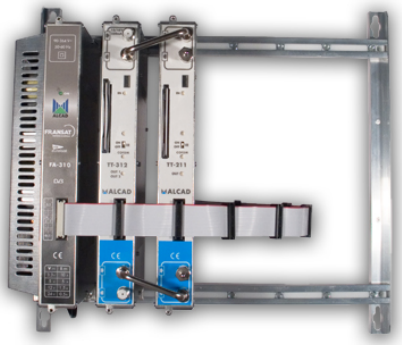
# 912 TV-SAT AND MODULATOR EQUIPMENT

## 912-TT FRANSAT SYSTEM 3XHD



Code : **9120231**

Model : **TT-909**

Description
Transmodulateur des services encryptés de télévision numérique satellite à télévision numérique terrestre. Chaque module sélectionne les services encryptés d'un transpondeur satellite en DVB-S/S2 et les inclut dans un canal en DVB-T. Dispose d'une fente d'interface commune pour l'insertion de la CAM et la carte d'abonné. Programmable à l'aide du logiciel PC et d'un programmeur sans fil. Applications Installations collectives de télévision numérique terrestre, où l'on souhaite distribuer les services encryptés de télévision satellite sans avoir à installer des récepteurs de satellite. Compatibles avec toutes les installations collectives de télévision puisque les canaux peuvent être distribués dans toute la bande terrestre. Caractéristiques Système automatique de détection d'erreurs qui réduit considérablement l'entretien de l'installation. Canal généré d'une qualité exceptionnelle. N'inclut pas la CAM ni la carte décodeur . Châssis de zamak avec panneaux latéraux métalliques. Connecteurs F. Montage de l'équipement facile et rapide.

| CODE | | 9120147 |
|---|---|---|
| MODEL | | TT-211 |
| TV system | | DVB-S / DVB-S2 → DVB-T/DVB-H<br>EN 300421 EN 302307 EN 300744 |
| **DVB-S/S2 receiver** | | |
| Frequency range | MHz | 950 - 2.150 |
| Frequency step | KHz | 1 |
| LNB power supply | V=. | +12 |
| | mA | 350 máx |
| Symbol rate | Mbaud | 1..45 |
| Diplexing through loss | dBsTOL | 1.0 ±0.2 |
| **DVB-S2 receiver** | | |
| Input level | dBµV | 45..95 |
| | dBm | -63..-13 |
| F.E.C. QPSK | | Auto, 1/2, 3/5, 2/3, 3/4, 4/5 5/6, 8/9, 9/10<br>DVB- EN 302307 |
| F.E.C. 8PSK | | Auto, 3/5, 2/3, 3/4, 5/6, 8/9, 9/10<br>DVB- EN 302307 |
| Roll-Off | dB | 0,35/0,25/0,20 |
| **DVB-S receiver** | | |
| Input level | dBµV | 40..95 |
| | dBm | -68..-13 |
| F.E.C. QPSK | | Auto, 1/2, 2/3, 3/4, 5/6, 7/8<br>DVB- EN 100421 |
| **Conditional access** | | |
| Standard | | DVB-CI EN 50221<br>Common Interface |
| Compatibility | MHz | Viaccess, Mediaguard, Videoguard, Seca, Betacryp, Nagravision, Irdeto, Cryptoworks, Conax |

| CODE | | 9120147 | | |
|---|---|---|---|---|
| MODEL | | TT-211 | | |
| **COFDM modulator** | | | | |
| TV system | | DVB-T / DVB-H<br>DVB- EN 300744 | | |
| Output offset | MHz | -1/6, -1/8, 0, +1/8, +1/6<br>DVB-T | | |
| Mode | | 2K, 8K, 4K DVB-H<br>DVB- EN 300744 | | |
| Modulation | | QPSK, 16QAM, 64QAM<br>DVB- EN 300744 | | |
| F.E.C. | | 1/2, 2/3, 3/4, 5/6, 7/8<br>DVB- EN 300744 | | |
| Guard interval | | 1/4, 1/8, 1/16, 1/32<br>DVB- EN 300744 | | |
| MER | dB | 39 ±2.0 | | |
| **RF output** | | | | |
| Frequency range | MHz | 47-862 | | |
| Frequency step | MHz | 0,25 | | |
| Output level | dBµV | 80 ±2.0 | | |
| Ouput level adjust | dB | 20 | | |
| Bandwidth | MHz | 8, 7, 6, 5 DVB-H | | |
| Through loss in the mixture | dB | 0,9 ±0.1 | | |
| **General features** | | | | |
| Power supply | V=. | +3,3 | +5,2 | +12 |
| | mA | 1200 | 390+CAM | 70+LNB |
| Operating T close to equipment | | -10..+65 | | |
| Room T with/without fan | | -10..+55/+45 | | |
| Protection index | | IP30 | | |
| Units per packing | | 1 | | |
| Packing weight | Kg | 1,4 | | |
| Packing dimensions | mm | 270 x 170 x 38 | | |

| CODE | | 9120201 |
|---|---|---|
| MODEL | | TT-411 |
| TV system | | DVB-S / DVB-S2 → DVB-T / DVB-H<br>EN 300421 EN 302307 EN 300744 |
| Connection | | F female |
| Number of inputs | | 1 with diplexing or 2 independents |
| **DVB-S/S2 receiver** | | |
| Frequency range | MHz | 950 - 2.150 |
| Frequency step | KHz | 1 |
| LNB power supply | V=. | DiSEqC 2.0<br>+13 / +18 (0/22KHz) |
| | mA | 350 máx |
| Symbol rate | Mbaud | 1..45 |
| Diplexing through loss | dBsTOL | 1.0 ±0.2 |
| **DVB-S2 receiver** | | |
| Input level | dBµV | 45..95 |
| | dBm | -63..-13 |
| F.E.C. QPSK | | Auto, 1/2, 3/5, 2/3, 3/4, 4/5, 5/6, 8/9, 9/10<br>DVB- EN 302307 |
| F.E.C. 8PSK | | Auto, 3/5, 2/3, 3/4, 5/6, 8/9, 9/10<br>DVB- EN 302307 |
| Roll-Off | dB | 0,35/0,25/0,20 |
| **DVB-S receiver** | | |
| Input level | dBµV | 40..95 |
| | dBm | -68..-13 |
| F.E.C. QPSK | | Auto, 1/2, 2/3, 3/4, 5/6, 7/8<br>DVB- EN 100421 |
| **Conditional access** | | |
| Standard | | DVB-CI EN 50221<br>Common Interface |
| Compatibility | | Viaccess, Mediaguard, Videoguard, Seca, Betacryp, Nagravision, Irdeto, Cryptoworks, Conax |

| CODE | | 9120201 | | |
|---|---|---|---|---|
| MODEL | | TT-411 | | |
| **COFDM modulator** | | | | |
| TV system | | DVB-T / DVB-H<br>DVB- EN 300744 | | |
| Output offset | MHz | -1/6, -1/8, 0, +1/8, +1/6<br>DVB-T | | |
| Mode | | 2K, 8K, 4K DVB-H<br>DVB- EN 300744 | | |
| Modulation | | QPSK, 16QAM, 64QAM<br>DVB- EN 300744 | | |
| F.E.C. | | 1/2, 2/3, 3/4, 5/6, 7/8<br>DVB- EN 300744 | | |
| Guard interval | | 1/4, 1/8, 1/16, 1/32<br>DVB- EN 300744 | | |
| MER | dB | 39 ±2.0 | | |
| **RF output** | | | | |
| Frequency range | MHz | 47-862 | | |
| Frequency step | MHz | 0,25 | | |
| Output level | dBµV | 80 ±2.0 | | |
| Ouput level adjust | dB | 20 | | |
| Bandwidth | MHz | 8, 7, 6, 5 DVB-H | | |
| Through loss in the mixture | dB | 0,9 ±0.1 | | |
| **General features** | | | | |
| Power supply | V=. | +3,3 | +5,2 | +12 |
| | mA | 1600 | 320+CAM | 40+LNB |
| Operating T close to equipment | | -10..+65 | | |
| Room T with/without fan | | -10..+55/+45 | | |
| Protection index | | IP30 | | |
| Units per packing | | 1 | | |
| Packing weight | Kg | 1,4 | | |
| Packing dimensions | mm | 270 x 170 x 38 | | |

| CODE | | 9120213 | | |
|---|---|---|---|---|
| MODEL | | TT-312 | | |
| TV system | | DVB-S / DVB-S2 → DVB-T/DVB-H<br>EN 300421 EN 302307 EN 300744 | | |
| Connection | | F Female | | |
| Number of inputs | | 1 | | |
| Number of output channels | | 1 ó 2 (adjacent) | | |
| DVB-S/S2 receiver | | | | |
| Frequency range | MHz | 950 – 2150 | | |
| Frequency step | KHz | 1 | | |
| LNB power supply | V=. | DiSEqC 2.0<br>+13/+18 (0/22KHz) | | |
| | mA | 350 max. | | |
| Symbol rate | Mbaud | 1..45 | | |
| Diplexing through loss | | 1.0±0.2 | | |
| DVB-S2 receiver | | | | |
| Input level | dBµV | 45..95 | | |
| | dBm | -63..-13 | | |
| F.E.C. QPSK | | Auto, 1/2, 3/5, 2/3, 3/4, 4/5, 5/6, 8/9, 9/10<br>DVB- EN 302307 | | |
| F.E.C. 8PSK | | Auto, 3/5, 2/3, 3/4, 5/6, 8/9, 9/10<br>DVB- EN 302307 | | |
| Roll-Off | dB | 0,35/0,25/0,20 | | |
| DVB-S receiver | | | | |
| Input level | dBµV | 40..95 | | |
| | dBm | -68..-13 | | |
| F.E.C. QPSK | | Auto, 1/2, 2/3, 3/4, 5/6, 7/8<br>DVB- EN 302307 | | |
| Roll-Off | dB | 0,35 | | |
| Conditional access | | | | |
| Standard | | DVB-CI EN 50221<br>Common Interface | | |
| Compatibility | | Viaccess, Mediaguard, Videoguard, Seca, Betacryp, Nagravision, Irdeto, Cryptoworks, Conax | | |
| COFDM modulator | | | | |
| TV system | | DVB-T/DVB-H<br>EN 300744 | | |
| Output offset | MHz | -1/6, -1/8, 0, +1/8, +1/6<br>DVB-T | | |
| Mode | | 2K, 8K, 4K DVB-H<br>DVB- EN 300744 | | |
| Modulation | | QPSK, 16QAM, 64QAM<br>DVB- EN 300744 | | |
| F.E.C. | | 1/2, 2/3, 3/4, 5/6, 7/8<br>DVB- EN 300744 | | |
| Guard interval | | 1/2, 1/8, 1/16, 1/32<br>DVB- EN 300744 | | |
| MER | dB | 39±2.0 | | |
| RF output | | | | |
| Frequency range | MHz | 47-862 | | |
| Frequency step | MHz | 0,25 | | |
| Output level | dBµV | 80±2.0 | | |
| Output level adjust | dB | 20 | | |
| Bandwidth per channel | MHz | 8, 7, 6, 5 DVB-H | | |
| Through loss in the mixture | dB | 0,9±1 | | |
| General features | | | | |
| | V | +3.3 | +5.2 | +12 |
| | mA | 1300 | 550+CAM | 55+LNB |
| Operating T close to equipment | ºC | -10..+65 | | |
| Room T with/without fan | ºC | -10..+55/+45 | | |
| Protection index | | IP 30 | | |
| Units per packing | | 1 | | |
| Packing weight | Kg | 1,4 | | |
| Packing dimensions | mm | 265 x 165 x 40 | | |

| CODE | | 9120093 |
|---|---|---|
| MODEL | | PA-720 |
| TV System | | AM-TV / DVB-T / DVB-C |
| Number of inputs | | 1 |
| Frequency range | MHz | 40 - 894 |
| Gain | dB±TOL | 44 ±1,0 |
| Gain adjustment | dB | 15 |
| Output level | dBµV | 119 DIN 45004B<br>116 (IMD3 - 60 dB)<br>110 (IMD2 - 60 dB)<br>103 (CTB - 60 dB)<br>103 (CSO - 60 dB)<br>104 (XMOD - 60 dB) |
| Output test point | dB±TOL | -30 ±1,0 |
| Extension input loss | dB±TOL | 0 ±2,0 |
| Noise figure | dB | 35 ±0,5 |
| Return loss | dB | >14 - 1.5 / eighth<br>>10 |
| Chroma-luminance delay | ns | <10 |
| Connectors | | F female |
| Power supply | V⎓ | +24 |
| | mA | 320 |
| Operating temperature | ºC | -10..+45 |
| Room temperature with/ without fan | ºC | -10..+55/+45 |
| Protection index | | IP 20C |
| Units per packaging | | 1 |
| Packing weight | Kg | 1.16 |
| Packing dimensions | mm | 265 x 165 x 40 |

| CODE | | 9120046 | | | | 9120168 | | | |
|---|---|---|---|---|---|---|---|---|---|
| MODEL | | FA-310 | | | | FA-312 | | | |
| Output voltage | V⎓ | +3.3 | +5.2 | +12.0 | +24 | +3.3 | +5.2 | +12.0 | +24 |
| | mA | 5500 | 2500 | 1500 | 500 | 10000 | 5000 | 1500 | 500 |
| Peak to peak ripple voltage | mV | >50 | | | | 100 | | | |
| Mains voltage | V~ | 230 ±20% 50/60 Hz | | 240 +15% 50/60 Hz<br>-20% 50/60 Hz | | 90..264 50/60 Hz | | | |
| | W | 72 | | | | 85 | | | |
| Operating temp. close to equipment | ºC | -10..+65 | | | | | | | |
| Room tmperature with/ without fan | ºC | -10..+55/+45 | | | | | | | |
| Protection index | | IP 20C | | | | | | | |
| Units per packaging | | 1 | | | | | | | |
| Packing weight | Kg | 1.43 | | | | 1.65 | | | |