

User Manual

Octo AV Modulator Ref. 8180



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© Unitron - Frankrijklaan 27 - B-8970 Poperinge - Belgium

T +32 57 33 33 63 F +32 57 33 45 24

sales@unitrongroup.com

www.unitrongroup.com

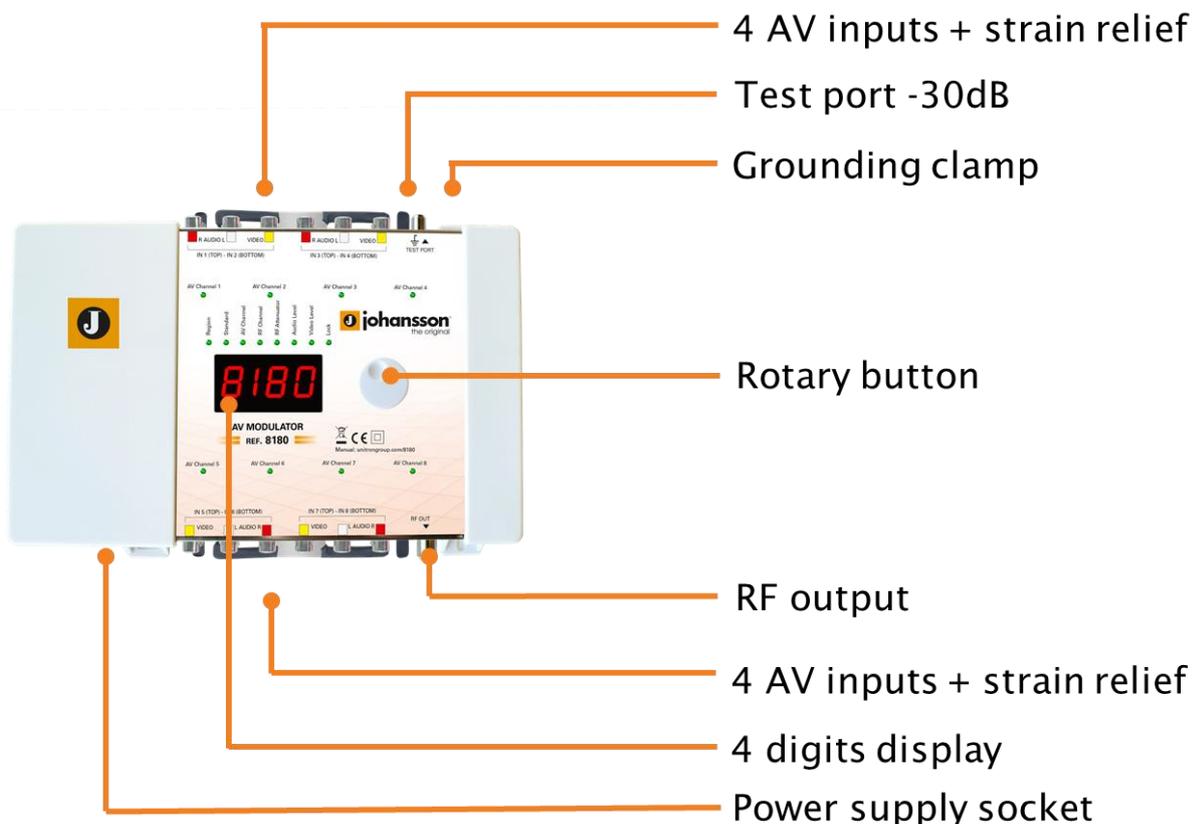
1. INTRODUCTION

1.1. Product description

The compact 8 channel analog modulator upconverts 8 analog CVBS signals (composite video baseband signal) independently to VHF or UHF channels. It is designed for systems that have not yet switched to DVB-T

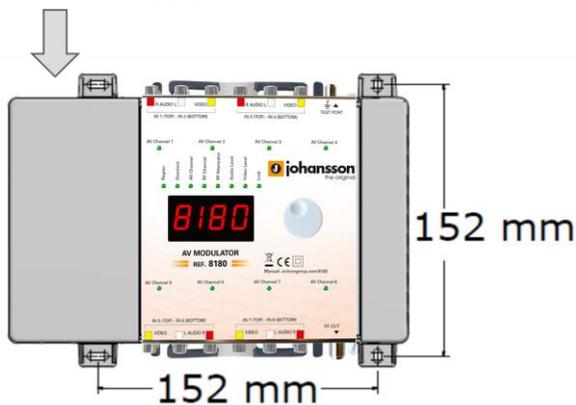
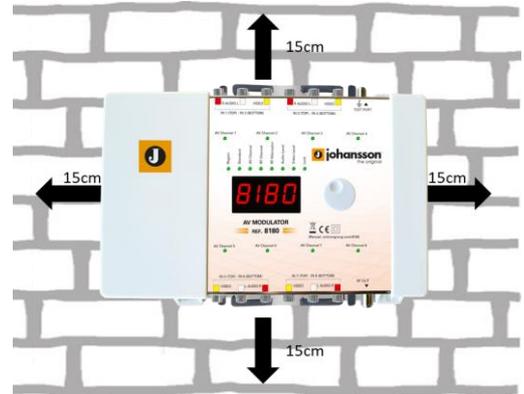
- 8 analog inputs (each 1 video cinch + 2 audio cinch (L & R))
- processes up to 8 analog channels
- Multi-TV standard support: NTSC, PAL, SECAM (B/G,I, D/K, L, M/N)
- 1 RF output + 1 Test output (-30dB)
- Built-in high power RF booster
- easy to configure with the Johansson button and 4 digits display
- selectable Region, Standard, Mode, Output Channel
- adjustable RF Level, Audio Level and Video Level
- very compact housing with detachable power supply and strain reliefs
- low power consumption

1.2. Hardware installation



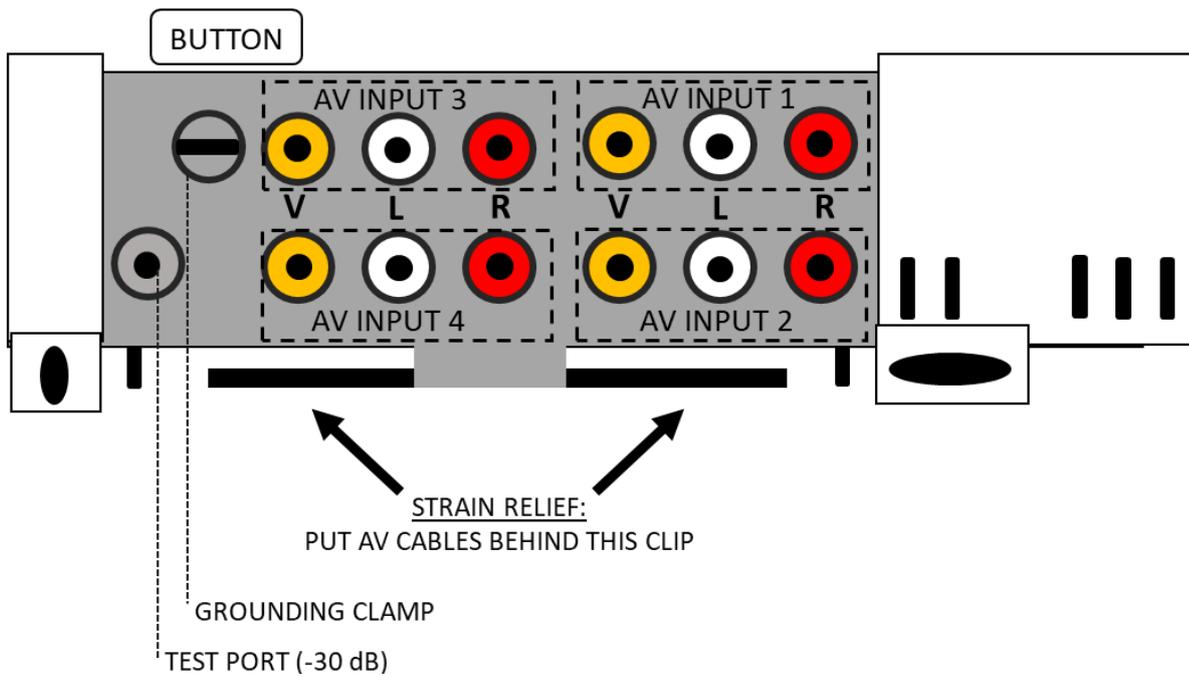
1.3. Mounting the Octo AV Modulator

- **Important:** Mount the module vertically to a wall in a well-ventilated room and leave a minimum space of 15 cm around the product to guarantee a maximum ventilation of the product
- Connect an earth wire to the grounding clamp
- Connect the power adapter cord to the power supply socket. DC power presence is indicated by flashing dots
- Connect the AV inputs
- Connect a coaxial cable to the output connector for distribution of the signal
- Connect a network analyser to the test port to control the signal quality
- Configure the Octo AV Modulator using the rotary button, see below
- The power adapter can easily be replaced without disconnecting the product. To do so, open the top left plastic cover by pushing the click at the opposite side of the mains connector. See specifications for the type of the power adaptor.

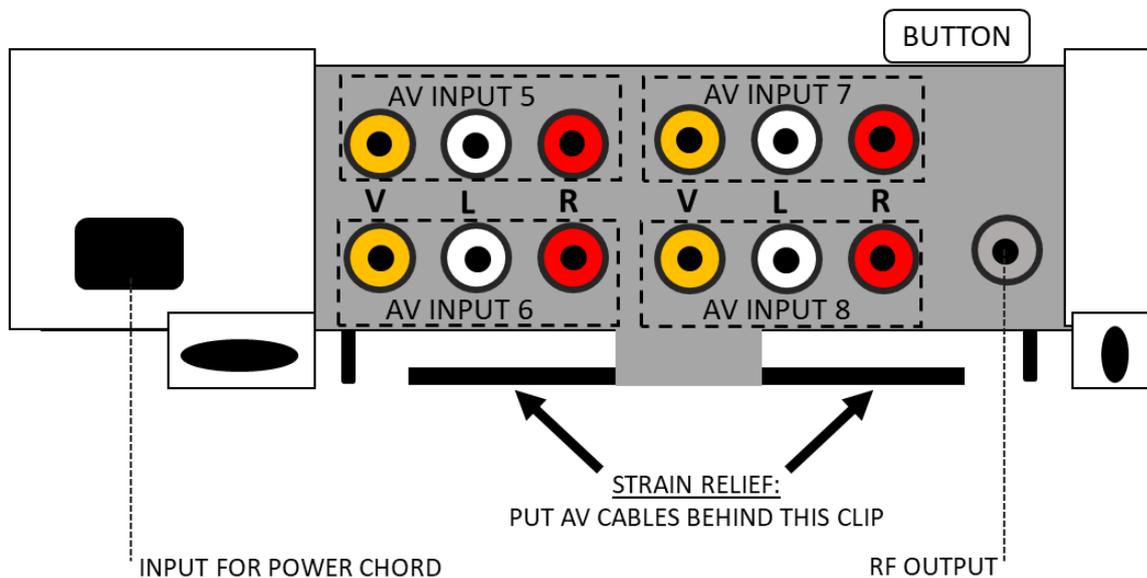


1.4. Connecting the AV cables

TOP VIEW



BOTTOM VIEW



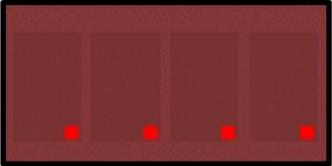
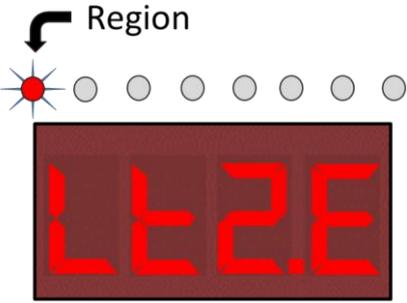
1.5. Configuring the Octo AV Modulator

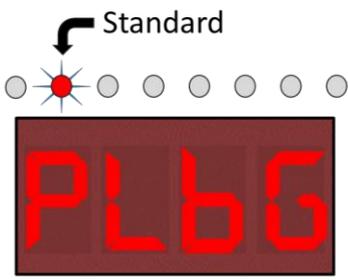
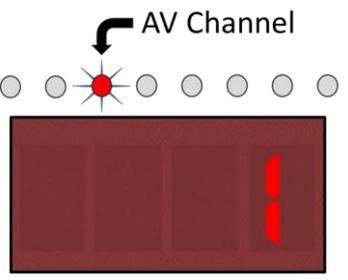
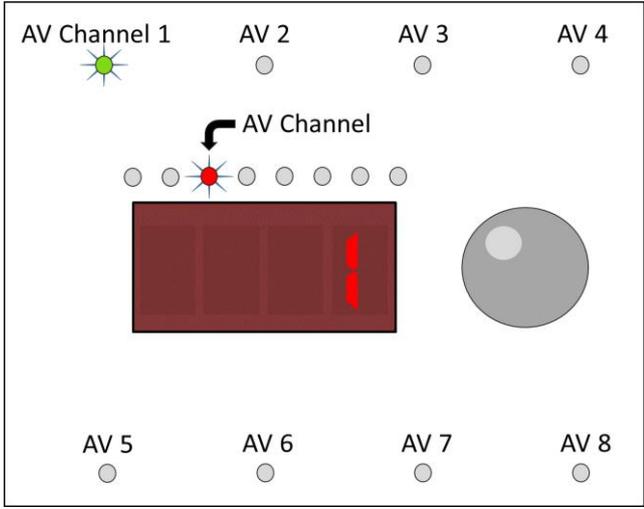
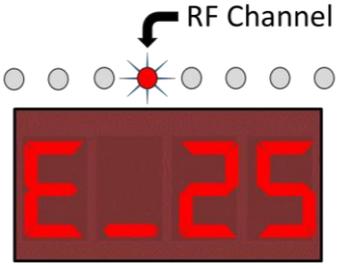
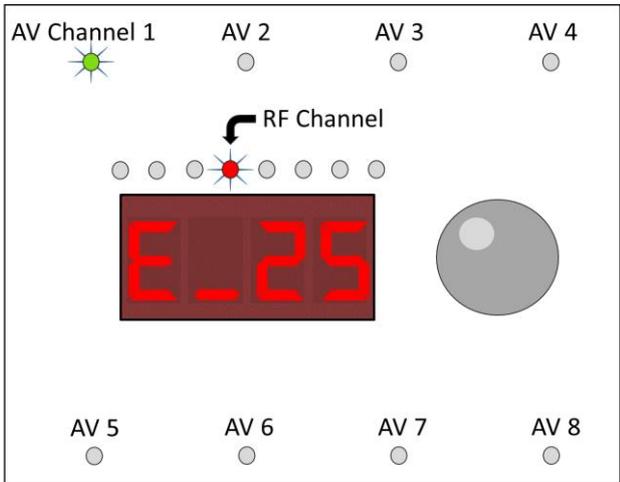
NAVIGATING THROUGH THE MENU

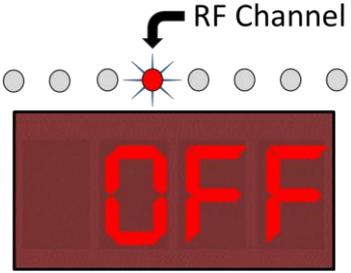
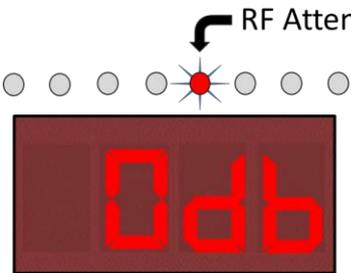
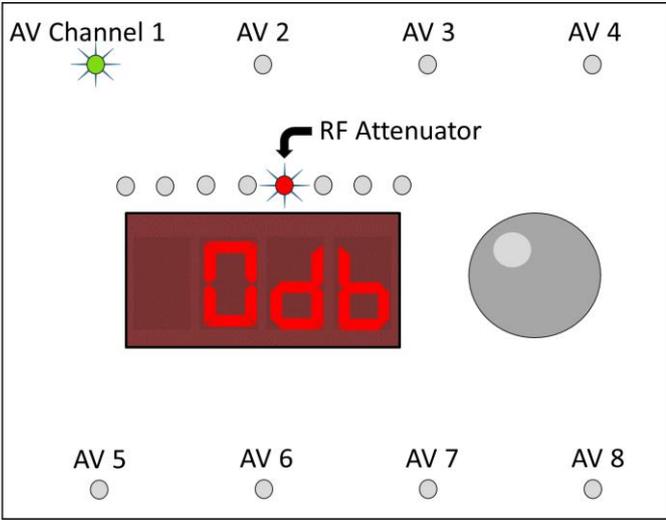
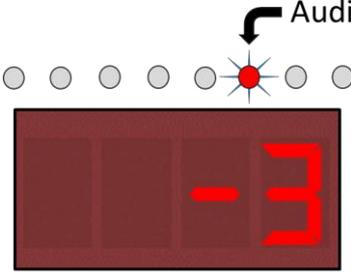
Use the Johansson rotary/push button to navigate through the menu. This is very straightforward and simple. The table below shows how the rotary/push should be used:

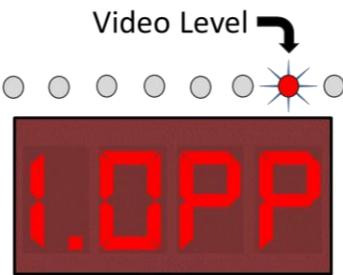
	<p>Push the button 3s to enter start the configuration</p> <p>Push the button to enter the configuration step (e.g. Region)</p>
	<p>Rotate the button, to scroll through the different parameters. Tap to confirm.</p>

MENU OVERVIEW

DISPLAY READOUT	EXPLANATION								
	<p>Stand-by mode is indicated by flashing dots on display.</p> <p>Push the rotary button for 3 seconds to access the menu.</p> <p>When you enter the configuration step, the LEDs of the 8 AV CHANNELS will be GREEN.</p>								
<p>Region</p> 	<p>Tap to select the channel plan from your region:</p> <table data-bbox="646 1373 1337 1503"> <tr> <td>UHF.E = UHF Europe</td> <td>= S38 - E69</td> </tr> <tr> <td>Lt1.E = UHF Europe limited to CH60</td> <td>= S33 - E60</td> </tr> <tr> <td>Lt2.E = UHF Europe limited to CH48</td> <td>= S27 - E48</td> </tr> <tr> <td>LAT.A = Latin America</td> <td>= CH 14 - 79</td> </tr> </table> <p>When the region is updated, all 8 modulators will be set to OFF. This way you avoid unwanted channels being broadcasted by accident.</p> <p>Tip: to switch off all modulators at once, instead of selecting them one by one, use the region selection and select the same region, all modulators will be OFF.</p> <p>Tap to confirm. Scroll right to go to next step.</p>	UHF.E = UHF Europe	= S38 - E69	Lt1.E = UHF Europe limited to CH60	= S33 - E60	Lt2.E = UHF Europe limited to CH48	= S27 - E48	LAT.A = Latin America	= CH 14 - 79
UHF.E = UHF Europe	= S38 - E69								
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 <p>Standard</p> <p>PL6G</p>	<p>Tap to select the Modulator Standard:</p> <ul style="list-style-type: none"> PAL BG PAL I PAL DK NTSC M SECAM L <p>Tap to confirm. Scroll right to go to next step.</p>
 <p>AV Channel</p>	 <p>AV Channel 1 AV 2 AV 3 AV 4</p> <p>AV Channel</p> <p>AV 5 AV 6 AV 7 AV 8</p> <p>Tap to select the AV Channel you want to set.</p> <p>AV Channel = 1 to 8</p> <p>For example, if you want to set AV Channel 1, tap to confirm and scroll to the next step. The LED of AV Channel 1 will stay GREEN.</p>
 <p>RF Channel</p> <p>E_25</p>	 <p>AV Channel 1 AV 2 AV 3 AV 4</p> <p>RF Channel</p> <p>AV 5 AV 6 AV 7 AV 8</p> <p>In the previous step, you have selected an AV channel. Now in this step you can select the RF channel for the selected AV channel.</p>

	<p>OFF = AV Channel will not on RF output</p> <p>Tap to confirm. Scroll right to go to next step.</p> <p>Note: Because this is a Double Sideband Modulator, you cannot select adjacent and identical channels of different AV inputs. For example If you select AV CH1 = E_25, then it is not possible to select E_24, E_25 or E_26 on other AV inputs.</p>
	<p>In the previous step, you have selected the RF channel for an AV channel. Now in this step you can select the RF Attenuator for the selected AV channel.</p>  <p>Tap to set the RF Attenuator: Select between 0 – 20 dB in steps of 2dB 0dB = maximum output level: 105 BμV 20dB = 85dBμV This way you can equalise your output signal</p> <p>Tap to confirm. Scroll right to go to next step.</p>
	<p>Tap to select the Audio Level: Select between 0 and -7 in steps of 1</p> <p>0 = No attenuation = Maximum Volume -7 = Max attenuation = Minimum Volume</p> <p>This setting allows to equalise the volume between all transmitted channels.</p> <p>Tap to confirm. Scroll right to go to next step.</p>

	<p>Tap to select the Video Level:</p> <p>1.0PP = 1.0V peak peak = Default setting 1.3PP = 1.3V peak peak = For higher Video Level</p> <p>Tap to confirm. Scroll right to go to next step.</p>
	<p>Tap to select if you want to lock the device.</p> <p>YES = Locked NO = Not locked</p> <p>Once the device is locked, the display at startup will show 00. Turn the button to 50 and tap and the device will be unlocked.</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;"> <p>LOCKED</p>  </div> <div style="text-align: center;">  </div> <div style="text-align: center;"> <p>UNLOCKED</p>  </div> </div>
	<p>RESET DEVICE:</p> <p>To reset the device to factory settings, unplug the power cord, tap the rotary button and plug in the power cord. Hold the rotary button until "DONE" is displayed.</p> <p>FACTORY SETTINGS (After RESET DEVICE):</p> <p>Region = Lt2.E (LTE2 Europe) Standard = PLbG (PAL BG) Channels for modulators 1-8 = S27 / S29 / S31 / S33 / S35 / S37 / S39 / S41 RF ATTN = 0dB AUDIO ATTN = -1 VID LVL = 1Vpp Lock = OFF</p>

2. TECHNICAL SPECIFICATIONS

Octo AV Modulator 8180

Modulator Type	-	Double Sideband Modulator
Inputs	-	8 Analog Inputs (8 x Video + 16 x Audio)
Outputs	-	1 RF Output + 1 RF Test (-30dB) Output
Connectors	-	Yellow Cinch: Video Red and White Cinch: Audio L+R (converted to Mono (L+R))
Standards	-	PAL - SECAM - NTSC (B/G,I, D/K, L, M/N)
Video	Vpp	1 or 1.3
Picture Sound Ratio	dB	13
Audio S/N	dB	59 (for FM (PAL & NTSC))
Video S/N	dB	54 (100% White 1 Vpp)
Channel Plans	-	UHF (S38 - E69) = 52 Ch. / 8 MHz spacing Lt1.E (S33 - E60) = 48 Ch. / 8 MHz spacing Lt2.E (S27 - E48) = 43 Ch. / 8 MHz spacing LTAM (CH 14 - 79) = 65 Ch / 6 MHz spacing
RF Attenuator (independent per modulator)	dB	20 in steps of 2dB
RF Output Power (60dB/IM3) RF Output Power per carrier	dB μ V dB μ V	114 105
Test Port	dB	-30
Configuration	-	Region, Standard, AV Channel, RF Channel, Audio Level, Video Level, Lock
Operating Temperature	°C	-5 to +55
Power Supply	Vac	90 - 240
Embedded power adapter	-	5V - 3A Jack \varnothing 2.1mm
Power Consumption	W	4
Dimensions	mm	217 x 165 x 59
Weight	kg	0,8

3. SAFETY INSTRUCTIONS



Read these instructions carefully before connecting the unit



To prevent fire, short circuit or shock hazard:

- Do not expose the unit to rain or moisture.
- Install the unit in a dry location without infiltration or condensation of water.
- Do not expose it to dripping or splashing.
- Do not place objects filled with liquids, such as vases, on the apparatus.
- If any liquid should accidentally fall into the cabinet, disconnect the power plug.



To avoid any risk of overheating:

- Install the unit in a well aired location and keep a minimum distance of 15 cm around the apparatus for sufficient ventilation
- Do not place any items such as newspapers, tablecloths, curtains, on the unit that might cover the ventilation holes.
- Do not place any naked flame sources, such as lighted candles, on the apparatus
- Do not install the product in a dusty place
- Use the apparatus only in moderate climates (not in tropical climates)
- Respect the minimum and maximum temperature specifications



To avoid any risk of electrical shocks:

- Connect apparatus only to socket with protective earth connection.
- The mains plug shall remain readily operable
- Pull out power plug to make the different connections of cables
- To avoid electrical shock, do not open the housing of adapter.



Maintenance



Only use a dry soft cloth to clean the cabinet.



Do not use solvent



For repairing and servicing refer to qualified personnel.



Dispose according your local authority's recycling processes

4. CONDITIONS OF WARRANTY

Unitron N.V. warrants the product as being free from defects in material and workmanship for a period of 24 months starting from the date of production indicated on it. See note below.

If during this period of warranty the product proves defective, under normal use, due to defective materials or workmanship, Unitron N.V, at its sole option, will repair or replace the product. Return the product to your local dealer for reparation.

THE WARRANTY IS APPLIED ONLY FOR DEFECTS IN MATERIAL AND WORKMANSHIP AND DOES NOT COVER DAMAGE RESULTING FROM:

- Misuse or use of the product out of its specifications,
- Installation or use in a manner inconsistent with the technical or safety standards in force in the country where the product is used,
- Use of non-suitable accessories (power supply, adapters...),
- Installation in a defect system,
- External cause beyond the control of Unitron N.V. such as drop, accidents, lightning, water, fire, improper ventilation...

THE WARRANTY IS NOT APPLIED IF

- Production date or serial number on the product is illegible, altered, deleted or removed.
- The product has been opened or repaired by a non-authorized person.

NOTE

Date of production can be found in the product's serial number code. The format will either be "YEAR W WEEK" (e.g., 2017W32 = year 2017 week 32) or "YYWW" (e.g., 1732 = year 2017 week 32).



www.unitrongroup.com

UNITRON NV
Frankrijklaan 27
B-8970 Poperinge
Belgium

T +32 57 33 33 63
F +32 57 33 45 24

sales@unitrongroup.com

www.unitrongroup.com