

Amplificador CATV Intemperie / CATV Outdoor Line Amplifier

Ref. 534501



Vista de detalle: puesta a tierra
Detail view: ground connection

Adaptadores 5/8 a F no incluidos
5/8 to F adapters not included

Descripción

La ref. 534501 es un amplificador CATV de intemperie con canal de retorno activo para uso en interior y exterior y tecnología de Arseniuro de Galio (GaAs). Proporciona un alto nivel de salida y está diseñado para aplicaciones DOCSIS 3.1 hasta 1220 MHz, como redes de cable, hoteles, hospitales, etc., donde es necesario potenciar las señales principal y de retorno.

Especificaciones principales:

- Frecuencia de trabajo hasta 1220 MHz.
- Cumple con los requisitos DOCSIS 3.1.
- Hasta 1,22 GHz de bajada.
- Subida flexible entre 5-42, 5-85 & 5-204 MHz usando diplexores PAD enchufables.

Características y Ventajas

- Ancho de banda DS de 1,22 GHz.
- Retorno modular hasta 204 MHz.
- Tecnología Arseniuro de Galio (GaAs).
- Ajuste electrónico sin interrupciones y ajustes básicos sin accesorios adicionales.
- Pantalla de 7 segmentos, ajuste sencillo mediante teclado.
- Compatible con DOCSIS 3.1.
- 1 o 2 salidas, conectores IN / OUT en posición vertical u horizontal.
- Protección contra sobretensiones 6 kV.
- Carcasa compacta de aluminio fundido. IP67, montaje en cable.
- El canal de retorno se puede desconectar.

Description

The reference 534501 is a CATV amplifier with active return path for indoor and outdoor use and Gallium Arsenide Technology (GaAs). It provide a high output level and it's designed for DOCSIS 3.1 applications up to 1220 MHz, such as cable networks, hotels, hospitals, etc. where it is necessary to boost forward and return path signals.

Main specs are:

- Working frequency up to 1220 MHz.
- Compliant with DOCSIS 3.1 Requirements.
- Downstream up to 1,22 GHz.
- Flexible upstream between 5-42, 5-85 & 5-204 MHz using pluggable diplexer PADs.

Features and Benefits

- 1.22 GHz DS-bandwidth.
- Modular return way up to 204 MHz.
- Gallium Arsenide technology (GaAs).
- Interruption-free electronic adjustment, basic settings without additional accessories.
- 7-Segment display, simply to adjust by keypad.
- DOCSIS 3.1 compliant.
- 1 or 2 Outputs, IN/OUT connectors in vertical or horizontal position.
- Surge protection 6 kV.
- Compact alu die-cast housing acc. IP67, strand mountable.
- Return path can be switched off.

ES Importantes instrucciones de seguridad

Condiciones generales de instalación

¡Es estrictamente necesario poner a tierra el amplificador antes de encenderlo y manipularlo. En caso contrario, el amplificador podría dañarse severamente!

1. Lea las instrucciones.
2. Conserve estas instrucciones.
3. Preste atención a todas las advertencias.
4. Siga todas las instrucciones.
5. Limpie la unidad sólo con un paño seco.
6. Realizar la instalación de acuerdo con las instrucciones del fabricante.
7. No la instale cerca de fuentes de calor tales como radiadores, registros de calor, estufas u otros aparatos (incluyendo amplificadores) que produzcan calor.
8. No pise ni pellizque el cable de red; tenga especial cuidado con las clavijas, tomas de corriente y en el punto del cual salen del aparato.
9. Utilice solamente los aditamentos/accesorios especificados por el fabricante.
10. Use únicamente la carretilla, plataforma, trípode, soporte o tableros especificados por el fabricante, o vendidos con el aparato. Cuando se usa una

carretilla, tenga cuidado al mover el conjunto carretilla/aparatos para evitar lesiones en caso de vuelco.

11. Solicite todas las reparaciones a personal de servicio cualificado. Solicite una reparación cuando el aparato se haya dañado de cualquiera forma, como cuando el cable de red o el enchufe están dañados, se ha derramado líquido o han caído objetos dentro del aparato, el aparato ha sido expuesto a la lluvia o humedad, no funciona normalmente, o haya sufrido una caída.

Cómo utilizar el equipo de forma segura

- La tensión de alimentación de este producto ha de ser: 220+10% V 50/60 Hz.
- En el caso de que cualquier líquido u objeto caigan dentro del aparato, debe de ponerse en contacto con el servicio técnico.
- No quitar la tapa del equipo sin desconectarlo de la alimentación.

Instalación segura

- La temperatura ambiente no debe superar los 45 °C.
- No situar el equipo donde pueda estar sometido a fuertes vibraciones o sacudidas.

- Deje un espacio libre alrededor del aparato para proporcionar una ventilación adecuada.
- No situar sobre el aparato fuentes de llama desnuda, tales como velas encendidas.

Simbología



El equipo cumple los requerimientos de seguridad para equipos de clase II.



CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN



Precaución, peligro de descargar eléctrica.



El equipo cumple los requerimientos del marcado CE.



No conectar la fuente de alimentación antes de la puesta a tierra del amplificador, bien mediante el tornillo de tierra provisto en el chasis o por medio de un cable RF puesto a tierra.

EN Important Safety Instructions

Important safety instructions

It is strictly needed to ground the amplifier before powering up and operation. In case not, the amplifier could be severely damaged!

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Clean only with a dry cloth.
6. Install in accordance with the manufacturer's instructions.
7. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
8. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit the apparatus.
9. Only use attachments/accessories specified by the manufacturer.
10. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the

apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.

11. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

Safe operation

- Power requirements for this product are 220+10% V 50/60 Hz.
- Should any liquid or object fall into the equipment, please refer to qualified personnel for service.
- Do not take the cover off the equipment without disconnecting it from the power.

Safe installation

- Ambient temperature should not be higher than 113 °F.
- Do not place the equipment in a place where it can suffer vibrations or shocks.

- Please allow air circulation around the equipment.
- Do not place naked flames, such as lighted candles on or near the product.

Simbology



The equipment meets the safety requirements specified for Class II equipment.



CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN



Caution, risk of electrical shock.



The equipment meets the CE marking requirements.



Do not connect mains power before the housing of the amplifier is connected to GND at the GND-screw at the housing or by means of a grounded RF-cable.

Televes Limited Warranty

Televes S.A guarantees this product as per legislation applicable for this type of product at the time and in the country of purchase.

- (A) Televes warrants, only to the original Purchaser, all Products be free from any defect in materials or workmanship for a period of two (2) years from the date of original purchase, unless otherwise specified.
- (B) Televes shall, free of charge and in its sole discretion, either repair, replace with a new or factory reconditioned equivalent, or refund the purchase price of the Product(s), that has been determined by Televes to be defective in material or workmanship, subject to the limits of this warranty.
- (C) This warranty excludes any damage or inoperability resulting from:
 - (I) use or installation that is not in strict compliance with the written instructions and specifications;
 - (II) any modification or alteration performed by any third party not authorized in writing by Televes;
 - (III) service or repair performed by any third party not authorized in writing by Televes;
 - (IV) misuse, abuse, intentional harm, or lack of

reasonable care;
(V) fire, ice, snow, rain, wind, water, volcano, excessive heat or cold, lightning, flood, power surge, earthquake, or any other acts of God;
(VI) war, crime, strike, riot, electro-magnetic pulse, or any other acts beyond the control of Televes;
(VII) shipping.

- (D) All claims under the terms of this warranty must be made in writing, by the original Purchaser, within fourteen (14) days of the defect being known to the Purchaser. Such claims shall be accompanied by a description of any material facts related to the claimed defect and the invoice or other proof of original purchase date and price. If Televes so requests, the Purchaser shall, at Purchaser's expense, deliver the claimed Product(s) to Televes, within 14 days of the date of the return authorization. Under no circumstances shall the Product(s) be returned to Televes without a return authorization.
- (E) Any refund to the Purchaser, shall be limited to the purchase price of the Product(s), excluding any applicable taxes, duties, freight costs, removal costs, installation costs, or any other charges incident to the purchase of the product.

(F) Any damage caused by shipper shall be claimed with the shipper in accordance with the shipper's policies and procedures.

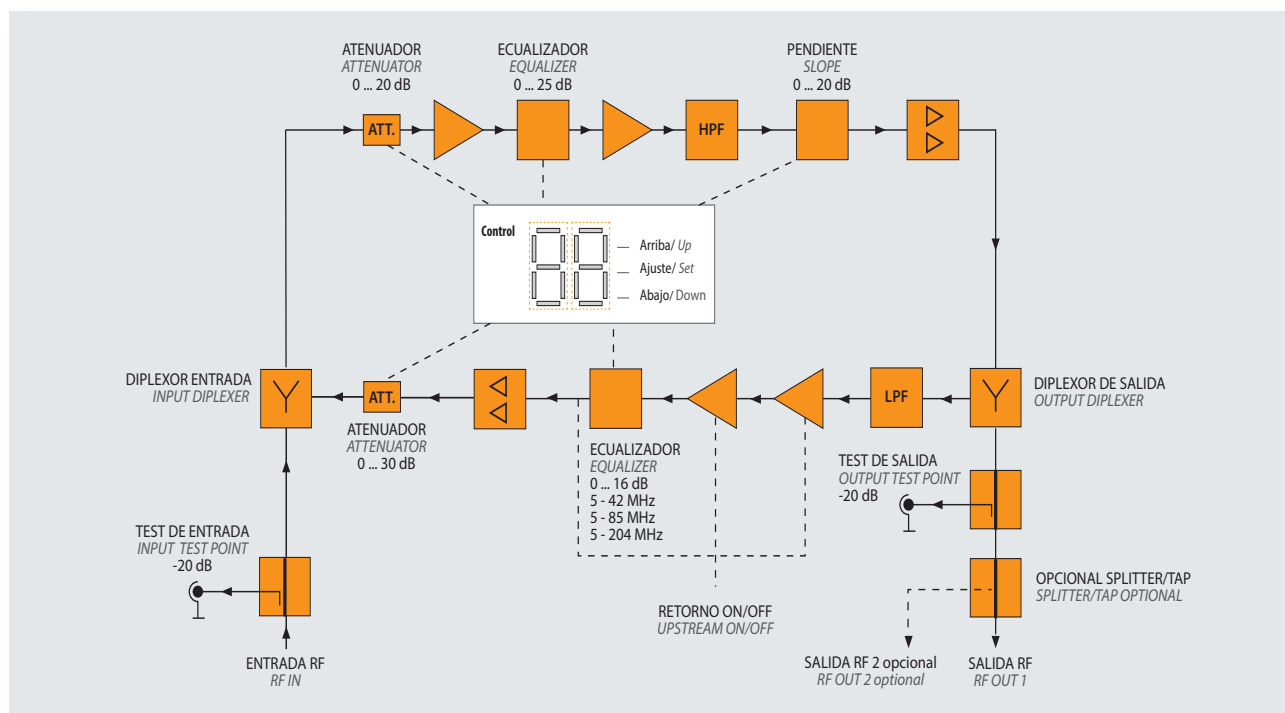
(G) Televes shall in no event and under no circumstances be liable or responsible for any consequential, indirect, incidental, punitive, direct or special damages based upon breach of warranty, breach of contract, negligence, strict tort liability or otherwise or any other legal theory, arising directly or indirectly from the sale, use, installation or failure of any product acquired by Purchaser from Televes.

(H) This limited warranty extends to the original Purchaser and cannot be assigned or transferred to any other party without the prior express written permission of Televes, which permission Televes may withhold for any reason or for no reason at all.

(I) Televes will not assume any liabilities for any other warranties, whether statutory, express or implied, made by any other person.

(J) Televes reserves the right to modify or discontinue this warranty at Televes' sole discretion without notification. No other warranties are expressed or implied.

Diagrama de bloques / Block diagram



Características técnicas / Technical specifications

Características técnicas	Technical specifications	Unidades Units	534501					
			Canal Directo Forward path			Canal de retorno Return path		
Margen de frecuencia	Frequency Range	MHz	54-1220	105-1220	254-1220	5-42	5-85	5-204
Ganancia	Gain	dB	42			28		
Planicidad	Flatness	dB	±0,75			± 0,5		
Perdidas de retorno E/S	Input / Output Return Loss	dB	≥ 20 @ 40 MHz -1,5 dB/ Octava/ octave >12 @ 1220 MHz			≥ 15 5-10 MHz ≥ 20 10-65/85/204 MHz		
Atenuador de entrada	Input attenuator	dB	20 dB (1 dB pasos/ steps) Preajustes de fábrica / Factory preset -20 dB					
Atenuador entre etapas	Interstage attenuator	dB	6					
Atenuador de salida	Output attenuator	dB	-			30 dB (1dB pasos/ steps) Preajustes de fábrica / Factory preset -20 dB		
Ecuilizador de entrada	Input Equalizer	dB	25 dB (1 dB pasos/ steps)			16 dB (1 dB pasos/ steps)		
Pendiente entre etapas	Interstage slope	dB	20 dB (1 dB pasos/ steps)					
Figura de ruido (G30/G40)	Noise Figure	dB	7 / 8					
Nivel de salida (42CH)	Output Level	dBmV (dBμV)	54 (114) 41 Canales/ channels CENELEC CSO/CTB > 60 dBEN60728-3 (Sin/without K2)					
Nivel máximo de planicidad U _{max} (N) BER≤10 ⁻⁹	Maximum operating level flat U _{max} (N) BER≤10 ⁻⁹	dBmV (dBμV)	47 (107) EN60728-3 Ed5 N=119			47 (107) EN60728-3 Ed5 N=24		
Nivel máximo de operación para pendiente 9 dB U _{max} (N) BER≤10 ⁻⁹	Maximum operating level slope 9 dB U _{max} (N) BER≤10 ⁻⁹	dBmV (dBμV)	49 (109) EN60728-3 Ed5 N=119			-		
Densidad del nivel de entrada 50 dB NPR @ carga de 180 MHz rango dinámico 24 dB	Input level density 50 dB NPR @ 180 MHz load. Dynamic Range 24 dB	dBmV/Hz	-66 ... -42			-		
Alimentación	Power supply	V~	Internal 200...240 VAC 50 Hz Switch mode					
Modulación HUM	HUM modulation	dB	>70 @ 7 A					
Proteccion al sobrevoltaje	Overvoltage protection		6 KV EN 60728-3					
Consumo	Power consumption	W	18					
Conector	Connector		5/8 Longitud recomendada del vivo: 27 mm desde la junta tórica Recommended Inner Conductor length: 27 mm from the O-ring seal					
Temperatura	Temperature	°C (°F)	-30...60 (-22... 140)					
Índice protección	IP		IP67					
Peso	Weight	kg (lb)	1,8 (3.97)					
Dimensiones	Dimensions (LxWxH)	in (mm)	225 x 195 x 95					

RANGO DE PRODUCTOS		PRODUCT RANGE
Ref.	Descripción	Description
4123*	Adaptador 5/8 macho a hembra	5/8 male to female adapter
534510**	2 X Diplexor PAD 5-42/54-1220 MHz 1 X filtro paso bajo 5-42 MHz	2 X Diplexer PAD 5-42/54-1220 MHz 1 X low pass filter 5-42 MHz
534511	2 X Diplexor PAD 5-85/105-1220 MHz	2 X Diplexer PAD 5-85/105-1220 MHz
534512	2 X Diplexor PAD 5-204/254-1220 MHz	2 X Diplexer PAD 5-204/254-1220 MHz
534520	PAD Repartidor 4,5 dB 5-1220 MHz	Splitter PAD 4,5 dB 5-1220 MHz
534530	PAD Derivador 8 dB 5-1220 MHz	TAP PAD 8 dB 5-1220 MHz
534531	PAD Derivador 14 dB 5-1220 MHz	TAP PAD 14 dB 5-1220 MHz

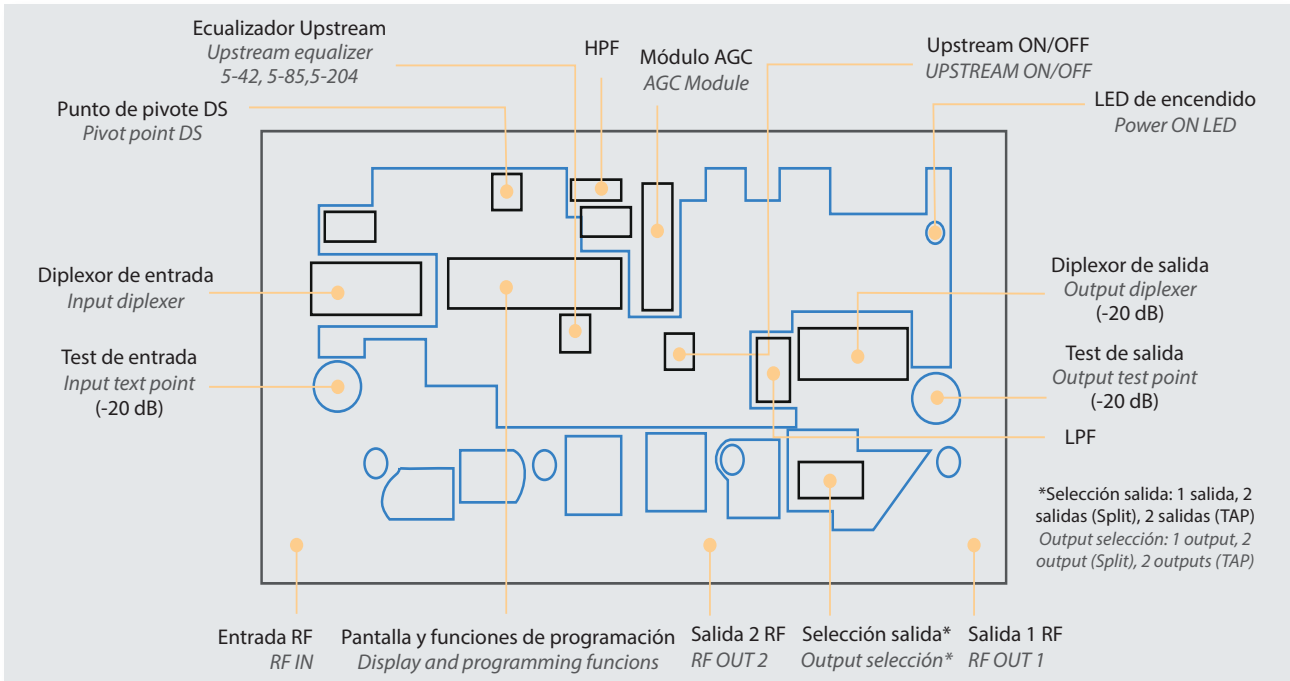
(*) Efectuar el corte del conductor interior con una longitud de: 17,5mm (27 mm desde junta tórica)

(**) La referencia 534510 incluye un conjunto de 2 diplexores individuales (para canal directo y canal de retorno) así como un filtro paso bajo 5-42 MHz. En caso de utilizar este diplexado, el PAD instalado en LPF (ver vista interior en el siguiente apartado) debe ser eliminado, colocándose en su lugar el filtro paso bajo 5-42 MHz.

(*) Cut the inner conductor with a length of: 17,5mm (27 mm from the O-ring)

(**) The reference 534510 includes a set of 2 individual diplexers (for forward and return path) and a 5-42 MHz low pass filter. In case of using these diplexers, the PAD installed in LPF (see inner view in the following paragraph) must be removed and place the 5-42 MHz low pass filter instead.

Vista interior / Inner view



Para habilitar dos salidas, eliminar el PAD 0 dB ubicado en "Selección de salida" y colocar la referencia de PAD que se desee (534520, 534530, 534531) descrita en la tabla "rango de productos". Adicionalmente, reemplazar la tapa ciega de la salida RF2 por el anillo adaptador a 5/8" incluido con el PAD seleccionado.

To enable two outputs, remove the 0 dB PAD of the "Output selection" and place the wanted reference PAD (534520, 534530, 534531) described in the table "range of products". In addition, replace the RF2 output blind cap for the 5/8 adapter ring included with the selected PAD.

Funcionamiento / Operating functions



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