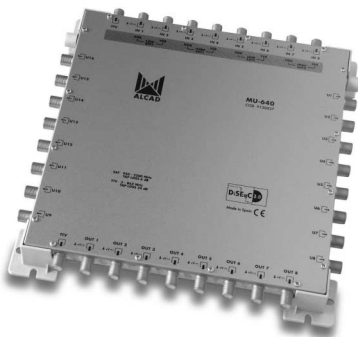




SISTEMA DE MULTICONMUTADORES CASCADABLES  
CASCADABLE MULTISWITCH SYSTEM  
SYSTÈME MULTICOMMUTATEUR CASCADABLE



**SERIE 913 SERIES**

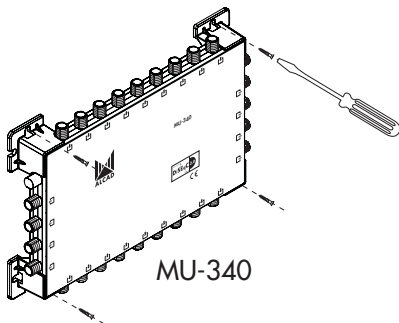
# MULTICONMUTADORES - MULTISWITCHES - MULTICOMMUTATEURS

CÓDIGO-CODE-CODE	9130036			9130037			
MODELO-MODEL-MODELE	MU-340			MU-640			
Entradas/salidas/derivaciones Inputs/outputs/taps Entrées/sorties/dérivations		9 / 9 / 8			9 / 9 / 16		
Rango de frecuencia Frequency range Gamme de fréquences	Band	VR/TV	SAT		VR/TV	SAT	
	MHz	5-862	950-2150	2150-2500	5-862	950-2150	2150-2500
Atenuación de derivación Tap loss Atténuation de dérivation	dB ±TOL	24 ±2,0	6 ±2,0	6,1 ±2,0	24 ±3,0	7 ±3,0	7,1 ±3,0
Equalización de derivación Tap equalization Egalisation de dérivation	dB	9	7	-	9	6	-
Nivel de salida de derivación Tap output level Niveau de sortie de dérivation	dB $\mu$ V	-	100 90	(IMD <sub>3</sub> -35 dB) (IMD <sub>2</sub> -35 dB)	-	100 90	(IMD <sub>3</sub> -35 dB) (IMD <sub>2</sub> -35 dB)
Atenuación de paso Through loss Attenuation de passage	dB ±TOL	3,1 ±0,2	1,7 ±0,2	1,9 ±0,2	6 ±0,2	2,5 ±0,2	2,8 ±0,2
Equalización de paso Through equalization Egalisation de passage	dB	1,2	1,1	-	3	2	-

IMD<sub>3</sub> -35 dB: 2 equal carriers, EN 50083-5

IMD<sub>2</sub> -35 dB: 2 equal carriers, EN 50083-5

**CÓMO FIJAR EL MULTISWITCH**  
**HOW TO FIX THE MULTISWITCH**  
**COMMENT FIXER LE MULTISWITCH**



# MULTICONMUTADORES - MULTISWITCHES - MULTICOMMUTATEURS

CÓDIGO-CODE-CODE		9130023				9130024			
MODELO-MODEL-MODELE		MU-341				MU-641			
Entradas/salidas/derivaciones Inputs/outputs/taps Entrées/sorties/dérivations		9 / 9 / 8				9 / 9 / 16			
Rango de frecuencia Frequency range Gamme de fréquences	Band	VR	TV	SAT		VR	TV	SAT	
	MHz	5-65	86-862	950-2150	2150-2500	5-65	86-862	950-2150	2150-2500
Atenuación de derivación Tap loss Atténuation de dérivation	dB ±TOL	18 ±1,0	11 ±2,0	-	-	19 ±1,0	11 ±2,0	-	-
Ecualización de derivación Tap equalization Egalisation de dérivation	dB	-	14	11	-	-	14	13	-
Ganancia de derivación Tap gain Gain de dérivation	dB	-	-	3 ±2,0	3 ±2,0	-	-	2 ±3,0	2 ±3,0
Nivel de salida de derivación Tap output level Niveau de sortie de dérivation	dB $\mu$ V	-		100 (IMD <sub>3</sub> -35 dB) 90 (IMD <sub>2</sub> -35 dB)		-		100 (IMD <sub>3</sub> -35 dB) 90 (IMD <sub>2</sub> -35 dB)	
Ecualización de paso Through equalization Egalisation de passage	dB	1	3	4,5	-	1	3	4	-
Ganancia de paso Through gain Gain de passage	dB	9 ±1,0	8,5 ±0,5	7,5 ±0,5	7,5 ±0,5	8 ±1,0	6 ±0,5	6,5 ±0,5	6,5 ±0,5
Nivel de salida de paso Through output level Niveau de sortie de passage	dB $\mu$ V	119 DIN 45004B 116 (IMD <sub>3</sub> -60 dB) 109 (IMD <sub>2</sub> -60 dB)		114 (IMD <sub>3</sub> -35 dB) 110 (IMD <sub>2</sub> -35 dB)		116 DIN 45004B 113 (IMD <sub>3</sub> -60 dB) 106 (IMD <sub>2</sub> -60 dB)		111 (IMD <sub>3</sub> -35 dB) 107 (IMD <sub>2</sub> -35 dB)	

DIN 45004B: 3 unequal carriers, IMD<sub>3</sub> at 60 dB

IMD<sub>3</sub> -60 dB: 2 equal carriers, EN 50083-5

IMD<sub>2</sub> -60 dB: 2 equal carriers, EN 50083-5

IMD<sub>3</sub> -35 dB: 2 equal carriers, EN 50083-5

IMD<sub>2</sub> -35 dB: 2 equal carriers, EN 50083-5

# MULTICONMUTADORES - MULTISWITCHES - MULTICOMMUTATEURS

CÓDIGO-CODE-CODE	9130036	9130037	9130023	9130024
MODELO-MODEL-MODELE	MU-340	MU-640	MU-341	MU-641
Rechazo entre bandas Rejection between bands Rejection entre bandes	dB	>25 TV/SAT >65 SAT/TV		
Desacoplo entre usuarios Isolation between users Découplage entre utilisateurs	dB	>40 TV >30 SAT		
Desacoplo troncal Trunk isolation Découplage entre lignes	dB	>40 SAT/TV >40 SAT/SAT		>30 SAT/TV >30 SAT/SAT
Desacoplo de conmutación Isolation of switching Découplage de commutation	dB	>30 SAT/SAT		
Conmutación de las salidas Switching the outputs Commutation des sorties		DiSEqC 2.0 13 V $\pm$ / 17 V $\pm$ 0/22 KHz		
Alimentación Power supply Alimentation	V $\pm$	-	-	6 $\pm$ 0,5
	mA	-	-	590
Consumo desde el receptor Consumption from the receiver Consommation du récepteur	mA	50 $\pm$ 2,0 (12..20 V $\pm$ )		

## INSTALACIÓN DE LNBS INSTALLING LNB INSTALLATION DES LNB



High Horizontal  
High Vertical  
Low Horizontal  
Low Vertical



Low Horizontal  
Low Vertical



High Horizontal  
High Vertical

# AMPLIFICADOR - AMPLIFIER - AMPLIFICATEUR

CÓDIGO-CODE-CODE		9130042	
MODELO-MODEL-MODELE		AU-640	
Entradas/salidas Inputs/outputs Entrées/sorties		9 / 9	
Rango de frecuencia Frequency range Gamme de fréquences	Band	VR/TV	SAT
	MHz	5 -862	950-2500
Atenuación de paso Through loss Atténuation de passage	dB ±TOL	1,5 ±0,5	-
Ganancia de paso Through gain Gain de passage	dB	-	43 ±1,0
Regulación de ganancia Adjustable gain Reglage du gain	dB	-	20
Márgen de ecualización Adjustable equalization range Plage réglage de pente	dB	-	8 Switchable
Nivel de salida Output level Niveau de sortie	dB $\mu$ V	-	118,5 (IMD <sub>3</sub> -35 dB) 110,0 (IMD <sub>2</sub> -35 dB)
Desacoplo troncal Trunk isolation Découplage entre lignes	dB	>30	SAT/TV
		>28	SAT/SAT
Tensión de salida Output voltage Tension de sortie	V $\ddot{---}$	6,5	
	mA	2240	
Alimentación Power supply Alimentation	V $\ddot{---}$	7,5	
	mA	1600	
Alimentación de las LNB Power supply of the LNB Alimentation des LNB		2000 mA / 18 V $\ddot{---}$	

IMD<sub>3</sub> -35 dB: 2 equal carriers, EN 50083-5  
 IMD<sub>2</sub> -35 dB: 2 equal carriers, EN 50083-5

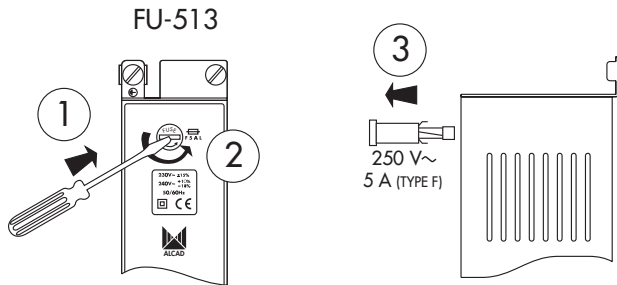
## ALIMENTADOR - POWER SUPPLY - ALIMENTATION

CÓDIGO-CODE-CODE		9130048	9130049	9130057
MODELO-MODEL-MODELE		FU-901	FU-902	FU-513
Tensión de salida Output voltage Tension de sortie	V $\text{---}$	18	18	7,5
	mA	800 (In continuous operation)	1500 (In continuous operation)	3840 (In continuous operation)
Tensión de red Mains voltage Tension du secteur	V $\sim$	230 $\pm$ 15%	240 $\pm$ 10% -18%	50/60 Hz
	VA	45	75	95

## EQUIPO COMPLETO - COMPLETE SYSTEM - ÉQUIPEMENT COMPLET

		913 SERIES
Temperatura en proximidad del equipo Operating temperature close to equipment Température en proximité de l'équipement	°C	-10..+65
Temperatura ambiente con/sin ventilador Room temperature with/without fan Température ambiante avec ou sans ventilateur	°C	-10..+55/+45
Índice de protección Protection index Indice de protection		IP 30 IP 20 (FU-513)

## CÓMO SUSTITUIR EL FUSIBLE REPLACING THE FUSE REPLACER LE FUSIBLE

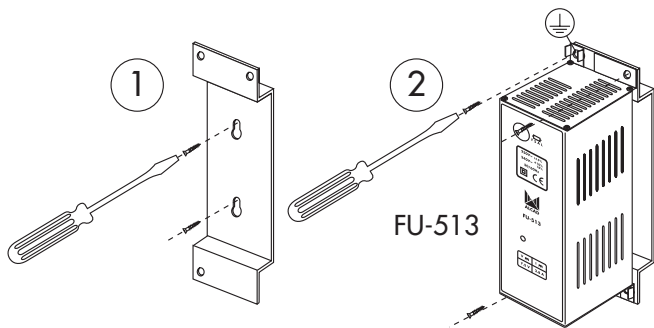
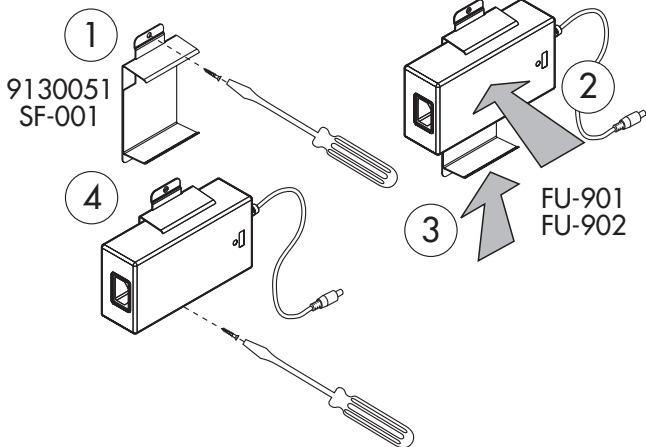


# CÓMO FIJAR LOS ALIMENTADORES

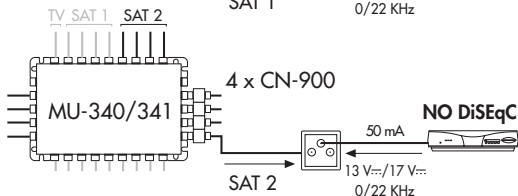
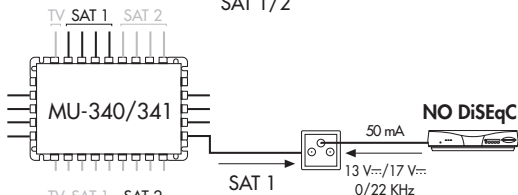
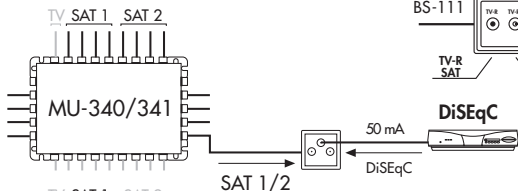
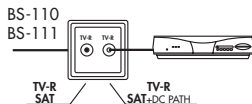
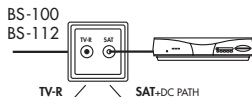
## HOW TO FIX THE POWER SUPPLIES

### COMMENT FIXER LES ALIMENTATIONS

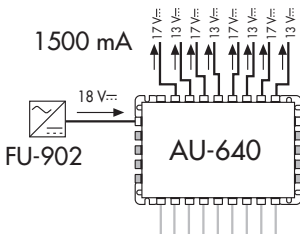
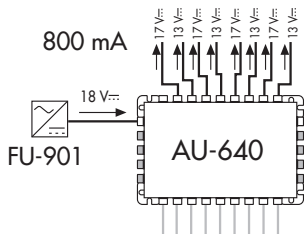
9130051 SF-001. SE VENDE POR SEPARADO  
9130051 SF-001. SOLD SEPARATELY  
9130051 SF-001. EST VENDUE SÉPARÉMENT



# CONMUTACIÓN DE LAS SALIDAS SWITCHING THE OUTPUTS COMMUTATION DES SORTIES



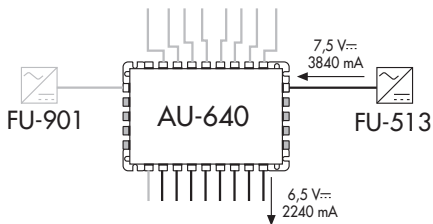
## CÓMO ALIMENTAR LAS LNB HOW TO FEED THE LNB COMMENT ALIMENTER LES LNB





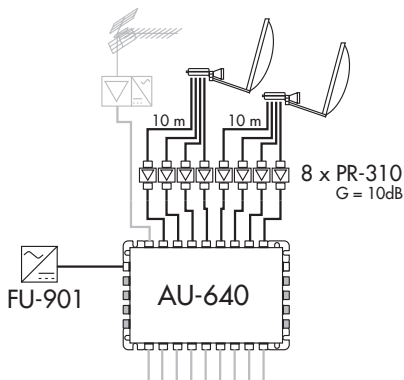
CÓMO ALIMENTAR EL AU-640/MU-341/MU-641  
HOW TO FEED THE AU-640/MU-341/MU-641  
COMMENT ALIMENTER LE AU-640/MU-341/MU-641

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PREAMPLIFICACIÓN DE LA SEÑAL DE ANTENA  
PREAMPLIFICATION OF THE ANTENNA SIGNAL  
PRE AMPLIFICATION DU SIGNAL D'ANTENNE

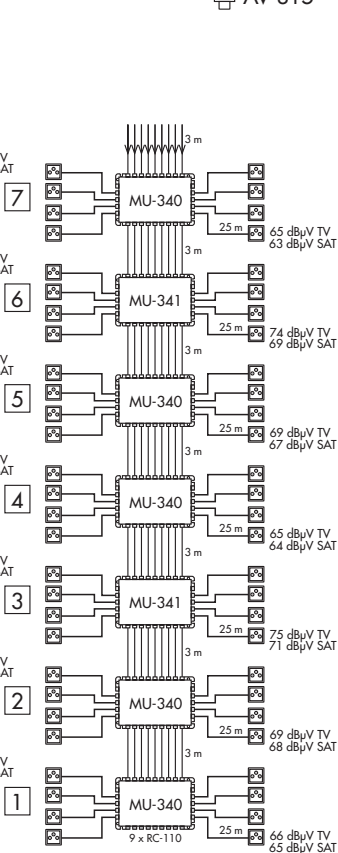
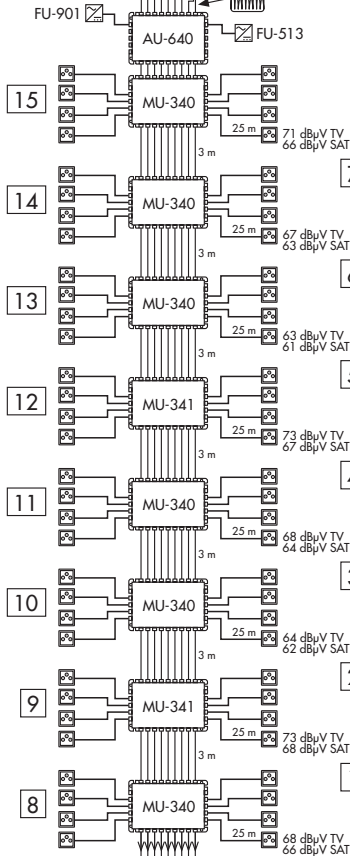
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Accesorios  
Accessories  
Accessoires



55..75 dB $\mu$ V  $G = 27..47$  dB



Coax. 31 dB/100 m (2150 MHz)  
19 dB/100 m (862 MHz)

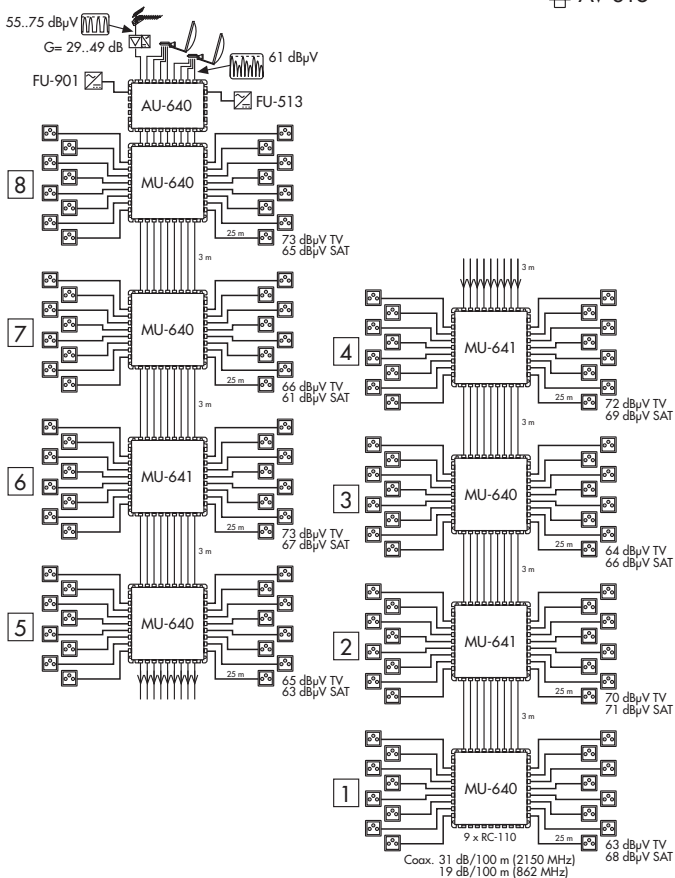
Accesorios  
Accessories  
Accessoires



PR-310



AV-315





# DECLARATION OF CONFORMITY

according to EN ISO/IEC 17050-1:2004

**Manufacturer's Name:** ALCAD, S.A.  
**Manufacturer's Address:** Pol. Ind. Arreche-Ugalde, 1  
Apdo. 455  
20305 IRUN (Guipúzcoa)  
SPAIN

declares that the product

**Product Name:** 913 Series: MULTISWITCH SYSTEM  
**Model Number(s):** MU-340, MU-341, MU-640, MU-641, AU-640  
FU-901, FU-902, FU-513  
**Product Option(s):** INCLUDING ALL OPTIONS

is in conformity with:

Safety: EN 50083-1:1993  
EMC: EN 50083-2:2001  
EN 61000-6-1:2001  
EN 61000-4-2:1995 ESD 15KV AD, 8KV CD.  
EN 61000-4-4:1995 EFT 4KV-2,5KHz Sig. Lines, 4KV-2,5KHz Power Lines.  
EN 61000-4-5:1995 CWG 0,5KV Power Lines.  
EN 61000-4-11:1994 Dips and Variation.

**Technical Features :** EN50083-4:1998  
EN50083-5:2001

## Supplementary Information:

The product herewith complies with the requirements of the Low Voltage Directive 73/23/ECC and the EMC Directive 89/336/EEC and their relevant amendments, gathered under the directive 93/68/EEC.

Note: to comply with these directives, do not use the products without covers and operate the system as specified.



Irún,

14-07-06  
Date

Anton Galarza / General Manager

Especificaciones sujetas a modificación sin previo aviso  
Specifications subject to modifications without prior notice  
Les spécifications sont soumises à de possible modifications sans avis préalable



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ISO 9001

