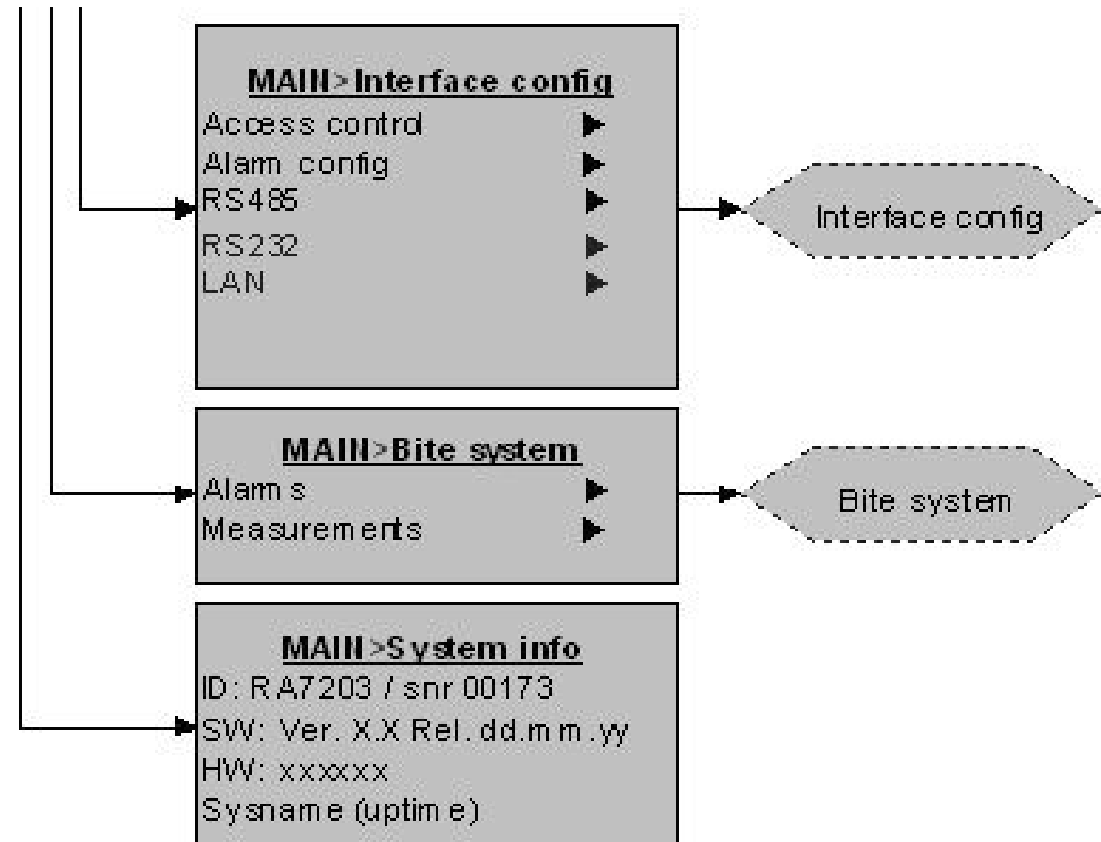
Accessible for SysOp user level

Accessible for Technician and above

Accessible for Operator and above

Accessible for all user levels

* Availability depends on radio model!





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Menus, 6 of 16

RADIO CONTROL subtree

RADIO > Operation mode
Main | Norm

RADIO > Modulation
AM | FM | VDL2 | AMMSK
Dependent on radio model

RADIO > Force alarm
ON | OFF

RADIO > Force standby
ON | OFF

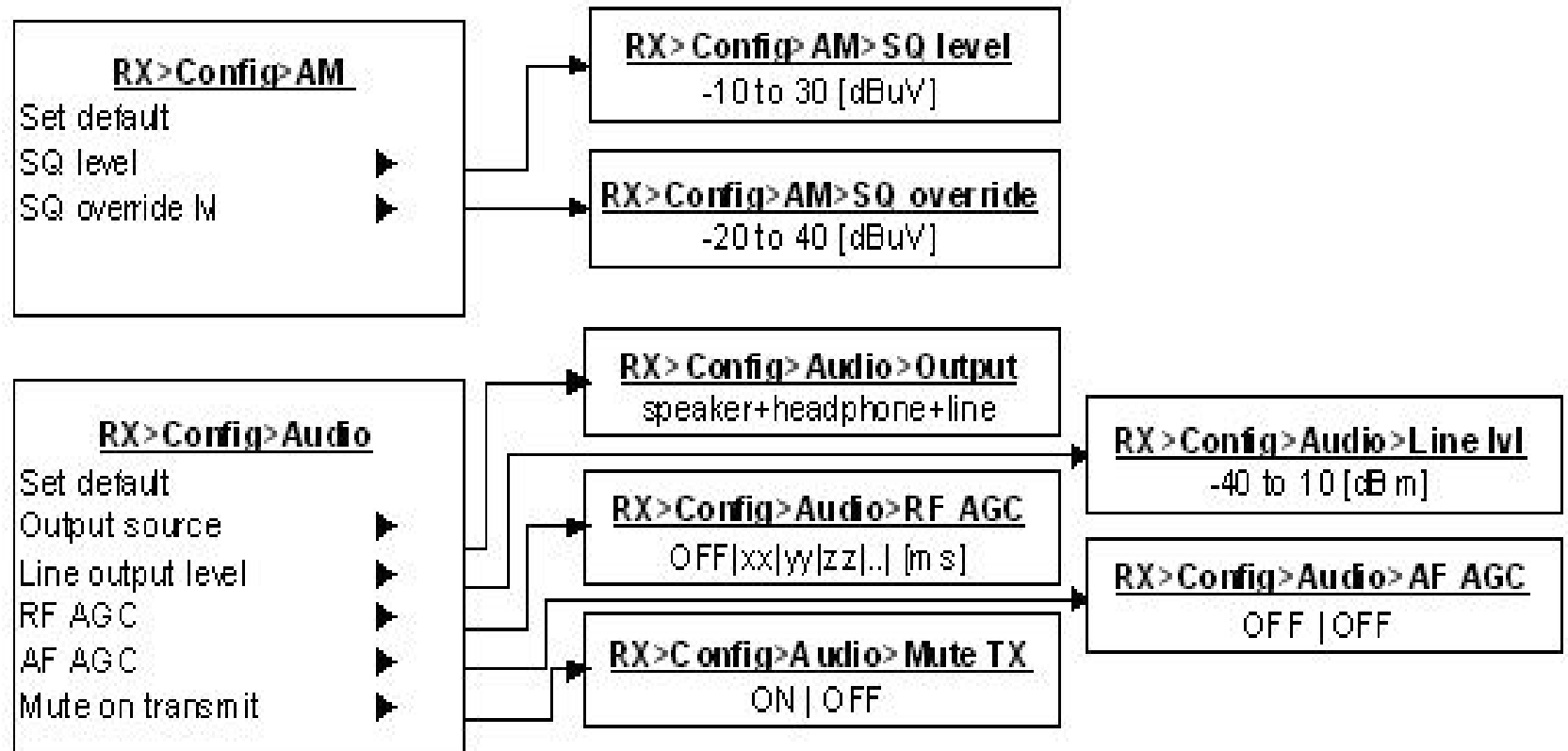




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Menus, 7 of 16

RX config subtree menu, 1 of 2

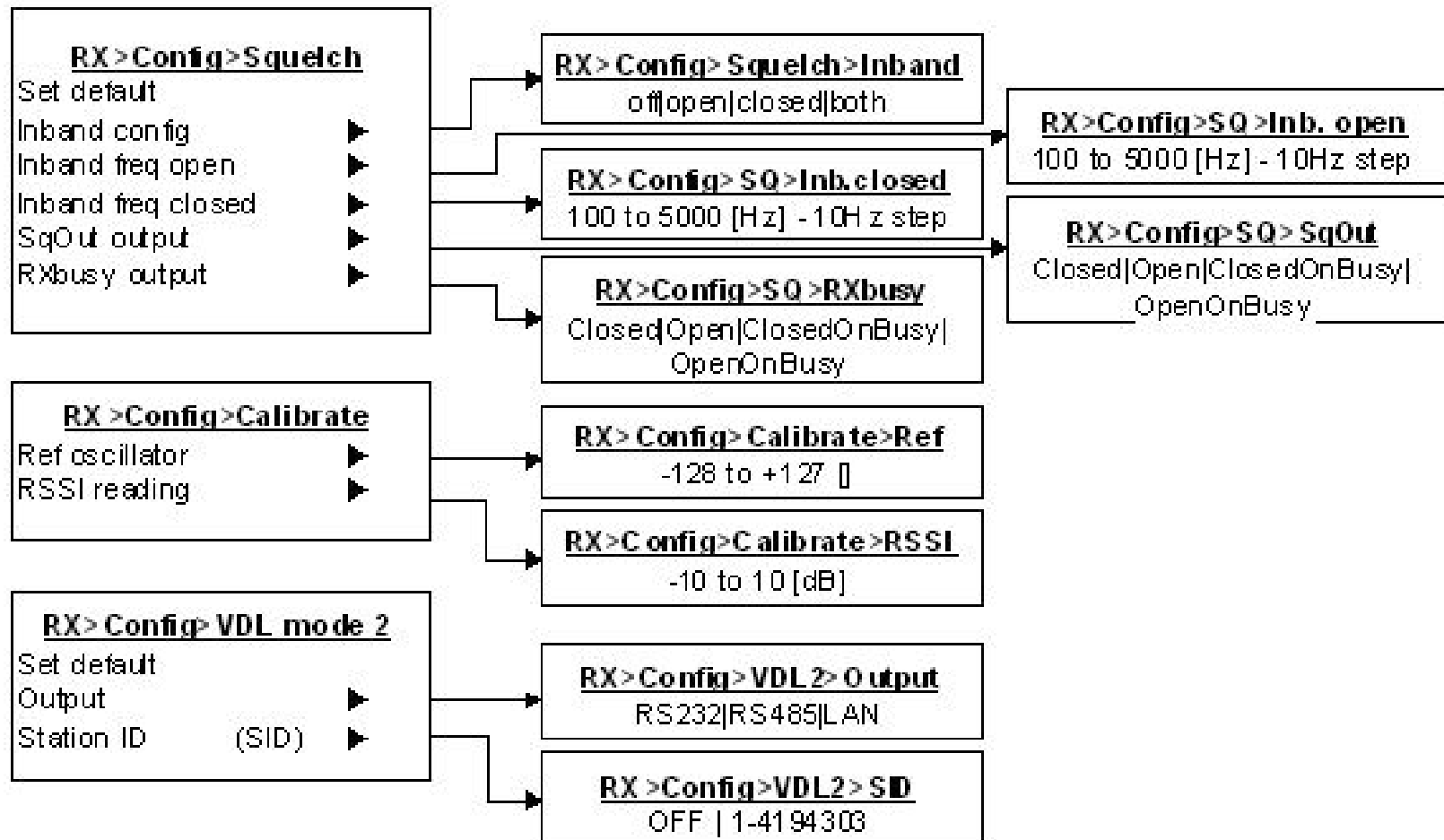




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Menus, 8 of 16

RX config subtree menu, 2 of 2

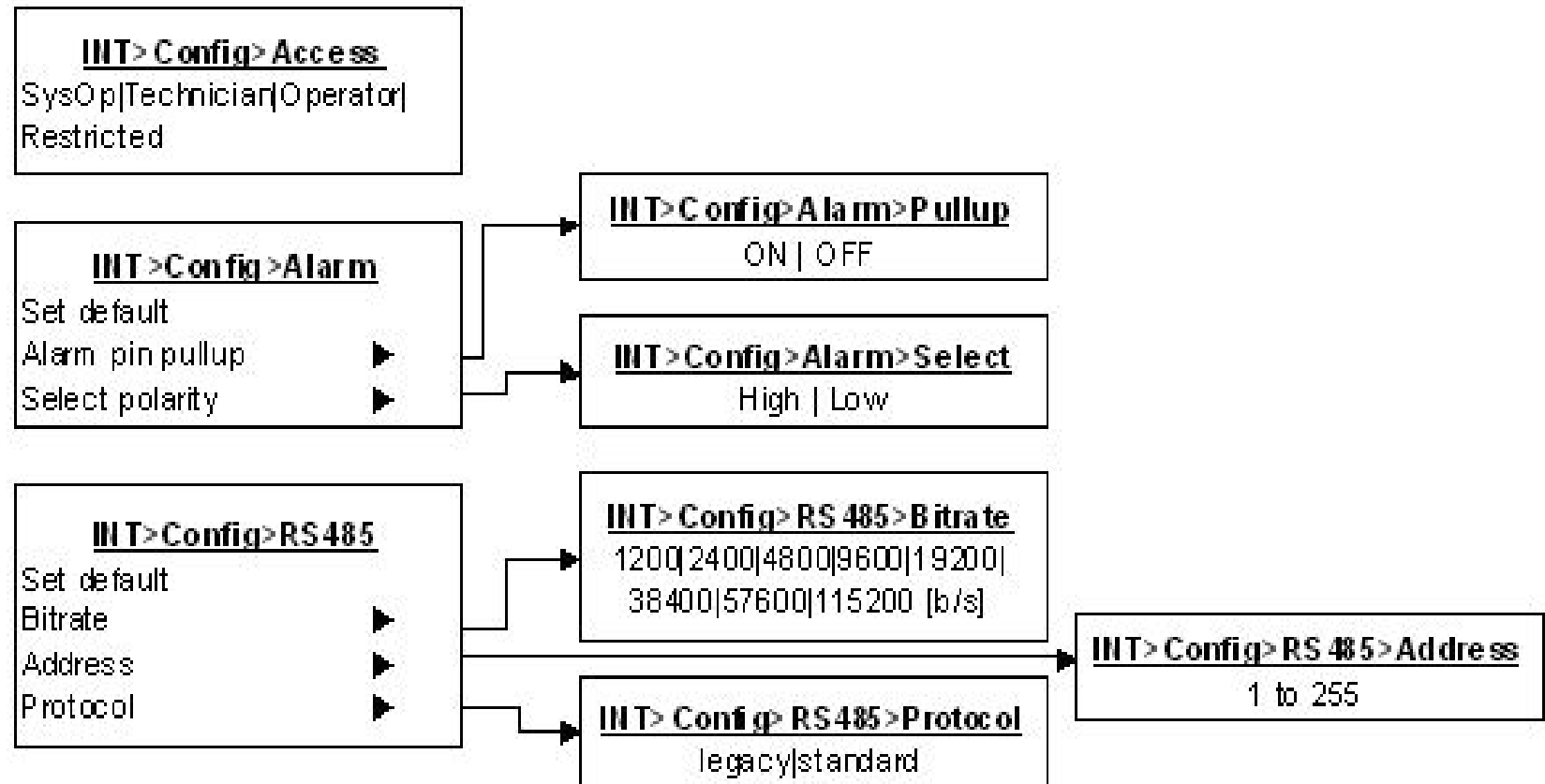




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Menus, 9 of 16

Interface config subtree menu, 1 of 2

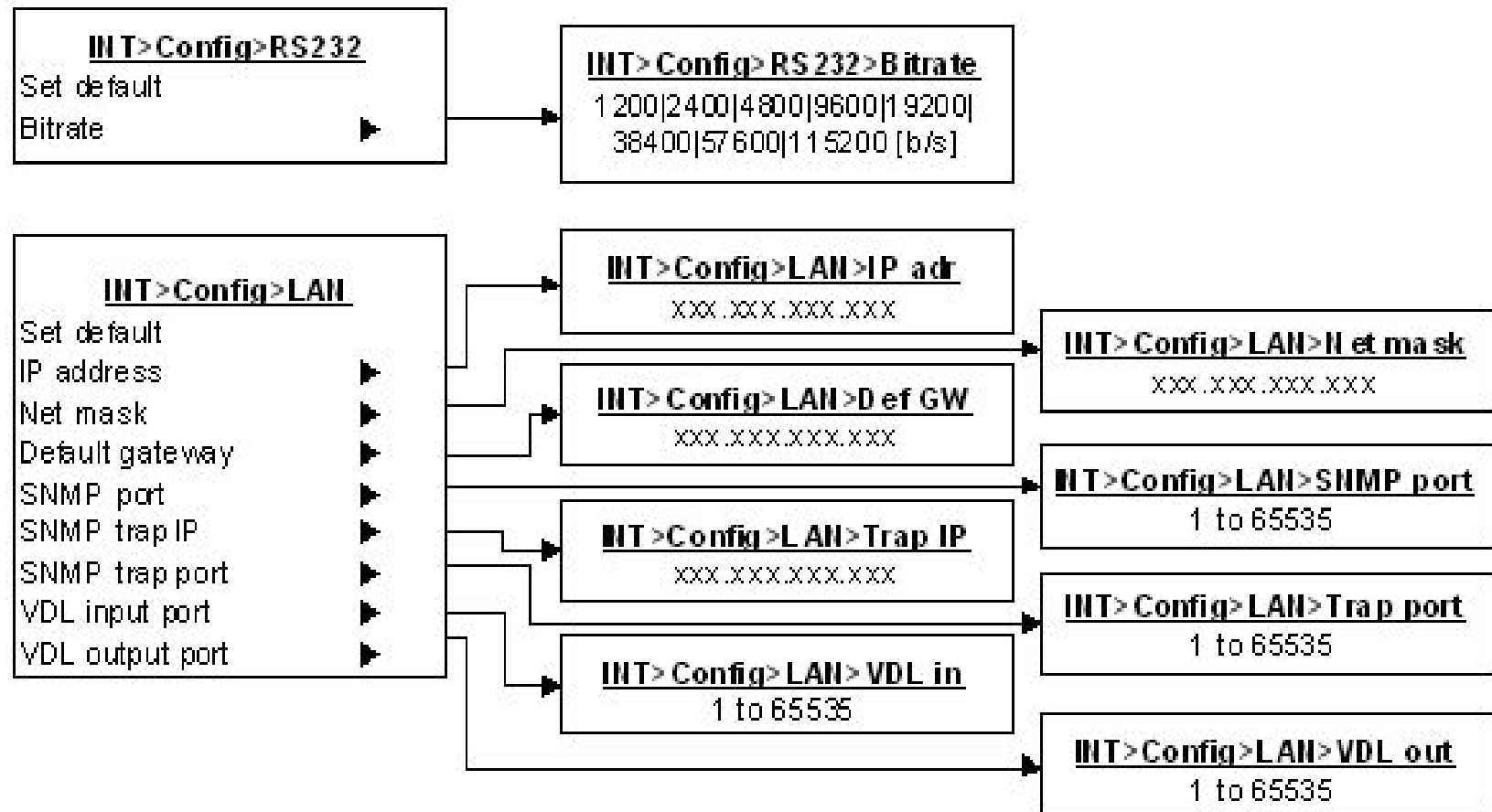




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Menus, 10 of 16

Interface config subtree menu, 2 of 2

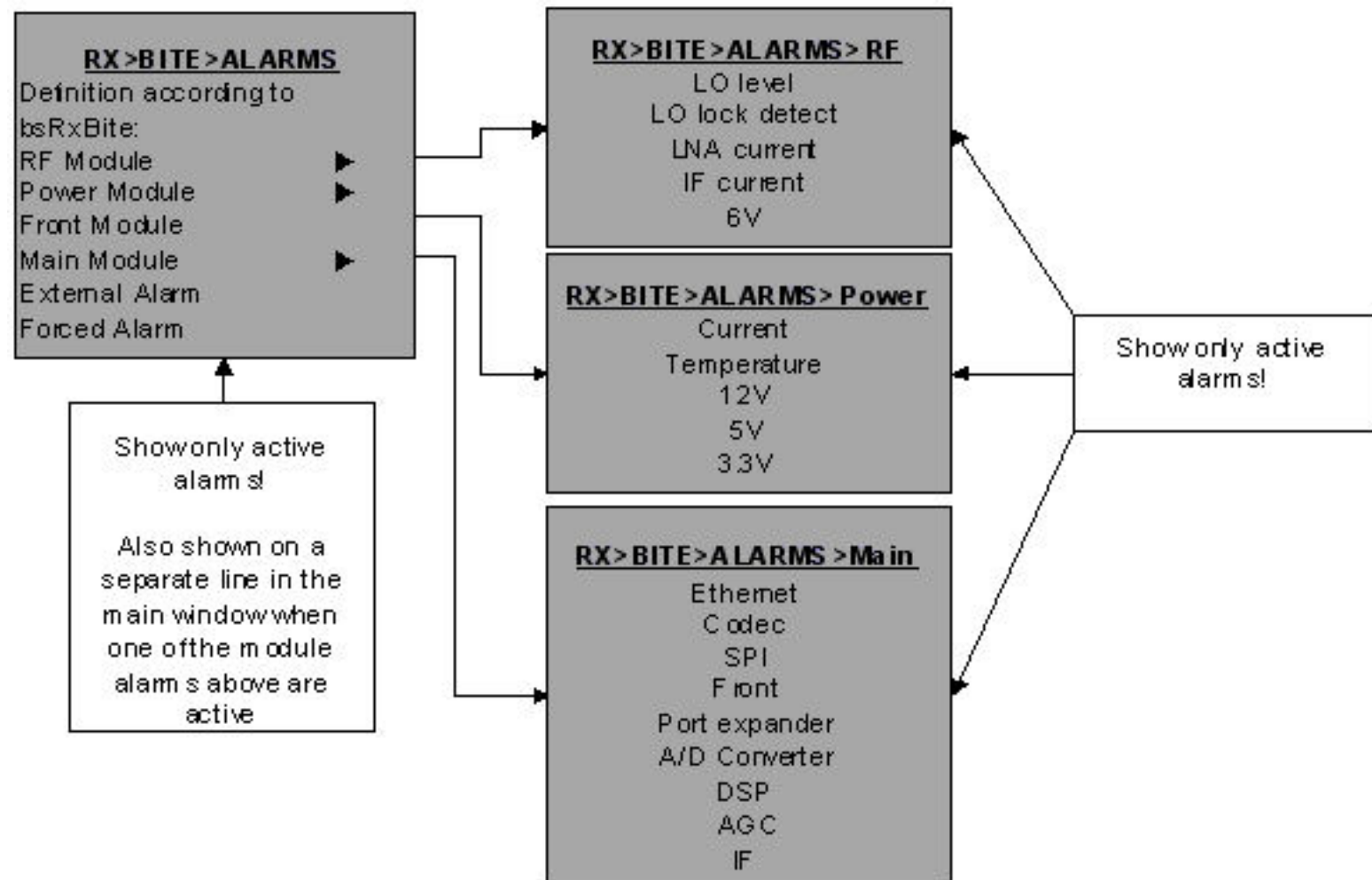




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Menus, 11 of 16

Bite system subtree, 1 of 2





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Menus, 12 of 16

Bite system subtree, 2 of 2

RX>BITE>MEASUREMENTS

RSSI	xx.x dBuV (--- hvis mindre enn -10 dBuV)
Line level	xx.x dBm
AGC volt	x.xx V
Temperature	xx .C
DC Current	x.x A
IF current	xxx mA
LNA current	xxx mA
LO level	xx.x dBm
28 Volt	xx.x V
12 Volt	xx.x V
6 Volt	xx.x V
5 Volt	xx.x V
3.3 Volt	xx.x V
AC	present (alt. not present)





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Menus, 13 of 16

To maneuver in the menu systems, use the up-button FbA, the down-button FbB or (preferably) turn the RS.

The different submenus are selected by pressing the rotary switch and turning up/down until the desired menu is reached. (FbA, FbB and FbC may be used as well)

To return to previous menu, press RS (or FbC) when “ ,,, ” is selected in the present menu.

The RA-7203 will enter the Operator menu when turned “ON”.

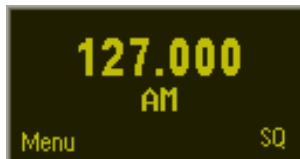




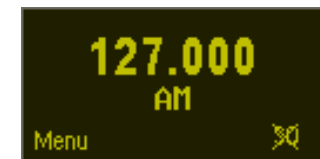
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Menus, 14 of 16

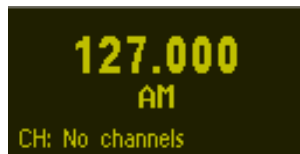
Operator menu, 1 of 3



Normal operating display with active squelch. Press Fb C to mute squelch.



Press RS



Normal operating display with no channels stored. Press Fb C to recall stored channels.

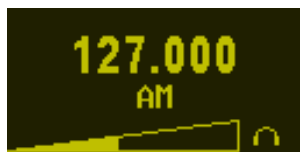
Press RS



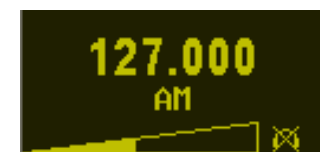
Set loudspeaker volume by turning RS. Press FbC to mute loudspeaker.



Press RS



Set headset volume by turning RS. Press FbC to mute headset.



Press RS





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Menus, 15 of 16

Operator menu, 2 of 3



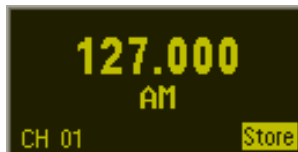
Press RS

Set squelch level by turning RS.
Press FbC to mute squelsh.



Press RS

See next page how to select frequency.



Press RS

Press FbC to store new frequency on specified channel. Select storing channel by turning RS.



Select brightness level by turning RS.





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Menus, 16 of 16

Operator menu, 3 of 3



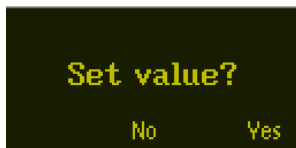
Press FbA



Press FbA



Press FbC



Select 8,33kHz steps by turning RS. For no changes press FbC.

Select 100kHz steps by turning RS.

Select 1MHz steps by turning RS.

Press FbC to store new frequency and return.

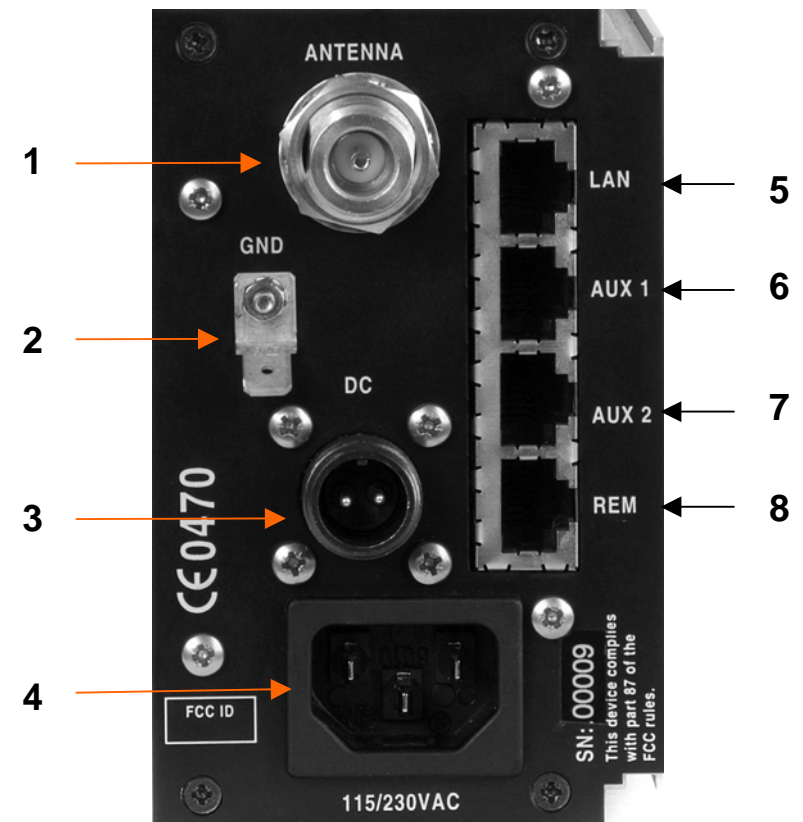




RA - 7203

Rear RJ45 connectors, 1 of 5

- 1 ANTENNA CONNECTOR
- 2 EARTH TAG
- 3 DC INPUT CONNECTOR
- 4 AC INPUT CONNECTOR
- 5 LAN CONNECTOR
- 6 AUX 1 CONNECTOR
- 7 AUX 2 CONNECTOR
- 8 REMOTE CONNECTOR





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Rear RJ45 connectors, 2 of 5

LAN interface connector		
Name	PIN	Purpose
LAN_TXP	1	Tx data
LAN_TXN	2	Tx data
LAN_RXP	3	Rx data
LAN_D3P	4	Optional
LAN_D3N	5	Optional
LAN_RXN	6	Rx data
LAN_D4P	7	Optional
LAN_D4N	8	Optional





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Rear RJ45 connectors, 3 of 5

Aux 1 connector		
Name	PIN	Purpose
ALARM_P	1	Alarm out – rele
ALARM_N	2	Alarm out – rele
Select_in_P	3	Select in – opto isolated
RS232_S	4	RS232 Send data
RS232_R	5	RS232 Receive data
Select_in_N	6	Select in – opto isolated
+12V	7	12V output to ext equipment (D/O: 200mA)
GND	8	Common ground





RA - 7203

Rear RJ45 connectors, 4 of 5

AUX 2 connector		
Name	PIN	Purpose
Squelch_out_P	1	Squelch out - opto isolated
Squelch_out_N	2	Differential – opto isolated
AGC_HILO_P	3	Hi / Lo depending on input signal (configurable)
NC	4	
NC	5	
AGC_HILO_N	6	Differential – opto isolated
AGC_OUT	7	
NC	8	





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Rear RJ45 connectors, 5 of 5

REM connector (Interface to transmitter)		
Name	PIN	Purpose
RS485_Z	1	RS485 (-)
RS485_Y	2	RS485(+)
LINE_P	3	Diff. line output from RX, 600 ohm
TX_BUSY	4	TX Busy indicator input (Mute input)
RX_BUSY	5	RX Busy indicator output (Repeater Key Output – Tx in repeater mode)
LINE_N	6	Diff. line output from RX, 600 ohm
ALARM	7	Low=Alarm (Note: I/O – low input will also be recognized as an alarm (EXT))
GND	8	Common ground





RA - 7203

External wiring

RJ45

KRONE

AUX 1 RJ 45	1	Orange/White	Alarm_P Out (NO)	b	10	b
	2	Orange	Alarm_N Out (NO)	a		a
	3	Green/White	Select_In_P	b	9	b
	6	Green	Select_In_N	a		a
	7	Brown/White	12 VDC Out	b	8	b
			Not Connected	a		a
	AUX 2 RJ 45	1	Orange/White	Squelch_out_P	b	7
2		Orange	Squelch_out_N	a	a	
3		Green/White	AGC_HILO_P	b	6	b
6		Green	AGC_HILO_N	a		a
7		Brown/White	AGC_OUT	b	5	b
			Not Connected	a		a
REM RJ 45		1	Orange/White	RS485 (-)	b	4
	2	Orange	RS485 (+)	a	a	
	3	Green/White	LINE_P (Audio Out)	b	3	b
	6	Green	LINE_N (Audio Out)	a		a
	4	Blue	TX_BUSY	b	2	b
	5	Blue/White	RX_BUSY	a		a
	7	Brown/White	ALARM	b	1	b
	8	Brown	Common ground	a		a

