## LEM ELETTRONICA

Satellite and TV reception equipment

## MA SERIES - Active multiswitches

- SAT active
- Terrestrial passive
- 4/6/8/12/16 Taps
- A/B - B/A Reverse Function*
- Controls Tone burst/DiSEqC 1.0/2.0
- Return path 5... 100 Mhz
- Isolation SAT/Terrestrial TV $\geq 45 \mathrm{~dB}$
* This function allows the input reverse $A / B$ in $B / A$


## Technical features

| ITEM CODE | MA94 | MA94T | MA96 | MA96T | MA98 | MA98T | MA912 | MA912T | MA916 | MA916T |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| TYPE | Cascadable | End | Cascadable | End | Cascadable | End | Cascadable | End | Cascadable | End |
| NUMBER OF IN/OUT | 9/9 | 9/0 | 9/9 | 9/0 | 9/9 | 9/0 | 9/9 | 9/0 | 9/9 | 9/0 |
| NUMBER OF TAPS | 4 |  | 6 |  | 8 |  | 12 |  | 16 |  |
| FREQUENCY BAND IF-SAT | 950... 2150 MHz |  |  |  |  |  |  |  |  |  |
| TAP GAIN/LOSS | 1 dB | 1 dB | 1 dB | 1 dB | 0/-1 dB | 0/-1 dB | $-3 \mathrm{~dB}$ | $-3 \mathrm{~dB}$ | $-4,5 \mathrm{~dB}$ | $-4,5 \mathrm{~dB}$ |
| THROUGH LOSS IF-SAT | $<1,5 \mathrm{~dB}$ | - | $<1,5 \mathrm{~dB}$ | - | $<4 \mathrm{~dB}$ | - | $<5 \mathrm{~dB}$ | - | $<5 \mathrm{~dB}$ | - |
| CROSS-POLAR ISOLATION | $>32 \mathrm{~dB}$ |  |  |  |  |  |  |  |  |  |
| ISOLATION INPUTS/OUTPUTS | $>32 \mathrm{~dB}$ |  |  |  |  |  |  |  |  |  |
| TERRESTRIAL TV BAND | 5... 790 MHz |  |  |  |  |  |  |  |  |  |
| RET. PATH LOSS ( $5 . . .100 \mathrm{MHz}$ ) | -15 dB |  |  |  |  |  | $-20 \mathrm{~dB}$ |  |  |  |
| THROUGH LOSS TV | $<3 \mathrm{~dB}$ | - | $<3 \mathrm{~dB}$ | - | $<3,5 \mathrm{~dB}$ | - | $<5 \mathrm{~dB}$ | - | $<5 \mathrm{~dB}$ | - |
| TV TAP LOSS | -15dB | -15 dB | -15dB | -15 dB | -18 dB | -18 dB | -20 dB | -20 dB | -20 dB | -20 dB |
| SAT/TERR. TV SEPARATION | $>45 \mathrm{~dB}$ |  |  |  |  |  |  |  |  |  |
| RETURN LOSS | $\geq 12 \mathrm{~dB}$ |  |  |  |  |  |  |  |  |  |
| OUTPUT LEVEL MAX. | $100 \mathrm{~dB} \mu \mathrm{~V}^{*}$ |  |  |  |  |  |  |  |  |  |
| USER CONSUMPTION MAX. | 65 mA |  |  |  |  |  |  |  |  |  |
| DIMENSIONS | $161 \times 98 \times 36$ |  | $161 \times 136 \times 36$ |  | $161 \times 171 \times 36$ |  | $161 \times 240 \times 36$ |  | $161 \times 310 \times 36$ |  |

## General Instructions

Electrical and electronic equipments are not household waste. In accordance with the European directive EN50419 (corresponding to the article 11(2) of the guideline 2002/96/EC) of the European Parliament of the Council of January, 27th 2003 on used electrical and electronic equipment, it must be disposed properly. At the end of the product life cycle please take this unit and dispose it on designated public collection points.

Installation is only permitted in dry rooms and upon a non combustible surface. Ensure that there is an adequate air circulation.
LEM ELETTRONICA confirms the keeping of the EMC requirements in accordance to the EU product norm EN 50083-2 and the keeping of the safety requirements in accordance to the EU product norm EN 60728-11 by the CE sign.
Class A
This product meets the more stringent screening requirements according to EN 50083-2, quality grade A.

## Example (1):

Network with MA94T multiswitch with 8 SAT cables + Terr.

For small networks it is not usually necessary to use the head amplifier.
The ALS15 power supplier feeds the LNB on the Vertical Line - Low Band.


## Example (2):

Network with MA series multiswitches in a cascadable distribution with $\mathbf{2 8}$ users 8 SAT cables + Terr.

For small networks it is not usually necessary to use the head amplifier.
The ALS15 power supplier, which feeds the two LNB, can be connected to any active MA9 multiwitch.

Use only 75 OHM insulated dummy load!


## Example (3):

Network with MA series multiswitches in a cascadable distribution with 50 users 8 SAT cables + Terr.

For big networks it is best to use the head amplifier ASX4/30.
The amplifiers feed the LNB on all their outputs.

## Special Functions

## Reverse A/B Function

## DIP-SWITCH SETTING

Every user connected to the MA9 multiswitches output can be managed separately from the dip-switch with the corresponing number.

## ON POSITION

(default setting)


## OFF POSITION

The multiswitch performs the DiSEqC commands in reverse order.
When an A command is given the SAT B input group will be selected; When a B command is given the SAT A input group will be selected;
If there are no DiSEqC controls, the multiswitch will remain on the SAT B position.


