

Amplificadores/Multiplexores ópticos con alimentación Optical Amplifiers/Multiplexers with P.S.U.

Refs. 769620, 769622, 769623, 769630, 769631, 769632

Art. Nr. OV1U201, OV1U108, OV1U208, OV1U20WDMA1, OV1U14WDMS4, OV1U10WDMS8



Ref. 769620 (OV1U201)
1 x 20dBm

Ref. 769622 (OV1U108)
8 x 10dBm

Ref. 769623 (OV1U208)
8 x 20dBm

Ref. 769630 (OV1U20WDMA1)
1 x 20dBm + WDM

Ref. 769631 (OV1U14WDMS4)
4 x 14dBm + WDM

Ref. 769632 (OV1U10WDMS8)
8 x 10dBm + WDM

Introducción / Introduction

Esta gama de amplificadores está realizada sobre una misma plataforma que permite, de manera sencilla, proporcionar al cliente las diferentes configuraciones que mejor se adapten a sus necesidades.

Estos equipos alojan en su interior dos fuentes de alimentación intercambiables en caliente de forma que en caso de avería la reparación no supondrá corte de servicio.

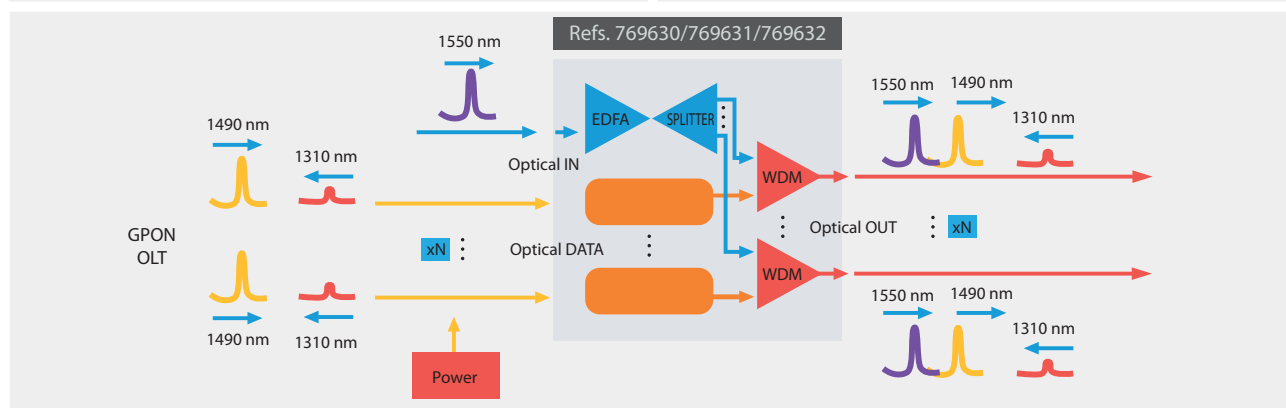
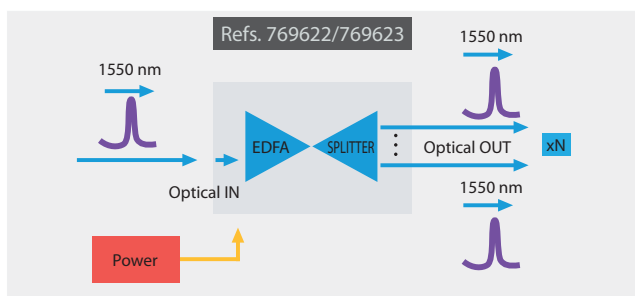
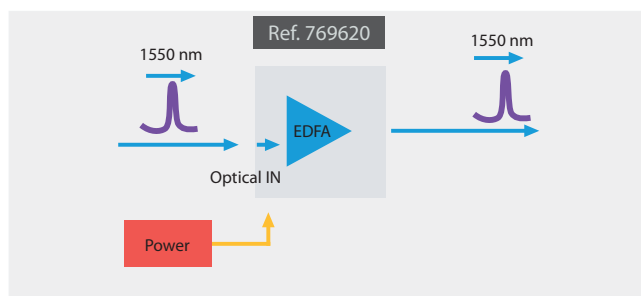
Las referencias 769630, 769631 y 769632 incorporan un multiplexor de longitud de onda (1550nm + 1490/1310nm), permitiendo mezclar el servicio de RF Overlay con señales GPON.

This range of amplifiers is made on the same platform that allows, in a simple way, to provide the customer with the different configurations that best suit their needs.

These equipments house two hot-swappable power supplies inside so that in the event of a breakdown, the repair will not entail a service outage.

References 769630, 769631 and 769632 incorporate a wavelength multiplexer (1550nm + 1490/1310nm), allowing to mix the RF Overlay service with GPON signals.

Diagramas de bloques / Blocks diagrams



ES IMPORTANTES INSTRUCCIONES DE SEGURIDAD

Instalación segura

1. Lea las instrucciones antes de manipular o conectar el equipo. Conserve estas instrucciones. Preste atención a todas las advertencias. Siga todas las instrucciones.
2. Limpie la unidad sólo con un paño seco.
3. No utilice este aparato cerca del agua. El aparato no debe ser expuesto a caídas o salpicaduras de agua, no situar objetos llenos de líquidos sobre o cerca del aparato tales como vasos si no tiene la suficiente protección.
4. No bloquee las aberturas de ventilación. Realizar la instalación de acuerdo con las instrucciones del fabricante. Dejar un espacio libre alrededor del aparato para proporcionar una ventilación adecuada.
5. No situar el equipo en ambientes de humedad elevada.
6. No instalar cerca de fuentes de calor tales como radiadores, registros de calor, estufas u otros aparatos (incluyendo amplificadores) que produzcan calor. No situar sobre el aparato fuentes de llama desnuda, tales como velas encendidas.
7. No situar el equipo donde pueda estar sometido a fuertes vibraciones o sacudidas.
8. Utilice solamente los aditamentos/accesorios especificados por el fabricante.

Utilización segura de equipos conectados a la red eléctrica

- La temperatura ambiente no debe superar los 45°C.
- La tensión de red de este producto ha de ser de: 110-230V~50/60Hz.
- No enchufe el equipo a la red eléctrica hasta que todas las demás conexiones hayan sido realizadas.
- La toma de red eléctrica debe estar cerca del equipo y ser fácilmente accesible.
- Para desenchufar el equipo de la red eléctrica, tire siempre de la clavija, nunca del cable.

- 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.
- Desenchufe este aparato durante las tormentas eléctricas o cuando no lo utilice durante largos periodos de tiempo.
- Solicite todas las reparaciones a personal de servicio cualificado. Solicite una reparación cuando el aparato se haya dañado de cualquier 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.



Advertencia

- Para reducir el riesgo de fuego o choque eléctrico, no exponer el equipo a la lluvia o a la humedad.
- No quitar la tapa del equipo sin desconectarlo de la red eléctrica.
- No anule la característica de seguridad del enchufe polarizado o con conexión a tierra. Un enchufe polarizado tiene dos patillas planas, una más ancha que la otra. Un enchufe con toma de tierra tiene dos patillas planas y una tercera de conexión a tierra. La patilla ancha o la tercera patilla, están pensadas para su seguridad. Si el enchufe suministrado no encaja en su toma, consulte con un electricista para que reemplace la toma de corriente obsoleta.

Precauciones de conexión óptica:

- Tratar con sumo cuidado la punta desprotegida de los conectores, pequeños arañazos, rascaduras, impurezas y/o partículas de suciedad, aceites, grasas, sudor, etc. Pueden degradar significativamente la señal.
- Para la limpieza de la punta de los conectores, frotar (sin ejercer presión) con una toallita de limpieza con base en alcohol isopropílico, específica para la limpieza de elementos ópticos. Antes de realizar la conexión dejar secar totalmente el alcohol.
- Reservar las tapas de conectores y capuchones de los cables para futuras operaciones de extracción/protección de los mismos.
- Colocar siempre las tapas protectoras a los conectores de los equipos que no estén conectados a cables para evitar que el haz láser pueda alcanzar los ojos.
- Evite en lo posible el encendido del transmisor sin tener la fibra conectada a dicho transmisor.

Precauciones de Seguridad

Aviso.-

Este producto emite un rayo de luz invisible láser. Evite exponerse a la radiación láser. El uso de aparatos de ayuda visual (por ejemplo binoculares, lupas, etc.) puede aumentar el peligro a los ojos.



Acorde a EN 60825-1: 2014
Emisión máxima de radiación láser: (1)
Longitud de onda emitida: 1550nm

Precaución

- El uso de controles o ajustes, así como procedimientos diferentes a los especificados en éste manual puede provocar la exposición de partes del cuerpo a radiaciones nocivas.
- Lea y siga las instrucciones en este manual cuidadosamente, retenga éste manual para referencia futura.
- No utilice los equipos de forma no conforme con estas instrucciones de operación ni bajo cualquier condición que exceda las especificaciones ambientales estipuladas.
- El usuario no puede dar servicio técnico a estos equipos. Para asistencia técnica contacte con nuestro departamento de asistencia técnica.
- El rayo láser no debe ser apuntado a las personas y/o animales intencionalmente.

Equipo clase A

Este es un equipo de Clase A. En un entorno doméstico este equipo puede causar interferencias de radio, en cuyo caso se puede requerir que el usuario tome las medidas adecuadas.

Simbología

Equipo diseñado para uso en interiores.

CAUTION
RISK OF ELECTRICAL SHOCK
DO NOT OPEN Precaución, peligro de descarga eléctrica.

El equipo cumple los requerimientos del marcado CE.

(1) 769620: 20dBm - 769622: 10dBm
769623: 20dBm - 769630: 20dBm
769631: 14dBm - 769632: 10dBm

EN IMPORTANT SAFETY INSTRUCTIONS

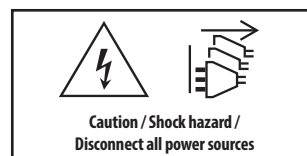
Safe installation

1. Read these instructions before handling or connecting the equipment. Keep these instructions. Heed all warnings. Follow all instructions.
2. Clean only with dry cloth.
3. Do not use this apparatus near water. Apparatus shall not be exposed to dripping or splashing and no objects filled with liquids, such as glasses, shall be placed on the apparatus.
4. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions. Please allow air circulation around the equipment.
5. Do not place the equipment in a highly humid environment.
6. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat. Do not place naked flames, such as lighted candles on or near the product.
7. Do not place the equipment in a place where it can suffer vibrations or shocks.
8. Only use attachments/accessories specified by the manufacturer.

Safe operation of equipment connected to the mains supply

- Ambient temperature should not be higher than 45°C.
- Power requirements for this product are: 110 - 230V~50/60Hz.
- It is strongly recommended not to connect the equipment to the mains supply until all connections have been done.
- The socket outlet shall be installed near the equipment and shall be easily accessible.
- To disconnect the equipment from the mains supply pull the plug never the cable.
- Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
- Unplug this apparatus during lightning storms or when unused for long periods of time.

- 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.



Warning

- Reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture.
- Do not take the cover off the equipment without disconnecting it from the mains supply.
- Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.

Handling optical connections:

- An SC/APC single mode fiber cable must be used. Remove the protective cover from the optical connector on the unit and the cap on the cable connector.
- Carefully align the guides on both connectors when plugging a cable to the device, then push the connector all the way in.
- Take special care to avoid damaging the unprotected ends of the connectors, as small scratches, impurities

and/or particles of dirt, oil, grease, sweat, etc. may significantly affect the quality of the signal.

- To clean the ends of the connectors, gently rub with a lint-free lens cleaning cloth, dampened using additive-free isopropyl alcohol. Make sure the alcohol evaporates fully before connecting. Keep the connector covers and cable caps in a safe place in case they are needed in the future. Always fit the covers on the connectors of devices that are not connected to cables to prevent the laser beam from damaging the eyes.
- Do not turn the transmitter on without a fiber optic cable connected to it.

Safety precautions

Warning.-

This product emits an invisible laser beam. Avoid contact with laser radiation. The use of equipment such as binoculars or magnifying glasses may increase damage caused to the eyes.



According to EN 60825-1: 2014
Maximum Output: (1)
Emitted Wavelength (s): 1550nm

Caution

- The use of the equipment in any other way than the specified in this manual may lead to exposure to harmful radiation.
- Do not use the equipment in any way that does not comply with the operating instructions or in any conditions that exceed the stipulated atmospheric specifications.
- Never point the laser beam at people or animals.

Class A equipment

EU

Class A equipment. In a domestic environment this equipment may cause radio interference, in that case the user may be required to take adequate measures.

EEUU

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Symbology

Equipment designed for indoor use.

CAUTION
RISK OF ELECTRICAL SHOCK
DO NOT OPEN Caution, risk of electrical shock.

The equipment complies with the requirements of the CE mark.

(1) 769620: 20dBm - 769622: 10dBm
769623: 20dBm - 769630: 20dBm
769631: 14dBm - 769632: 10dBm

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.

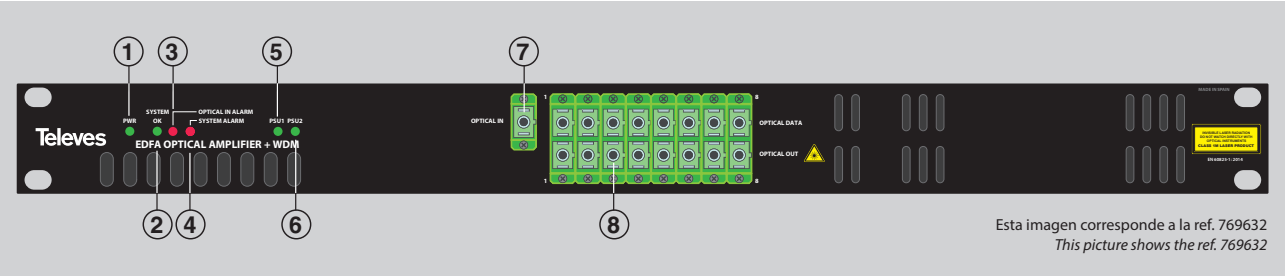
- (E) Any refund to the Purchaser, shall be limited to the purchase price of the Product(s), excluding any applicable taxes, duties, freight costs, removal costs, installation costs, or any other charges incident to the purchase of the product.
- (F) Any damage caused by shipper shall be claimed with 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 warrantees are expressed or implied.

Descripción de producto / Mechanical overview:

Descripción panel frontal / Front panel description



- 1.- LED de encendido
Power LED
- 2.- LED de estado (verde cuando está OK)
Status LED OK (green when system is OK)
- 3.- LED de alarma de entrada óptica
LED optical input alarm
- 4.- LED de alarma de sistema
LED system error indication
- 5.- LED de estado de funcionamiento de la fuente de alimentación PSU1 OK
Status LED OK of PSU1 power supply unit operation
- 6.- LED de estado de funcionamiento de la fuente de alimentación PSU2 OK
Status LED OK of PSU2 power supply unit operation
- 7.- Entrada óptica
Optical input

- 8.- Grupo de conectores ópticos (Optical Data, Optical Out)*
Optical connectors group (Optical Data, Optical Out)*
- (*) La conectividad de este grupo de conectores varía en función de la referencia.
Depending on the reference, the connectivity of this group of connectors varies.

3 Optical IN alarm	2 System OK	4 System alarm	Resultado / Result
●	OFF	●	No hay potencia óptica de entrada RF / No RF input optical power
OFF	OFF	●	Hay potencia óptica de entrada RF y fallo en el sistema / RF optical input power and system failure
OFF	●	OFF	Funcionamiento correcto / Correct operation

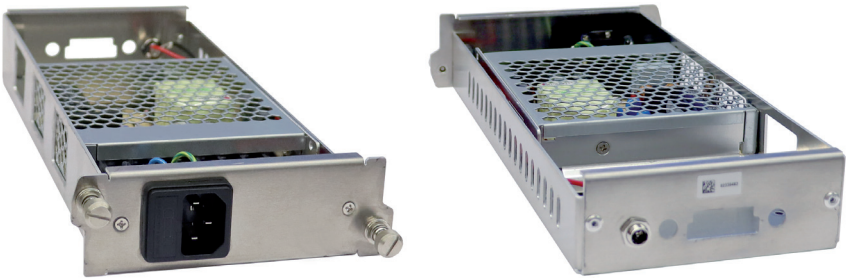
Panel trasero/ Rear panel



- 1.- Conexión a la red PSU1
PSU1 Mains connection
- 2.- Conexión a la red PSU2
PSU2 Mains connection

Fuente de alimentación / Power supply unit

Fuente dual intercambiable en caliente
Dual hot Swapping OLT power supply



Especificaciones técnicas / Technical specifications

	769620 OV1U201	769630 OV1U20WDMA1	769622 OV1U108	769632 OV1U10WDM58	769631 OV1U14WDM54	769623 OV1U208
Número de puertos Number of ports	1 RF Overlay @ Optical IN 1 RF Overlay @ Optical OUT	1 RF Overlay @ Optical IN 1 GPON @ Optical DATA 1 (GPON + RF Overlay) @ Optical OUT (COM)	1 RF Overlay @ Optical IN 8 RF Overlay @ Optical OUT	1 RF Overlay @ Optical IN 8 GPON @ Optical DATA 8 (GPON + RF Overlay) @ Optical OUT (COM)	1 RF Overlay @ Optical IN 4 GPON @ Optical DATA 4 (GPON + RF Overlay) @ Optical OUT (COM)	1 RF Overlay @ Optical IN 8 RF Overlay @ Optical OUT
Longitud onda de trabajo Operating wave length	nm	1310...1565 @ RF Overlay	1530...1565 @ RF Overlay	1310 ±20 @ Upstream 1490 ±20 @ Downstream 1530 ...1565 @ RF Overlay	1310 ±20 @ Upstream 1490 ±20 @ Downstream 1530 ...1565 @ RF Overlay	1530...1565 @ RF Overlay
Entrada RF Overlay Input RF overlay	dBm	-10.....+10				
Potencia salida RF overlay Output power RF overlay	dBm	1 x 20	8 x 10	8 x 10	4 x 14	8 x 20
Figura de ruido Noise figure	dB	5 (Pin= 0 dBm @ 1550 nm)				
Pérdida de inserción Insertion loss (1310 & 1490nm)	dB	<1	-	<1	<1	-
Pérdidas de retorno Return loss	dB	>40				
C/N*	dB	51				
CSO*	dB	>65				
CTB*	dB	>65				
Conectores entrada-salida Optical connectors		SC/APC				
Alimentación P. S. U.	Tensión entrada Mains power	110 - 230				
	Frecuencia entrada Frequency range	50 / 60				
	Consumo máx. entrada Max. input consumption	110	110	110	110	350
	Potencia máx. entrada Max. input power	5.5	5.5	5.5	5.5	20.5
	Temp. funcionamiento Working temperature	-5 ... + 45 + 23 ... + 113				
General	Dimensiones Dimensions	482,6 x 376 x 43,6 19" x 14,8" x 1,72"				
	Peso Weight	3660 8,07	3680 8,11	3710 8,18	3890 8,58	3970 8,75
	Índice de protección IP Code	20				

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful

interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

DECLARACIÓN DE CONFORMIDAD ■ DECLARATION OF CONFORMITY ■ DECLARAÇÃO DE CONFORMIDADE ■ DECLARATION DE CONFORMITE ■ DICHIARAZIONE DI CONFORMITÀ ■ DEKLARACJA ZGODNOŚCI ■ KONFORMITÄTSEKTLÄRUNG ■ ΠΙΣΤΟΠΟΙΗΤΙΚΟ ΣΥΜΜΟΡΦΩΣΗΣ ■ FÖRSÄKRAN OM ÖVERENSSTÄMMELSE ■ ДЕКЛАРАЦИЯ СООТВЕТСТВИЯ ■ بيان المطابقة ► <https://doc.televes.com>

Responsible party:

Televes USA LLC. Norfolk Tech Center 16596 E. 2nd Avenue Aurora, CO 80011
Telephone: +1 (720) 379 3748 televes.usa@televes.com

Fabricante / Manufacturer:

Televés S.A.U. Rúa B. de Conxo, 17 - 15706 Santiago de Compostela, A Coruña. Spain
www.televes.com

