

CATV Indoor amplifiers

Ref. 534280, 534380, 534480 - Mikrokom T4 Series

Caution statements

Product inspection - Inspect the equipment for shipping damage. Should any damage be discovered, immediately file a claim with the carrier.

Important Safety Instructions - To ensure proper installation and operation, take a moment to read this guide before proceeding with the installation. If you have any questions or comments about the product, please contact your dealer.

WARNING: TO PREVENT FIRE OR ELECTRICAL SHOCK DO NOT EXPOSE TO RAIN OR MOISTURE.



CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK. NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED PERSONNEL.

| | |
|--|--|
| | The lightning flash with arrow head symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons. |
| | The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product. |

WARNING: TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS PRODUCT TO RAIN OR MOISTURE. REFER SERVICING TO QUALIFIED PERSONAL ONLY.

CAUTION: TO PREVENT ELECTRIC SHOCK, DO NOT USE THIS (POLARIZED) PLUG WITH AN EXTENSION CORD RECEPTACLE OR OTHER OUTLET UNLESS THE BLADES CAN BE FULLY INSERTED TO PREVENT BLADE EXPOSURE.

Important Safety Instructions

- 1. Read and Follow All Instructions** - All the safety and operating instructions should be read prior to and followed while operating this product.
- 2. Retain Instructions** - The safety and operating instructions should be retained for future reference.

- 3. Heed Warnings** - All warnings on the product and in the operating instructions should be adhered to.
- 4. Cleaning** - Disconnect this product from any electrical source before cleaning. Use a damp cloth; do not use liquid or aerosol cleaners.
- 5. Attachments** - Do not use attachments that are not recommended by the product manufacturer as they may cause hazards.
- 6. Water and Moisture** - Do not use this product near any source of water.
- 7. Ventilation** - Slots and openings in the unit are provided for ventilation and to ensure reliable operation of the product. These openings should never be blocked or covered in any way. This product should not be placed in any case, cabinet, or rack unless proper ventilation is provided and the manufacturer's instructions have been adhered to.
- 8. Power Sources** - This product should be operated only from the type of power source indicated on the marking label.
- 9. Grounding or Polarization** - Do not bypass or defeat electrical plug polarization or grounding. Doing so will violate the warranty and may pose a risk of fire or electrocution.
- 10. Wire Protection** - Ensure all connected wiring is routed correctly to avoid damage including pinching, excessive bends, or compression.
- 11. Electrical Supply, Grounding, and Surge Protection** - Ensure that all local or national electrical codes are followed. Seek the advice of a licensed electrician, professional engineer, or other licensed expert.
- 12. Power Lines** - Always use caution and avoid operating this or any connected equipment near uninsulated power line or any other hazards.
- 13. Object and Liquid Entry** - Never allow objects or liquid of any kind into this product through openings. Doing so could result in fire or electric shock.
- 14. Servicing** - There are no user serviceable parts. Do not attempt to service this product or remove covers. Doing so may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel. Examples of damage requiring service include but are not limited to:
 - Damage to power-supply wiring.
 - If liquid has been spilled, or objects have fallen into the product.
 - If the product has been exposed to rain or water.
 - If the product does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions as an improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the product to its normal operation.
 - If the product has been dropped or physically damaged.
 - When the product exhibits a distinct change in performance.
- 15. Replacement Parts** - Ensure that repairs are performed by qualified technicians and that only manufacturer supplied or authorized parts are used.
- 16. Safety Check** - Upon completion of any service or repairs to this product, ensure safety checks to determine that the product is functioning per manufacturer specifications are performed.
- 17. Heat** - The product should be situated away from heat sources such as radiators, heat registers, stoves, or other products (including amplifiers) that produce heat. Ensure that ambient temperature is maintained in the manufacturer specified operating range.

Recycling information

Dispose of or recycle this equipment in accordance with all local, state, and federal regulations.

General description

This manual covers a range of amplifiers designed for multimedia distribution in small/medium size buildings. These amplifiers feature forward and active return path with their corresponding range of attenuators and equalizers that provide the optimum adjustment to deliver the right output level in accordance with the installation needs. Amplifier's set up is carried out by removable jumpers that select fixed stepped values. The use of jumpers allows an easy check of each setting.

The active return path is fully configurable by means of plug-in jumpers. Attenuation ranges from 0 to 18 dB in fixed steps of 2 dB. The equalizer is an interstage type, ranging from 0 to 6 dB in fixed steps of 3 dB.

The forward path features an input attenuator and equalizer, configurable by means of jumpers in steps of 2 dB. Furthermore, it has selectable interstage attenuation and equalization (tilt), with two double jumpers allowing either 0 or 6 dB settings.

The die-cast housing provides excellent heat dissipation.

An ON/OFF LED indicates when the amplifier is powered. An LED inside the unit, indicates if the amplifier is being powered.

Loosen the screw on the front to open the cover. A block diagram, inside the cover, explains the amplifier configuration. Following is the same diagram.

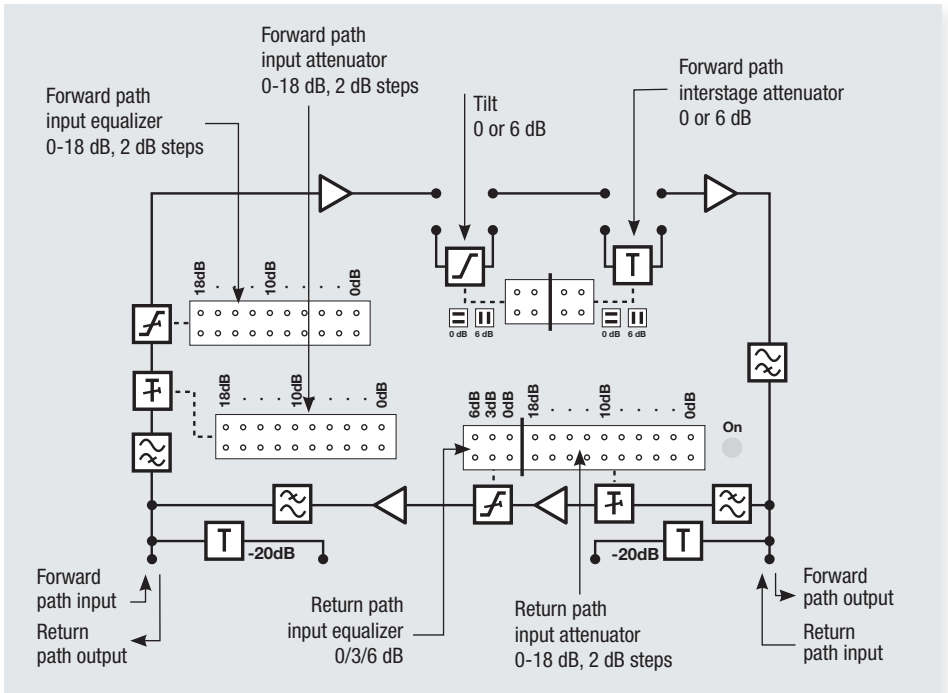
The forward path features separate interstage equalization (tilt) and attenuation. Two double jumpers can be set in either of two positions, as indicated in the diagram.

Jumper positioned **I**, does not attenuate the signal. Jumper positioned **II**, attenuates the signal by 6 dB.

The same configuration applies to the tilt.

Once all settings have been made, close the cover and tighten the screw.

Amplifier block diagram and configuration

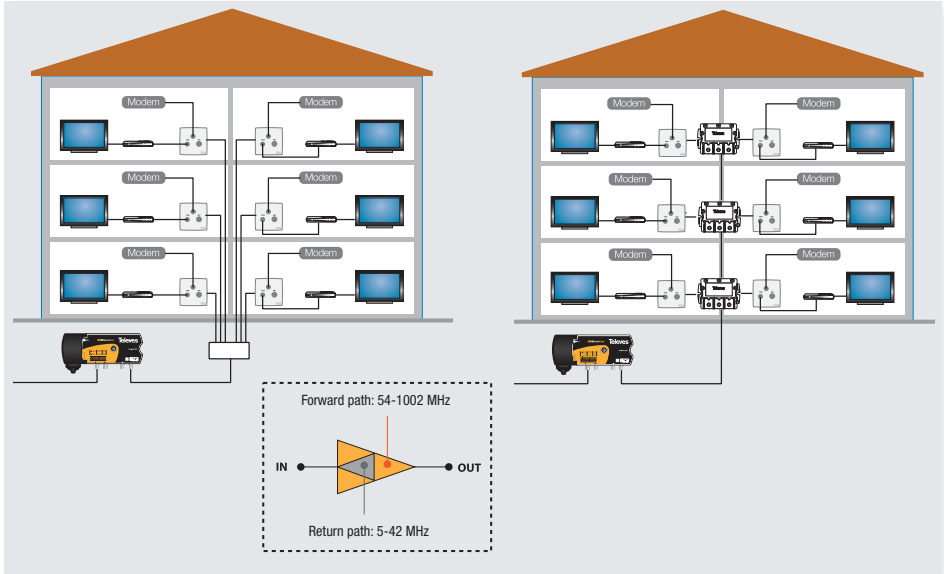


| Technical specifications | | 534280 | 534380 | 534480 | |
|---|---------|----------------------------|-------------------|--------|--|
| Forward path | | | | | |
| Frequency range | MHz | 54 ... 1002 | | | |
| Gain | dB | 20 | 30 | 35 | |
| Nominal value deviation | | ± 1 | | | |
| Linearity | | ± 1.5 | | | |
| Input attenuator (2dB steps) | | 0 ... 18 | | | |
| Interstage attenuator | | 0, 6 | | | |
| Input equalizer (2dB steps) | | 0 ... 18 | | | |
| Interstage equalizer | | 0, 6 | | | |
| Noise figure | | ≤ 7.5 | | | |
| Output level | | CSO > 60dB* CTB > 60dB* | dBmV | | |
| | | 40 | | | |
| | | 40 | | | |
| Return losses | dB | > 12 | | | |
| Test socket | | -20 | | | |
| Return path | | | | | |
| Frequency range | MHz | 5 ... 42 | | | |
| Gain | dB | 20 | 25 | 28 | |
| Nominal value deviation | | ± 1 | | | |
| Linearity | | ± 1 | | | |
| Input attenuator (2dB steps) | | 0 ... 18 | | | |
| Interstage equalizer | | 0, 3, 6 | | | |
| Noise figure | | ≤ 6 | | | |
| Output level | | 64QAM 4TP | dBmV | | |
| | | | 55 (BER: 1.0 e-8) | | |
| Return losses | | dB | >12 | | |
| Test socket | -20 | | | | |
| General | | | | | |
| Power consumption | Watt | 5 | 5.5 | 6 | |
| | mA | 85 | 90 | 95 | |
| Mains voltage | Vac, Hz | 108 ... 253, 50 ... 60 | | | |
| Operating temperature | °C | -10 ... +45 | | | |
| Electrostatic discharges protection (EN61000-4-2) | kV | 8 | | | |
| Protection class | class | II isolation | | | |
| Protection index | IP | 20 | | | |
| Connectors HF | type | F-female | | | |
| Dimensions (W x H x D), Weight | in, lb | 7.2 x 3.1 x 1.3, 0.88 | | | |

* 42 Analog CHs+ 42 Digital CHs (-8 dB offset)

Remark: All data is current as of the time of printing, except those errors due to printing, mistakes and modifications, and are subject to change without notification.

Typical applications



DECLARATION OF CONFORMITY N° DC1140429101154

Per FCC Part 2 Section 2.1077(a)



Responsible Party Name: Televes S.A.
 Rúa Benfín de Conxo, 17
 Address: 15706 - Santiago de Compostela
 Spain
 Phone / Fax N°: 981522200 / 981522262

Hereby declare that the product

Product Name: CATV Indoor amplifiers - Microsom T4
 Model Number: 534280, 534360, 534480

Conforms to the following specifications:

FCC Part 15, Subpart B, Section 15.107(e) and section 15.109(g)

Supplementary Information:

This device complies with Part 15 of the FCC rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Representative Person's Name: José L. Fernández Carnero
 Signature:

Date: 20/4/2014



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