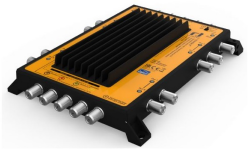

Inverto 6100 Unicable II Multi Switch Installation Guide

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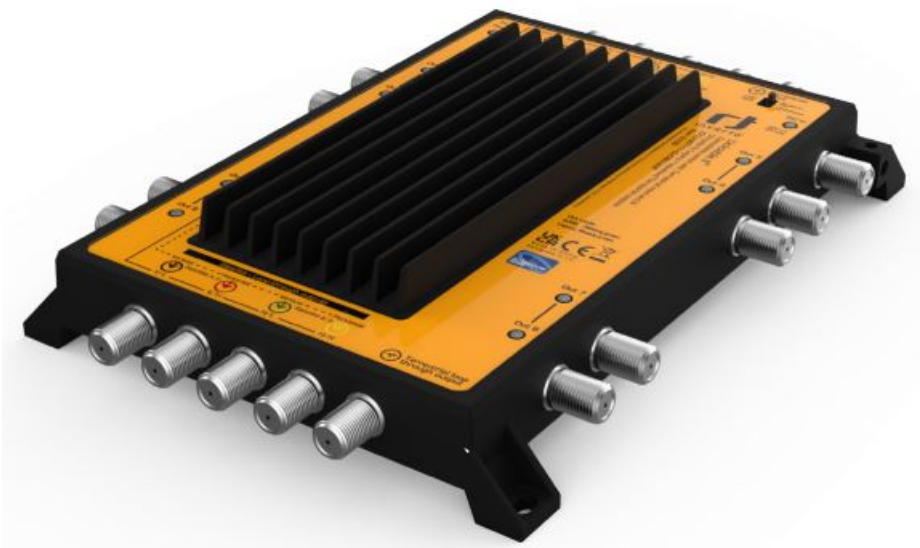
Inverto 6100 Unicable II Multi Switch



Thank you for purchasing Inverto's advanced Unicable II multiswitch and we are certain it will meet your expectations. Before installing and operating the product, please read the following instructions and recommendations. We suggest that you keep this manual for future use.

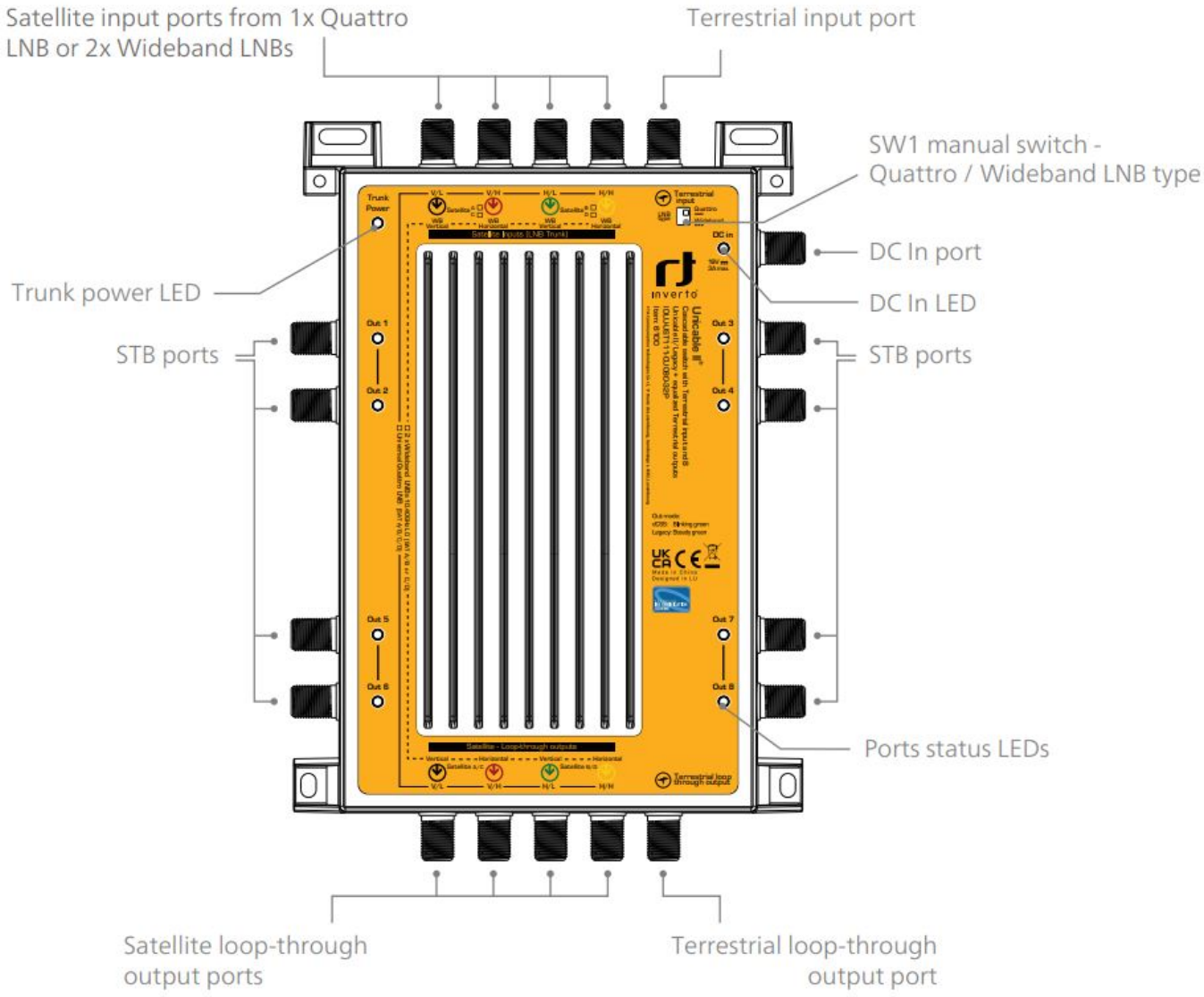
Product Information

The Inverto Unicable II multiswitch is an advanced device designed for the distribution of satellite and terrestrial television and radio signals in home installations. It allows for the connection of multiple satellite inputs and outputs, as well as loop-through outputs for satellite and terrestrial signals. The product is built with high-quality components to ensure the best signal quality across your installation. It features wideband LNB support, a built-in terrestrial amplifier, and the ability to cascade multiple multiswitch units for larger installations.

Installation location

The product shall be installed on a wall or other hard inflammable surface. The product shall be in no case held only with the connected cables. Place the product in a dry environment where it is not exposed to rain or running water. Do not install the product close to heat sources or in places exposed to direct sunlight.

OVERVIEW

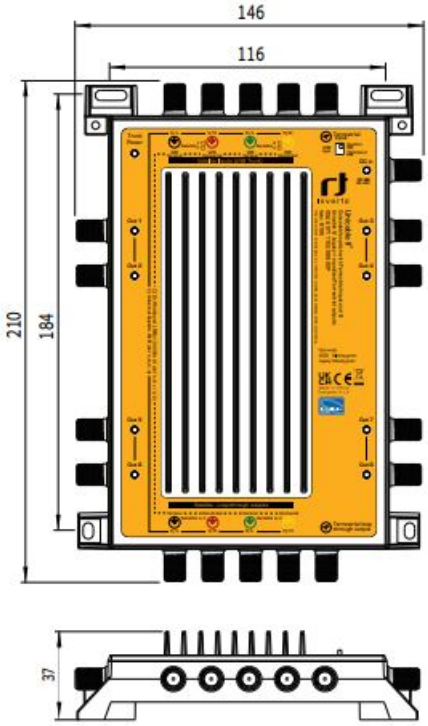


Product installation

- To distribute the best signal quality across your installation we recommend connecting the product inputs and

outputs using high-quality coaxial cables and F-connectors designed for satellite TV distribution. Use a highly shielded coaxial cables with minimum shielding of 90 dB. If you use wall sockets to loop-through the STB outputs, make sure the wall sockets were designed for satellite TV distribution allowing bidirectional signal propagation.

- The satellite input ports can be connected directly to a Quattro/ Wideband LNB (pay attention to the port designations and the correct position of the LNB type switch SW1) or cascade to another Multiswitch unit. The DC-input port of the Multiswitch unit powers the satellite trunk lines to power the connected LNB. It also powers the unit's built-in Terrestrial amplifier as well as the Terrestrial amplifier of cascaded units. The Trunk power LED will turn green when the Trunk lines are powered.



- The output ports are powered by the connected STBs to enable super low power consumption of the unit and allow to power the maximum number of cascaded switches through a single power supply unit. If a connected STB is not able to power the port, a power inserter can be utilized*.
- * Power Inserter and AC/DC power adapters are not included and can be purchased separately.

Notes: For optimal performances, satellite loop-through outputs that are not used shall be terminated with 75 ohm DC-block terminating resistors. The Terrestrial loop-through output port shall be terminated with a 75 ohm terminating resistor. It is also recommended to terminate unused STB output ports with 75 ohm terminating resistors.

IMPORTANT: Ground the multiswitch device using its earthing terminals.

Product configuration

Each of the eight STB output ports is compatible with either Legacy (13/18VDC, 0/22kHz), DiSEqc1.x/2.0, EN50494 or EN50607 STB models and can detect automatically what type of STB is connected to each port. By default, each port supports 16 User Bands. The list of the User Bands' default parameters appears on page 6. The Multiswitch unit has a Port Status LED next to each of the eight STB ports. The status LED identifies the mode of the port:

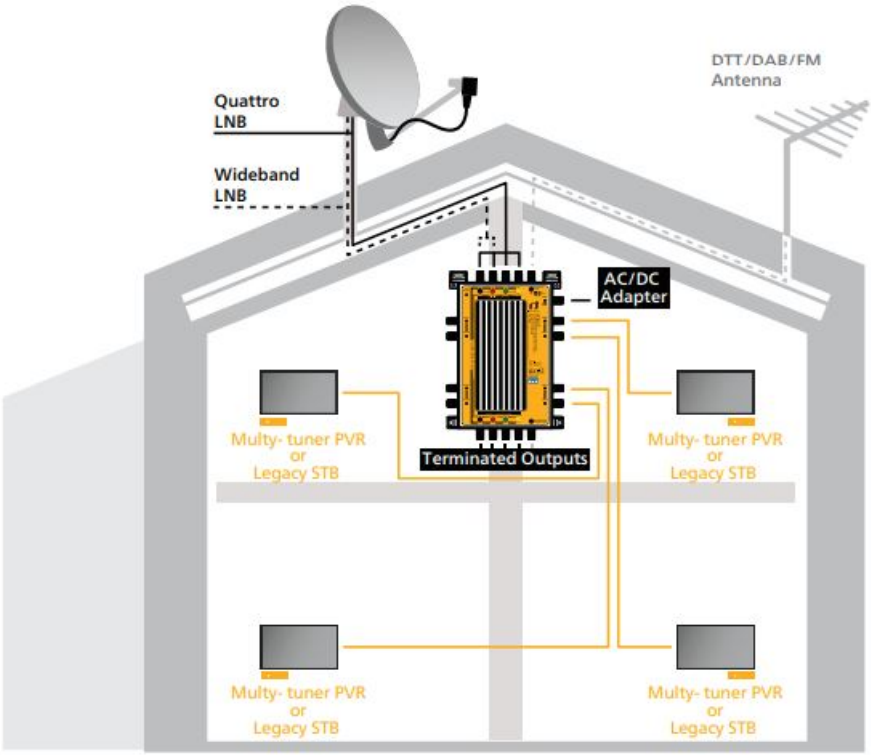
- solid green = Legacy mode.

- blinking green = Unicable (SatCR, EN50494) or Unicable II (dCSS, EN50607).
- off = no voltage detected on the port (only terrestrial signal available on the port)

All the eight STB output ports combine the Terrestrial input signal.

Note: The default configuration of the Multiswitch can be updated using Inverto's Programmer device (not supplied with the product and sold as a separate accessory) and a PC Windows software that can be downloaded from **www.inverto.tv**.

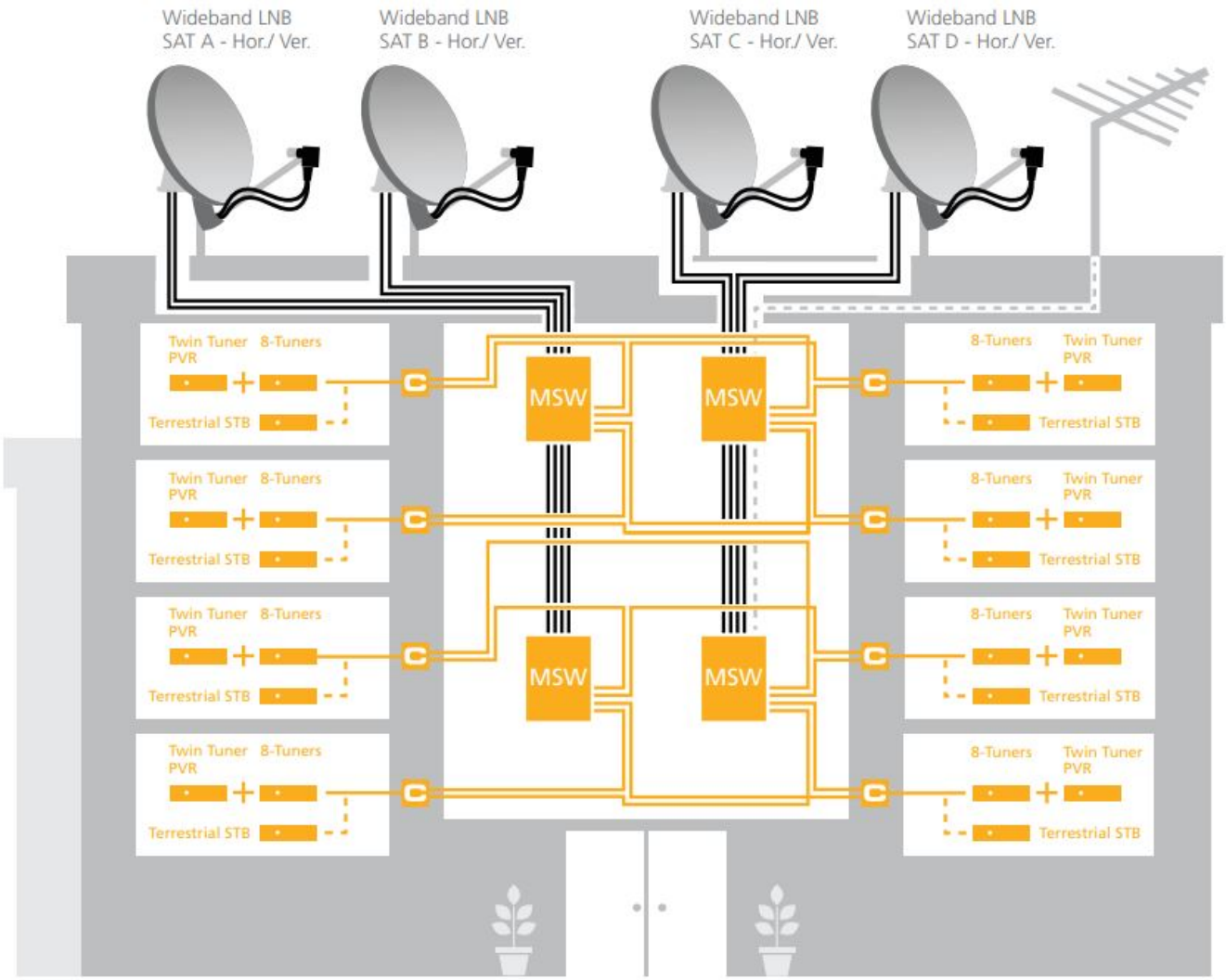
The following diagram describes a typical single household installation of the product:



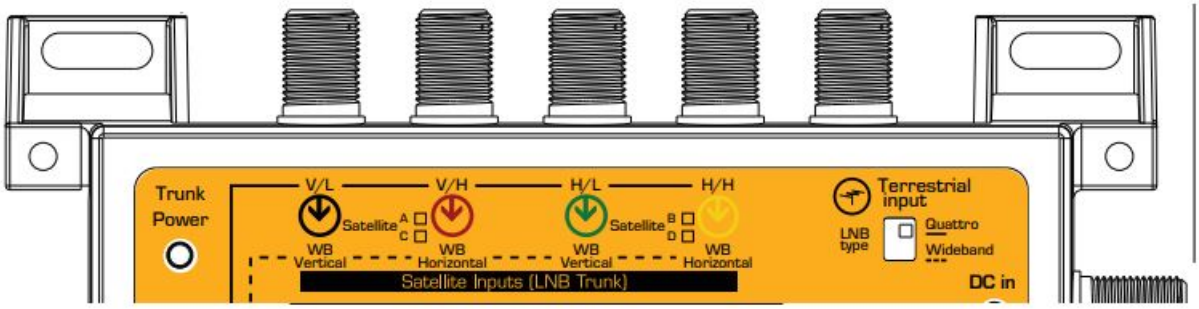
The following diagram illustrates a typical MDU/building installation with two Wideband LNBs receiving two satellites:

MSW = Multiswitch

The following diagram illustrates reception of four satellites using wide-band LNBs. Each STB can access any transponder on any of the four satellites:



Note: The four satellite installation requires the output ports of the two Multiswitch units to be connected to an external combiner as shown in the diagram (to provide for DiSEqC 2.0 communication, the combiner should support bidirectional pass through for DC and 22kHz signals).
Connect the cables from the Quattro/Wideband LNB to the input connectors (pay attention to identification of the connectors and the correct position of the LNB type switch) and Connect the Terrestrial antenna to Terrestrial input port:



The number and frequency of the 16 default User Bands available over each STB output port are the following:

Default Unicable II dynamic user bands per output port

- **EN50607+EN50494 (dCSS+SatCR):**
  - UB1=1210MHz UB5=985MHz
  - UB2=1420MHz UB6=1050MHz
  - UB3=1680MHz UB7=1115MHz

- UB4=2040MHz UB8=1275MHz

- **EN50607 (dCSS):**
  - UB9=1340MHz UB13=1745MHz
  - UB10=1485MHz UB14=1810MHz
  - UB11=1550MHz UB15=1875MHz
  - UB12=1615MHz UB16=1940MHz

Technical parameters

Inputs	4 x Satellite IF inputs: – From 1x Quattro LNB – From 2x Wideband LNBs 1 x DTT/DAB/FM input from Terrestrial antenna
Outputs	4 x loop-through satellite IF outputs 1 x loop-through terrestrial outpu t 8 x EN50494 (SatCR) /EN50607 (dCSS) / Legacy au- to-detect port s with combined Terrestrial signal
Frequency range	Satellite: – Quattro LNB: 950-2150MHz – Wideband LNB: 290-2350MHz Terrestrial: 40 – 790MHz
Loop-through loss	Satellite: 4dB max. (loss) Terrestrial: 0 +/-2dB
Gain (without AGC)	Satellite (Trunk to Tap, outside of AGC): 25dB min. Terrestrial (TERR in to Tap): 3 +/-2dB
Input power level	Satellite AGC: -50dBm to -5dBm Terrestrial: 100dBuV max.
Output power level	Satellite (AGC output): -25dBm (83dBuV)
Isolation	Trunk satellite/satellite (input): >30dB Trunk satellite/terrestria l (input): >30dB Trunk satellite (input) / Tap (output): >26dB
Control protocol	Legacy 13/18V + 0/22kHz, DiSEqC1.x/DiSEqC2.0, EN50494, EN50 607
Power consumption	Output port: 365mA max. @11-20V DC, (supplied by the connected STB) DC in port (no LNB load): 100mA max. @18V DC
Power supply to LNB	500mA max., 18VDC
Dimensions (W x H x D mm)	W=146 H=210 D=37
Temperature range	-20°C ~ +50°C
Ingress Protection	IP54

Optional accessories (not supplied, sold separately):

MDU AC/DC power adapter (EU plug) Input voltage: 100-240VAC, 50/60Hz Model no.: IDLU-ADPT04-19342-EPM Output power: 19VDC, 3.42A Item no.: 5582 Short circuit protection: Yes
Unit AC/DC power adapter (EU plug) Input voltage:100-240VAC, 50/60Hz Model no.: IDLU-ADPT01-19WOO-EPM Output power: 19VDC, 940mA Item no.: 5639 Short circuit protection: Yes
Power Inserter 5-2400MHz, 1000mA max Model no.: IDLU-PINS03-OOOOO-OBT Item no.: 5958
Unicable II 2-way splitter, 5-2400MHz Model: IDLU-USP1O5-OUO2O-OBT Item: 5660
Unicable II 4-way splitter, 5-2400MHz Model: IDLU-USP1O5-OUO4O-OBT Item: 5709
Unicable II 8-way splitter, 5-2400MHz Model: IDLU-USP1O5-OUO8O-OBT Item: 5710
SatPal controller Model: IDLU-SPAL03-OOOBT-OPP Item: 5415

Safety

- Never open a powered product. This may result in electrical hazard.
- Never work on the product, TV set or other powered devices during or before a storm. A lightning strike into the antenna may cause dangerous overvoltage over the product’s metallic/conductive parts.
- Make sure the local electricity network corresponds to the operating voltage of the AC/ DC adaptor. If the products gets into contact with liquid it must be disconnected from the main power.
- It is recommended to disconnect the product from the main power if it is not used for long periods of time.
- When disconnecting the product don’t pull the cable but the plug to prevent damage of the cable (wobbly plugs and outlets result in fire risk).
- The product shall be serviced by qualified experts only.

Troubleshooting

Make sure the satellite antenna and LNB are properly fixed, connected and adjusted and that the satellite receivers are installed, connected and switched on according to available instructions. Ensure there is no short circuit on the product inputs. This will prevent power to the LNB. If this is the case, disconnect the product from the main power, and then find and remove the short circuit on the product inputs. Then re-connect the multiswitch to the main power. Frequent defects are in connector joints i.e. if the central conductor is too short and fails to make contact in the connector. Also the shielding braid should make proper contact with the connector coat. Sometimes a reset to the multiswitch microprocessor is sufficient to remove a fault: simply disconnect the multiswitch from main power for 30 seconds and then reconnect again. If you are unable to remove the fault yourself, please contact your distributor.

Disposal
Following relevant EU directives, this device shall not be disposed of together with municipal waste. Use local

waste collection and recycling systems to dispose wore out products.

Compliance
FTA Communication Technologies S.á r.l declares that the Multiswitch product is in compliance with Directive 2014/53/EU (RED). The full text of the EU declaration of conformity is available at: **www.inverto.tv/support_dc**.

FTA Communication Technologies S.á r.l declares that the radio equipment type LNB is in compliance with the UK Radio Equipment Regulations 2017, Electrical Equipment (Safety) Regulations 2016 & Electromagnetic Compatibility Regulations 2016. Designated standards: EN303372-2, EN55032, EN55035, EN 62368
The full text of the UKCA declaration of conformity is available at: **www.inverto.tv/support_dc**.

Warranty

This Unicable II multiswitch is designed for the distribution of satellite and terrestrial television and radio signals in home installations. The warranty does not apply for products used for other purposes than those specified herein. The user/installer shall be responsible for any damage incurred as a result of not using the product according to the instructions in this manual.

For purpose of brevity, some product descriptions in this sheet remain at platform level and may not be referred to as detailed datasheets of the products. Inverto Digital Labs reserves the right to amend, omit or add products, product-lines, and / or features without notice. As product specifications may change without notice, always contact Inverto to obtain the latest product specification sheets.
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Fax. +352 264 313 68
17 Route de Luxembourg, Gonderange, L-6182, Luxembourg

Cascadable switch with Terrestrial input and 8 Unicable II®/Legacy
+equalized Terrestrial outputs
IDLU-UST111-CUO8O-32P
Item:6100

Documents / Resources

	**Inverto 6100 Unicable II Multi Switch** [pdf] Installation Guide 6100, 6100 Unicable II Multi Switch, Unicable II Multi Switch, Multi Switch, Switch

References

- Inverto.tv
- Product Support - Inverto.tv