

# User Manual

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## Multiband Amplifier

REF. 7781 – 7784 – 7785



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# 1. INTRODUCTION

## 1.1. Product description

Johansson offers a range of high output power Multiband distribution amplifiers. The RED compliant amplifiers are fully LTE-ready and have a high gain. This ensures a perfect signal quality throughout the building. The amplifiers are far more efficient than their predecessors.

- REF. 7781: 1 input: Cable
- REF. 7784: 4 inputs: BI/FM, BIII/DAB, UHF1, UHF2
- REF. 7785: 5 inputs: BI/FM, BIII/DAB, UHF1, UHF2, SAT
- split-band amplifiers with inter-stage attenuators and dynamic range of 20 dB
- high gain, high output power
- high input power to ensure input overload is virtually impossible
- VDC switchable remote power
- compact housing
- detachable power supply (included)
- -30 dB test output
- RED compliant



**Ref. 7781**  
1 input:  
Cable



**Ref. 7784**  
4 inputs:  
BI/FM, BIII/DAB,  
UHF1, UHF2



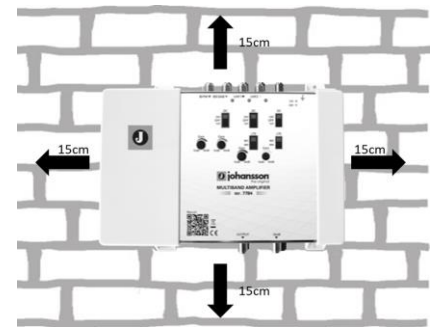
**Ref. 7785**  
5 inputs:  
BI/FM, BIII/DAB,  
UHF1, UHF2, SAT

## 1.2. Package contents

- 1 Multiband Amplifier (REF. 7781 or 7784 or 7785)
- 1 Power Adapter Cord (180cm)

### 1.3. Mounting the Multiband Amplifier

- **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 input(s)
- Connect a coaxial cable to the output connector for distribution of the signal
- Connect the power adapter cord to the power supply socket. Check the status LED for the indication of DC power presence
- Connect a network analyser to the -30 dB port to control the signal quality
- Configure the Multiband Amplifier using the switches and rotary switches
- 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



## 2. TECHNICAL SPECIFICATIONS

|                                |            | 7781           | 7784   | 7785   |
|--------------------------------|------------|----------------|--|--|
| Inputs                         | -          | Cable          | BI/FM<br>BIII/DAB<br>UHF1<br>UHF2  | BI/FM<br>BIII/DAB<br>UHF1<br>UHF2<br>SAT   |
| Frequency range                | MHz        | 47-862         | BI/FM: 47 - 108<br>BIII/DAB: 174 - 240<br>UHF1: 470-694 or 862 (switch)<br>UHF2: 470-694 or 862 (switch) | BI/FM: 47 - 108<br>BIII/DAB: 174 - 240<br>UHF1: 470-694 or 862 (switch)<br>UHF2: 470-694 or 862 (switch)<br>SAT 950-2400 |
| Gain                           | dB         | 14-34          | BI/FM: 20-35<br>BIII/DAB: 20-35<br>UHF1: 20-35<br>UHF2: 20-35  | BI/FM: 20-35<br>BIII/DAB: 20-35<br>UHF1: 20-35<br>UHF2: 20-35<br>SAT: 10-30  |
| Slope adjustment               | dB         | -              | -  | SAT: 0-10  |
| Max. input power               | dB $\mu$ V | 100            | BI/FM (-60dBc): 94<br>BIII/DAB (-60dBc): 92<br>UHF1 (-60dBc): 96<br>UHF2 (-60dBc): 96                    | BI/FM (-60dBc): 94<br>BIII/DAB (-60dBc): 92<br>UHF1 (-60dBc): 96<br>UHF2 (-60dBc): 96<br>SAT (-35dBc): 97                |
| Max. output power              | dB $\mu$ V | 116            | BI/FM (-60dBc): 118<br>BIII/DAB (-60dBc): 119<br>UHF1 (-60dBc): 118<br>UHF2 (-60dBc): 118                | BI/FM (-60dBc): 118<br>BIII/DAB (-60dBc): 119<br>UHF1 (-60dBc): 118<br>UHF2 (-60dBc): 118<br>SAT (-35dBc): 115           |
| Noise figure                   | dB         | 7              | BI/FM: 4.5<br>BIII/DAB: 4<br>UHF1: 5.5<br>UHF2: 5.5  | BI/FM: 4.5<br>BIII/DAB: 4<br>UHF1: 5.5<br>UHF2: 5.5<br>SAT: 7.5  |
| Return loss                    | dB         | >10            |  |  |
| Test Port                      | dB         | -30            |  |  |
| Remote Power                   | V          | -              | OFF - 12V - 24V  |  |
| DC Mode                        | mA         | -              | BIII/DAB: 100<br>UHF1: 100<br>UHF2: 100  |  |
| DC Mode SAT                    | V          | -              | -  | OFF - 13V - 18V - 22kHz (Selection: internal, power inserter or external)  |
| SAT remote power               | mA         | -              | -  | 350  |
| RED selectivity classification | -          | 0 and 1        |  |  |
| Supply voltage                 | VAC        | 100 - 240      |  |  |
| Power consumption              | W          | 8              | 23   | 29   |
| 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).



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