User Manual

Digital SCR LNB

UNITRON GROUP

T +32 57 33 33 63 **F** +32 57 33 45 24
email sales@unitrongroup.com
www.johansson.be - www.unitrongroup.com

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1. INTRODUCTION

The Digital SCR LNB converts the radio waves that are reflected by a satellite dish into a usable format and amplifies these focused signals even further while filtering out electrical interference or other noise. They also convert the high frequencies associated with Ku satellite radio waves to a lower frequency band which can be handled by receivers more easily.

In contrast to a traditional LNB which sends signals over multiple lines, the Digital SCR LNB feeds signals over a single coaxial cable. For installers, this yields ease of use during installation. End-users are benefitted by the availability of a wider range of TV-content.

2. SAFETY INSTRUCTIONS

Read these instructions carefully before connecting the unit

⚠ To avoid any risk of overheating:

- Install the unit in a well aery location and keep a minimum distance of 15 cm around the apparatus for sufficient ventilation
- Do not place any items such as newspapers, table-cloths, 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.

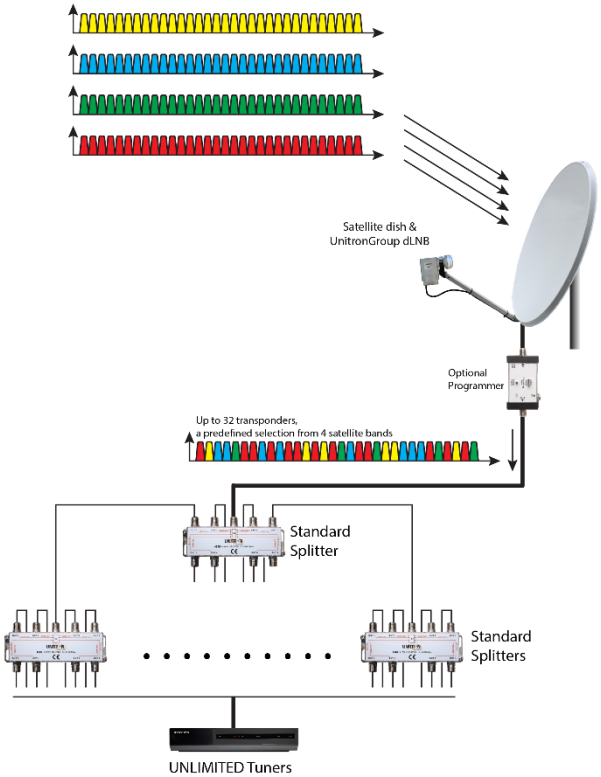
Dispose according to your local authority's recycling processes

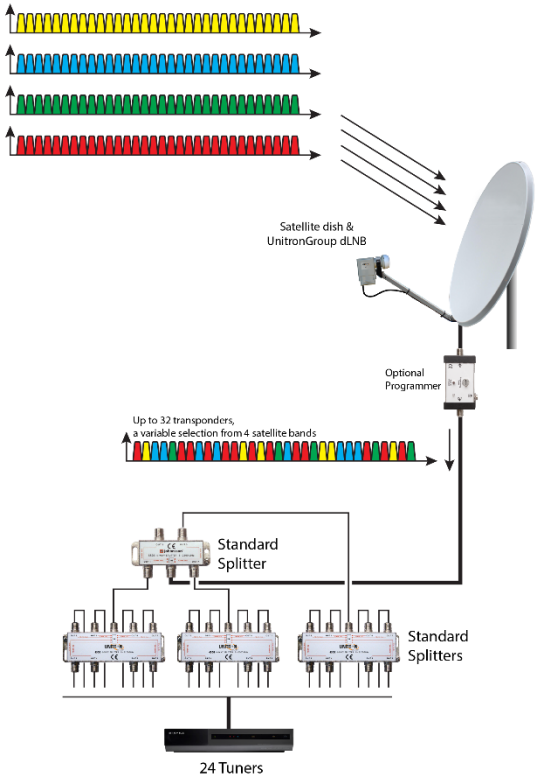
3. PRODUCT DESCRIPTION

The application of the Digital SCR LNB can be illustrated in two use cases, depending on the dynamic or static software configuration mode.

The **static setup** is suited for all MDU applications. If the system is designed well, the dLNB serves as a complete headend that distributes signals over systems with simple splitters and taps. In other words, there is no need for expensive satellite distribution and the bigger the MDU, the more cost effective this solution becomes.

The **dynamic setup** is designed for SFU and small MDU applications, where up to 24 users can independently connect to any transponder of 1 satellite orbital position.





Difference between dynamic and static mode

The software of the Digital SCR LNB can be configured either in dynamic or in static mode. It is important to note the difference between both modes.

When the Digital SCR LNB is configured to **static** mode, up to 32 transponders can be received and distributed to an unlimited number of tuners over a single coax cable. Concretely, this results in an unlimited number of users that can watch a fixed preselection of TV-channels.

When the Digital SCR LNB is configured to **dynamic** mode, up to 24 STBs can be connected each with their own user band. Concretely, this results in a limited number of users that can watch a wide spectrum of TV-channels.

The installer must configure the STB accordingly. Consult the user manual of the STB to find out how this should be executed.

Installing the Digital SCR LNB

Proper installation and adjustment of the feedhorn is critical to system performance. It is particularly important to install the Digital SCR LNB correctly in order to receive optimal signal quality.

LNB installation is usually straightforward, especially if you already have a dish installed.

1. You should gather a screwdriver, wrench, or other appropriate fastener tools and a coaxial cable.
2. If there's already an LNB attached to your dish, carefully disconnect its connector. Unscrew the coax cable connector and store it where it won't get crushed or bent.
3. Using the screwdriver or wrench, unfasten the bolts that hold the existing LNB in place. Be careful not to jar the mast holding the dish or knock the dish out of alignment. After removing the screws or bolts, you should be able to pull the LNB up and off the mount arm. If your LNB is located behind the dish or held by a captive arm bracket, this process may be slightly different.
4. Attach the new LNB to the arm the same way the original was connected.
5. Connect a field strength analyser to the LNB and analyse the signal quality of one satellite transponder. Change the skew and focus position of the LNB to optimize the signal quality (i.e., make sure you receive a maximum MER on the measured transponder). It might be possible that you need to re-align the satellite dish to receive the best signal quality.
6. Tighten the bolts as much as you can, but don't strip their heads or nuts and check if the signal quality (or MER) didn’t change.
7. Hook up the coax cable to the LNB's connector and pull down the sleeve to cover the connector.
8. Use your receiver's menu to setup SCR/Unicable mode in case you are using a **dynamic** Digital SCR LNB, or call your provider so that they can start the process for you. When your receiver is connected to a **static** Digital SCR LNB, you just need to perform a blind scan.

4. TECHNICAL SPECIFICATIONS

Digital SCR LNB		
Input	-	1Ku
Input frequency	MHz	10700-12750
Outputs	-	1
Operation mode	-	Dynamic / Static
User bands (dynamic mode)	-	Up to 24
Output transponders (static mode)	-	Up to 32
LO frequency Low/High	-	9750 / 10600
Supported standards	dB	Legacy / EN50494 / EN50607
Conversion gain	dB	60
NF	dB	0,5
Cross polarization isolation	dB	25
Output channel power	dBm	-28 (AGC)
Return loss	dB	≥8
DC supply voltage	VDC	9 – 20
Power consumption	Watt	4,8 max.
Operating temperature	°C	-40 to +60
LNB mount fitting	mm	40
Dimensions	mm	135 x 120 x 60

5. 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 is YYWW format, example 1447 = year 2014 – week 47.
For the serial number barcodes, the date corresponds to the 4 first numbers

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