



- AMPLIFICADORES MULTIBANDA
- MULTIBAND AMPLIFIERS
- AMPLIFICATEURS MULTIBANDE
- AMPLIFICADORES MULTIBANDA
- MEHRBEREICHsverstärker



**SERIE/RANGE 904**

| CARACTERISTICAS PRINCIPALES                                                                                                           |            |                                                       |                                                       |                                            |                                                       |                                                       |                                            |
|---------------------------------------------------------------------------------------------------------------------------------------|------------|-------------------------------------------------------|-------------------------------------------------------|--------------------------------------------|-------------------------------------------------------|-------------------------------------------------------|--------------------------------------------|
| MAIN FEATURES                                                                                                                         |            |                                                       |                                                       |                                            |                                                       |                                                       |                                            |
| PRINCIPALES CARACTERISTIQUES                                                                                                          |            |                                                       |                                                       |                                            |                                                       |                                                       |                                            |
| CARACTERISTICAS PRINCIPAIS                                                                                                            |            |                                                       |                                                       |                                            |                                                       |                                                       |                                            |
| WESENTLICHE KENNZEICHEN                                                                                                               |            |                                                       |                                                       |                                            |                                                       |                                                       |                                            |
| CODIGO-CODE-CODE-CODIGO-CODE                                                                                                          |            | 90432                                                 |                                                       |                                            | 90437                                                 |                                                       |                                            |
| TIPO-TYPE-TYPE-TIPO-TYP                                                                                                               |            | CF-112                                                |                                                       |                                            | CF-712                                                |                                                       |                                            |
| RANGO DE FRECUENCIAS<br>FREQUENCY RANGE<br>GAMME DE FREQUENCE<br>RANGO DE FRECUENCIAS<br>FREQUENZBEREICH                              | Band       | RETURN                                                | TV                                                    | SAT                                        | RETURN                                                | TV                                                    | SAT                                        |
|                                                                                                                                       | MHz        | 5 - 30                                                | 47-862                                                | 930-2150                                   | 5 - 30                                                | 47-862                                                | 930-2150                                   |
| GANANCIA<br>GAIN<br>GAIN<br>GANHO<br>VERSTARKUNG                                                                                      | dB         | 10 ± 1                                                | 38 ± 2                                                | 40 ± 4                                     | 10 ± 1                                                | 47 ± 2                                                | 40 ± 4                                     |
| REGULACION DE GANANCIA<br>GAIN ADJUST<br>REGLAGE DE GAIN<br>REGULAÇÃO DO GANHO<br>VERSTÄRKUNGSGRAD-REGELUNG                           | dB         | -                                                     | 20                                                    | 15                                         | -                                                     | 20                                                    | 15                                         |
| MARGEN DE ECUALIZACION<br>ADJUSTABLE EQUALIZATION RANGE<br>PLAGE DE REGLAGE DE PENTE<br>MARGEM DE ECUALIZAÇÃO<br>REGELBARE ENTZERRUNG | dB         | -                                                     | 18                                                    | 6<br>FIJA<br>FIXED<br>FIXE<br>FIJA<br>FEST | -                                                     | 18                                                    | 6<br>FIJA<br>FIXED<br>FIXE<br>FIJA<br>FEST |
| TEST DE SALIDA<br>OUTPUT TEST POINT<br>SORTIE TEST<br>SAIDA DE TEST<br>TESTAUSGANG                                                    | dB         | -30                                                   | -30                                                   | -30                                        | -30                                                   | -30                                                   | -30                                        |
| NIVEL DE SALIDA<br>OUTPUT LEVEL<br>NIVEAU DE SORTIE<br>NIVEL DE SAIDA<br>AUSGANGSPEGEL                                                | dB $\mu$ V | 110<br>DIN 45004B<br>107<br>(IMD <sub>3</sub> -60 dB) | 113<br>DIN 45004B<br>110<br>(IMD <sub>3</sub> -60 dB) | 120                                        | 110<br>DIN 45004B<br>107<br>(IMD <sub>3</sub> -60 dB) | 120<br>DIN 45004B<br>117<br>(IMD <sub>3</sub> -60 dB) | 120                                        |
| NIVEL DE SALIDA<br>OUTPUT LEVEL<br>NIVEAU DE SORTIE<br>NIVEL DE SAIDA<br>AUSGANGSPEGEL                                                | dB $\mu$ V | 90<br>(IMD <sub>2</sub> -60 dB)                       | 103<br>(IMD <sub>2</sub> -60 dB)                      | 110<br>(IMD <sub>2</sub> -35 dB)           | 90<br>(IMD <sub>2</sub> -60 dB)                       | 110<br>(IMD <sub>2</sub> -60 dB)                      | 110<br>(IMD <sub>2</sub> -35 dB)           |
| NIVEL DE SALIDA<br>OUTPUT LEVEL<br>NIVEAU DE SORTIE<br>NIVEL DE SAIDA<br>AUSGANGSPEGEL                                                | dB $\mu$ V | -                                                     | 95 CTB<br>99 CSO<br>95 XMOD                           | -                                          | -                                                     | 103 CTB<br>104 CSO<br>102 XMOD                        | -                                          |
| PERDIDAS DE RETORNO E/S<br>RETURN LOSS I/O<br>PERTES DE RETOUR E/S<br>PERDAS DE RETORNO E/S<br>RUCKFLUßDAMPFUNG E/A                   | dB         | ≥14                                                   | ≥10                                                   | ≥5                                         | ≥14                                                   | ≥10                                                   | ≥5                                         |
| FIGURA DE RUIDO<br>NOISE FIGURE<br>FACTEUR DE BRUIT<br>FIGURA DE RUIDO<br>RAUSCHMAß                                                   | dB         | ≤8,5                                                  | ≤8,5                                                  | ≤8                                         | ≤8,5                                                  | ≤8,5                                                  | ≤8                                         |

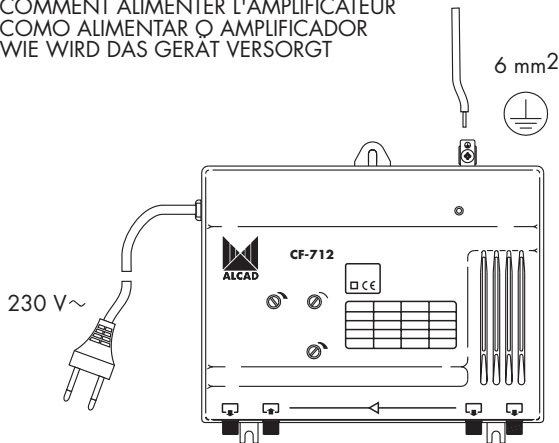
| CARACTERISTICAS PRINCIPALES                                                                                                           |            |                                                       |                                                       |                                            |                                                       |                                                       |                                            |
|---------------------------------------------------------------------------------------------------------------------------------------|------------|-------------------------------------------------------|-------------------------------------------------------|--------------------------------------------|-------------------------------------------------------|-------------------------------------------------------|--------------------------------------------|
| MAIN FEATURES                                                                                                                         |            |                                                       |                                                       |                                            |                                                       |                                                       |                                            |
| PRINCIPALES CARACTERISTIQUES                                                                                                          |            |                                                       |                                                       |                                            |                                                       |                                                       |                                            |
| CARACTERISTICAS PRINCIPAIS                                                                                                            |            |                                                       |                                                       |                                            |                                                       |                                                       |                                            |
| WESENTLICHE KENNZEICHEN                                                                                                               |            |                                                       |                                                       |                                            |                                                       |                                                       |                                            |
| CODIGO-CODE-CODE-CODIGO-CODE                                                                                                          |            | 90445                                                 |                                                       |                                            | 90441                                                 |                                                       |                                            |
| TIPO-TYPE-TYPE-TIPO-TYP                                                                                                               |            | CF-114                                                |                                                       |                                            | CF-714                                                |                                                       |                                            |
| RANGO DE FRECUENCIAS<br>FREQUENCY RANGE<br>GAMME DE FREQUENCE<br>RANGO DE FREQUENCIAS<br>FREQUENZBEREICH                              | Band       | RETURN                                                | TV                                                    | SAT                                        | RETURN                                                | TV                                                    | SAT                                        |
|                                                                                                                                       | MHz        | 5 - 55                                                | 86-862                                                | 930-2150                                   | 5 - 55                                                | 86-862                                                | 930-2150                                   |
| GANANCIA<br>GAIN<br>GAIN<br>GANHO<br>VERSTARKUNG                                                                                      | dB         | 10 ± 1                                                | 38 ± 2                                                | 40 ± 4                                     | 10 ± 1                                                | 47 ± 2                                                | 40 ± 4                                     |
| REGULACION DE GANANCIA<br>GAIN ADJUST<br>REGLAGE DE GAIN<br>REGULAÇÃO DO GANHO<br>VERSTÄRKUNGSGRAD-REGELUNG                           | dB         | -                                                     | 20                                                    | 15                                         | -                                                     | 20                                                    | 15                                         |
| MARGEN DE ECUALIZACION<br>ADJUSTABLE EQUALIZATION RANGE<br>PLAGE DE REGLAGE DE PENTE<br>MARGEM DE EQUALIZAÇÃO<br>REGELBARE ENTZERRUNG | dB         | -                                                     | 18                                                    | 6<br>FIJA<br>FIXED<br>FIXE<br>FIJA<br>FEST | -                                                     | 18                                                    | 6<br>FIJA<br>FIXED<br>FIXE<br>FIJA<br>FEST |
| TEST DE SALIDA<br>OUTPUT TEST POINT<br>SORTIE TEST<br>SAIDA DE TEST<br>TESTAUSGANG                                                    | dB         | -30                                                   | -30                                                   | -30                                        | -30                                                   | -30                                                   | -30                                        |
| NIVEL DE SALIDA<br>OUTPUT LEVEL<br>NIVEAU DE SORTIE<br>NIVEL DE SAIDA<br>AUSGANGSPEGEL                                                | dB $\mu$ V | 110<br>DIN 45004B<br>107<br>(IMD <sub>3</sub> -60 dB) | 113<br>DIN 45004B<br>110<br>(IMD <sub>3</sub> -60 dB) | 120                                        | 110<br>DIN 45004B<br>107<br>(IMD <sub>3</sub> -60 dB) | 120<br>DIN 45004B<br>117<br>(IMD <sub>3</sub> -60 dB) | 120                                        |
| NIVEL DE SALIDA<br>OUTPUT LEVEL<br>NIVEAU DE SORTIE<br>NIVEL DE SAIDA<br>AUSGANGSPEGEL                                                | dB $\mu$ V | 90<br>(IMD <sub>2</sub> -60 dB)                       | 103<br>(IMD <sub>2</sub> -60 dB)                      | 110<br>(IMD <sub>2</sub> -35 dB)           | 90<br>(IMD <sub>2</sub> -60 dB)                       | 110<br>(IMD <sub>2</sub> -60 dB)                      | 110<br>(IMD <sub>2</sub> -35 dB)           |
| NIVEL DE SALIDA<br>OUTPUT LEVEL<br>NIVEAU DE SORTIE<br>NIVEL DE SAIDA<br>AUSGANGSPEGEL                                                | dB $\mu$ V | -                                                     | 95 CTB<br>99 CSO<br>95 XMOD                           | -                                          | -                                                     | 103 CTB<br>104 CSO<br>102 XMOD                        | -                                          |
| PERDIDAS DE RETORNO E/S<br>RETURN LOSS I/O<br>PERTES DE RETOUR E/S<br>PERDAS DE RETORNO E/S<br>RÜCKFLUßDÄMPFUNG E/A                   | dB         | ≥14                                                   | ≥10                                                   | ≥5                                         | ≥14                                                   | ≥10                                                   | ≥5                                         |
| FIGURA DE RUIDO<br>NOISE FIGURE<br>FACTEUR DE BRUIT<br>FIGURA DE RUIDO<br>RAUSCHMAß                                                   | dB         | ≤8,5                                                  | ≤8,5                                                  | ≤8                                         | ≤8,5                                                  | ≤8,5                                                  | ≤8                                         |

| CARACTERISTICAS PRINCIPALES                                                                                                           |            |                                                       |                                                       |                                            |                                                       |                                                       |                                            |
|---------------------------------------------------------------------------------------------------------------------------------------|------------|-------------------------------------------------------|-------------------------------------------------------|--------------------------------------------|-------------------------------------------------------|-------------------------------------------------------|--------------------------------------------|
| MAIN FEATURES                                                                                                                         |            |                                                       |                                                       |                                            |                                                       |                                                       |                                            |
| PRINCIPALES CARACTERISTIQUES                                                                                                          |            |                                                       |                                                       |                                            |                                                       |                                                       |                                            |
| CARACTERISTICAS PRINCIPAIS                                                                                                            |            |                                                       |                                                       |                                            |                                                       |                                                       |                                            |
| WESENTLICHE KENNZEICHEN                                                                                                               |            |                                                       |                                                       |                                            |                                                       |                                                       |                                            |
| CODIGO-CODE-CODE-CODIGO-CODE                                                                                                          |            |                                                       |                                                       | 90447                                      |                                                       | 90443                                                 |                                            |
| TIPO-TYPE-TYPE-TIPO-TYP                                                                                                               |            |                                                       |                                                       | CF-116                                     |                                                       | CF-716                                                |                                            |
| RANGO DE FRECUENCIAS<br>FREQUENCY RANGE<br>GAMME DE FREQUENCE<br>RANGO DE FRECUENCIAS<br>FREQUENZBEREICH                              | Band       | RETURN                                                | TV                                                    | SAT                                        | RETURN                                                | TV                                                    | SAT                                        |
|                                                                                                                                       | MHz        | 5 - 65                                                | 86-862                                                | 930-2150                                   | 5 - 65                                                | 86-862                                                | 930-2150                                   |
| GANANCIA<br>GAIN<br>GAIN<br>GANHO<br>VERSTÄRKUNG                                                                                      | dB         | 10 ± 1                                                | 38 ± 2                                                | 40 ± 4                                     | 10 ± 1                                                | 47 ± 2                                                | 40 ± 4                                     |
| REGULACION DE GANANCIA<br>GAIN ADJUST<br>REGLAGE DE GAIN<br>REGULAÇÃO DO GANHO<br>VERSTÄRKUNGSGRAD-REGELUNG                           | dB         | -                                                     | 20                                                    | 15                                         | -                                                     | 20                                                    | 15                                         |
| MARGEN DE ECUALIZACION<br>ADJUSTABLE EQUALIZATION RANGE<br>PLAGE DE REGLAGE DE PENTE<br>MARGEM DE ECUALIZAÇÃO<br>REGELBARE ENTZERRUNG | dB         | -                                                     | 18                                                    | 6<br>FIJA<br>FIXED<br>FIXE<br>FIJA<br>FEST | -                                                     | 18                                                    | 6<br>FIJA<br>FIXED<br>FIXE<br>FIJA<br>FEST |
| TEST DE SALIDA<br>OUTPUT TEST POINT<br>SORTIE TEST<br>SAIDA DE TEST<br>TESTAUSGANG                                                    | dB         | -30                                                   | -30                                                   | -30                                        | -30                                                   | -30                                                   | -30                                        |
| NIVEL DE SALIDA<br>OUTPUT LEVEL<br>NIVEAU DE SORTIE<br>NIVEL DE SAIDA<br>AUSGANGSPEGEL                                                | dB $\mu$ V | 110<br>DIN 45004B<br>107<br>(IMD <sub>3</sub> -60 dB) | 113<br>DIN 45004B<br>110<br>(IMD <sub>3</sub> -60 dB) | 120                                        | 110<br>DIN 45004B<br>107<br>(IMD <sub>3</sub> -60 dB) | 120<br>DIN 45004B<br>117<br>(IMD <sub>3</sub> -60 dB) | 120                                        |
| NIVEL DE SALIDA<br>OUTPUT LEVEL<br>NIVEAU DE SORTIE<br>NIVEL DE SAIDA<br>AUSGANGSPEGEL                                                | dB $\mu$ V | 90<br>(IMD <sub>2</sub> -60 dB)                       | 103<br>(IMD <sub>2</sub> -60 dB)                      | 110<br>(IMD <sub>2</sub> -35 dB)           | 90<br>(IMD <sub>2</sub> -60 dB)                       | 110<br>(IMD <sub>2</sub> -60 dB)                      | 110<br>(IMD <sub>2</sub> -35 dB)           |
| NIVEL DE SALIDA<br>OUTPUT LEVEL<br>NIVEAU DE SORTIE<br>NIVEL DE SAIDA<br>AUSGANGSPEGEL                                                | dB $\mu$ V | -                                                     | 95 CTB<br>99 CSO<br>95 XMOD                           | -                                          | -                                                     | 103 CTB<br>104 CSO<br>102 XMOD                        | -                                          |
| PERDIDAS DE RETORNO E/S<br>RETURN LOSS I/O<br>PERTES DE RETOUR E/S<br>PERDAS DE RETORNO E/S<br>RUCKFLUßDAMPFUNG E/A                   | dB         | ≥14                                                   | ≥10                                                   | ≥5                                         | ≥14                                                   | ≥10                                                   | ≥5                                         |
| FIGURA DE RUIDO<br>NOISE FIGURE<br>FACTEUR DE BRUIT<br>FIGURA DE RUIDO<br>RAUSCHMAß                                                   | dB         | ≤8,5                                                  | ≤8,5                                                  | ≤8                                         | ≤8,5                                                  | ≤8,5                                                  | ≤8                                         |

**CARACTERISTICAS PRINCIPALES****MAIN FEATURES****PRINCIPALES CARACTERISTICAS****CARACTERISTICAS PRINCIPAIS****WESENTLICHE KENNZEICHEN**

| CODIGO-CODE-CODE-CODIGO-CODE                                                                                                                  |     | 90432       | 90437  | 90445  | 90441  | 90447  | 90443  |
|-----------------------------------------------------------------------------------------------------------------------------------------------|-----|-------------|--------|--------|--------|--------|--------|
| TIPO-TYPE-TYPE-TIPO-TYP                                                                                                                       |     | CF-112      | CF-712 | CF-114 | CF-714 | CF-716 | CF-716 |
| TENSION DE RED<br>MAINS VOLTAGE<br>TENSION DU SECTEUR<br>TENSÃO DE REDE<br>NETZSPANNUNG                                                       | V ~ | 230±15%     |        |        |        |        |        |
|                                                                                                                                               | W   | 8           |        |        | 12     |        |        |
| TEMPERATURA DE FUNCIONAMIENTO<br>OPERATING TEMPERATURE<br>TEMPERATURE DE FONCTIONNEMENT<br>TEMPERATURA DE FUNCIONAMENTO<br>BETRIEBSTEMPERATUR | ° C | -20 ... +60 |        |        |        |        |        |
| INDICE DE PROTECCION<br>PROTECTION INDEX<br>INDICE DE PROTECTION<br>INDICE DE PROTECÇÃO<br>SCHUTZKLASSE                                       |     | IP 50D      |        |        |        |        |        |

- COMO ALIMENTAR EL AMPLIFICADOR
- HOW TO FEED THE AMPLIFIER
- COMMENT ALIMENTER L'AMPLIFICATEUR
- COMO ALIMENTAR O AMPLIFICADOR
- WIE WIRD DAS GERÄT VERSORGT



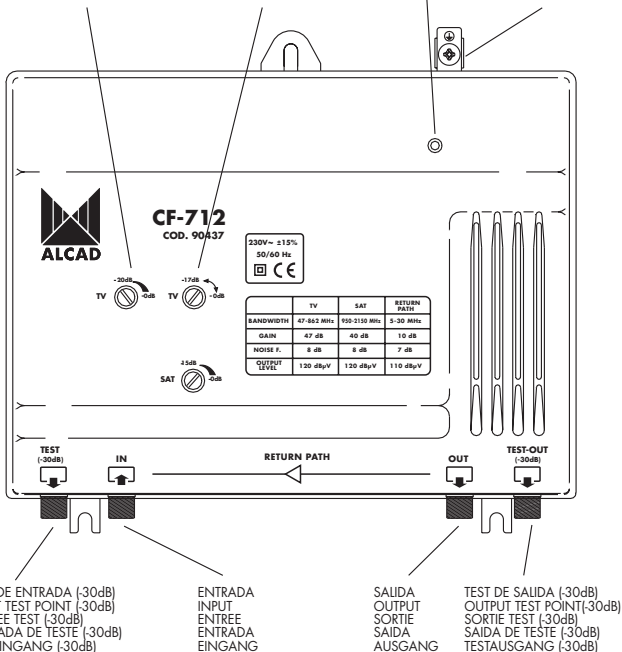
- ▶ AMPLIFICADOR CF-712
- ▶ AMPLIFIER CF-712
- ▶ AMPLIFICATEUR CF-712
- ▶ AMPLIFICADOR CF-712
- ▶ VERSTÄRKER CF-712

INDICADOR DE FUNCIONAMIENTO  
 INDICATOR OF OPERATION  
 VOYANT DE FONCTIONNEMENT  
 INDICADOR DE FUNCIONAMENTO  
 ANZEIGER FÜR ORDNUNGSGEMÄßEN BETRIEB

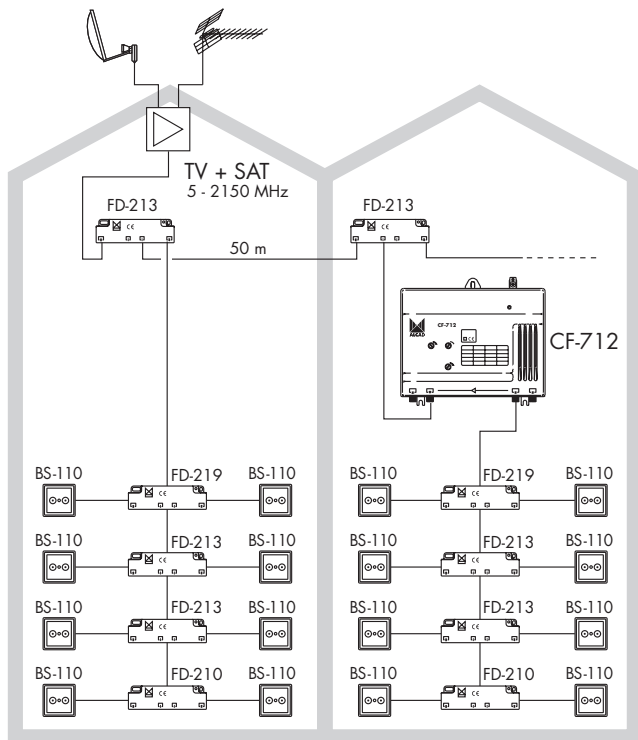
REGULADOR DE GANANCIA  
 GAIN REGULATOR  
 REGLAGE DE GAIN  
 REGULADOR DE GANH  
 VERSTÄRKUNGSGRAD REGLER

ECUALIZADOR  
 TILT CONTROL  
 REGLAGE DE PENTE  
 AJUSTE DE EQUALIZAÇÃO  
 ENTZERRUNGSREGLER

CONEXION DE TIERRA  
 GROUNDING  
 PRISE DE TERRE  
 TOMADA DE TERRA  
 MASSE-ANSCHLUß



- ESQUEMAS TÍPICOS CF-112/CF-712/CF-114/CF-714/CF-116/CF-716
- CONNECTION DIAGRAMS CF-112/CF-712/CF-114/CF-714/CF-116/CF-716
- SCHEMAS DE CONNEXION CF-112/CF-712/CF-114/CF-714/CF-116/CF-716
- ESQUEMAS TÍPICOS CF-112/CF-712/CF-114/CF-714/CF-116/CF-716
- VERDRAHTUNGSPLAN CF-112/CF-712/CF-114/CF-714/CF-116/CF-716





# DECLARATION OF CONFORMITY

according to EN 45014

**Manufacturer's Name:** ALCAD, S.A.

**Manufacturer's Address:** Polígono Industrial de Ventas  
C/Gabiria, 15 - Apdo. 455  
**20305 IRUN** (Guipúzcoa)  
**SPAIN**

declares that the product

**Product Name:** 904 Series: AMPLIFIERS

**Model Number(s):** CF-112, CF-712, CF-114, CF-714, CF-116, CF-716

**Product Option(s):** INCLUDING ALL OPTIONS

is in conformity with:

Safety: EN50083-1

EMC: EN 50083-2, EN 50081-1 Generic Emission Standard  
IEC 801-2:1991 / EN 50082-1:1992 8kV ADV  
IEC 1000-4-3:1995 / EN 50082-1:1992 3V/m  
IEC 801-4:1988 / EN 50082-1:1992 0.5kV Sig. Lines, 1kV Power Lines

Technical Features : EN50083-3

## 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 directives 93/68/EEC.

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



Irún,

13-09-99

Date

Antton Galarza / General Manager



**ALCAD, S.A.**  
Tel. 943 63 96 60  
Fax 943 63 92 66  
Int. Tel. +34 - 943 63 96 60  
alcad001@sarenet.es  
Apdo. 455 - C/GABIRIA, 15  
**20305 IRUN** - Spain

Tel. 01 - 716 10 36/716 40 94  
Fax 01 - 716 41 09  
R. Dr. JOAQUIM MANSO, 12A  
**1500 LISBOA** - Portugal

Tel. 00 34 - 943 63 96 60  
Fax 00 34 - 943 63 92 66  
B.P. 284  
**64702 HENDAYE** - France

Tel. 080 38 - 91 73  
Fax 080 38 - 91 74  
HOLZHAUSEN, 11  
**83556 GRIESSTATT** - Deutschland



ISO 9001



ER-196/1/96