



CSI16T User Manual

Smart Passive
Wideband Combiner



SN: _____

Rev.01

Date: 25 March 2016

INTRODUCTION

CSI16T is a passive wideband combiner designed to work up to 3W of power.

CSI16T communicates with Wisycom transmitter (i.e. **MTK952N**) through coaxial inputs and allows a smart power management: combiner loss are automatically compensate on Tx side!

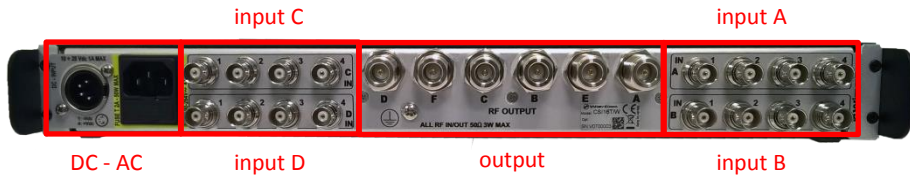
FEATURES

- ✓ RF combiner able to combine 16 inputs into 4/2/1 outputs
- ✓ Selectable combination thru a 3 positions selector on front panel
[16:1] or 2x [8:1] or 4x [4:1]
- ✓ Used with MTK952N permits to recover the combiner loss
- ✓ Wide band operation 470÷800MHz
- ✓ High input power up to 3W

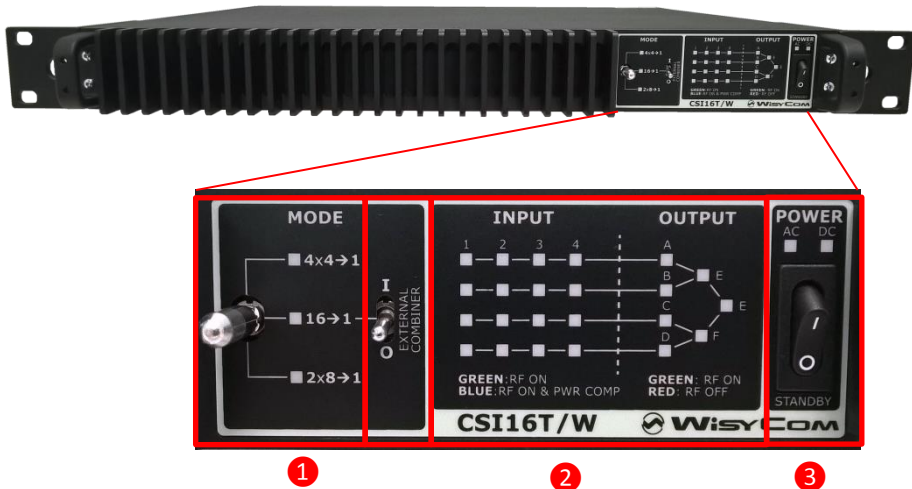
SAFETY INSTRUCTION

- Read this safety instruction and the manual first
- Follow all instructions and information.
- Do not lose this manual.
- Do not use this apparatus under the rain or near the water.
- Do not install the apparatus near heaters or in hot environments, do not use outside the operating temperature range.
- Do not open the apparatus, only qualified service technician are enabled to operate on it. The apparatus needs servicing when it is not properly working or is damaged by liquids, moisture or other objects are fallen in the apparatus.
- Use only accessories or replacement parts authorized or specified by the manufacturer.
- Clean the apparatus only with dry cloths, do not use liquids.
- Report the serial number and the purchasing date in front of the manual. It is needed to have proper replacement parts or accessories from the manufacturer.
- When replacement parts are needed, use only replacement parts authorized from the manufacturer. Substitution with not authorized parts could result in electric shock, hazards or fire.
- Keep attention on all the labels with warnings or hazards on the apparatus.

REAR AND FRONT PANEL



WARNIG: ALL THE UNUSED PORTS HAVE TO BE TERMINATED AT 50Ω (2Watt)



1 Combiner mode

Three position selector allows to select one of the following combiner mode

- 4x4→1
- 16→1
- 2x8→1

2 LED indication

Thanks to an RF meter present in the input/output ports, each port is able to detect the presence of RF level more than 8dBm. Moreover, a special circuit is able to detect if the external compensation is activated or not from the transmitter side.

According to the RF power level and the compensation, led can be green, blue or red.

INPUT led:

- **GREEN:** if RF level of input port is > 8dBm **and** RF level of the related output port is >8dBm
- **BLUE:** if external compensation is activated on input port

OUTPUT led:

- **GREEN:** if RF level of output port is > 8dBm
- **BLUE:** if extra compensation ② is activated and combiner mode is set to 16->1
- **RED flashing:** if there is a faulty on the combiner path

NOTE: External compensation doesn't work if between MTK952N and CSI16T/CSA121T there are devices which keep out the DC.

example:



combiner mode: 4x4->1

on the first 4 input ports and on the output port "A" there are an RF level >8dBm, no external compensation is activated

example:



combiner mode: 2x8->1

on the first 8 input ports and on the output port "A" there are an RF level >8dBm, external compensation is activated in all the 8 input ports

③ POWER indication

Redundant power supply AC and DC can be used. Related led can be

- **GREEN:** if power supply is present
- **BLUE:** if power supply is in use*

*if both DC and AC power supply are present, the combiner uses the one with higher voltage

NOTE: CSI16T works without power supply! It works according to the latest set combiner mode.

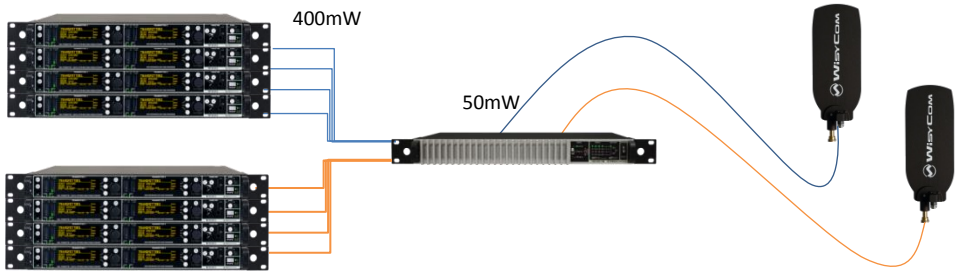
HOW TO USE & CONFIGURATION EXAMPLES

Combiner loss can be automatically recovered from MTK952Ns connected to the smart combiner CSI16T: MTK952Ns raise power accordingly to the loss, while keeping the limit on output port (country based).

Example1: Combiner 2x [8:1] configuration with high power transmitters:

Country power limit:50mW

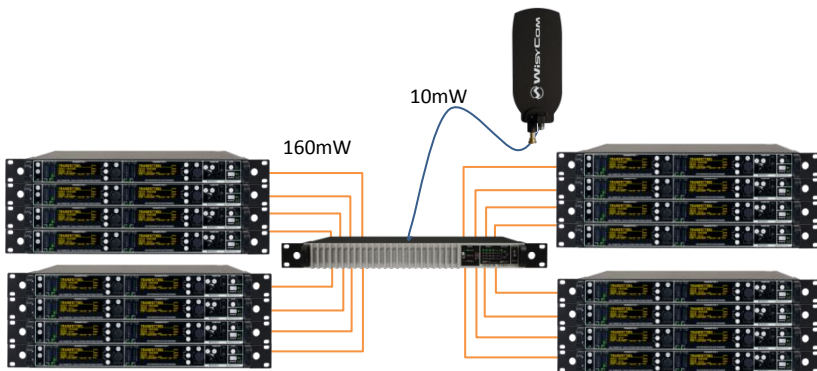
Enabling external compensation on MTK952Ns, the transmitters raise power of 9dB in order to limit to 50mW the maximum power at the output of CSI16T.



Example2: Combiner [16:1] configuration with high power transmitters:

Country power limit:10mW

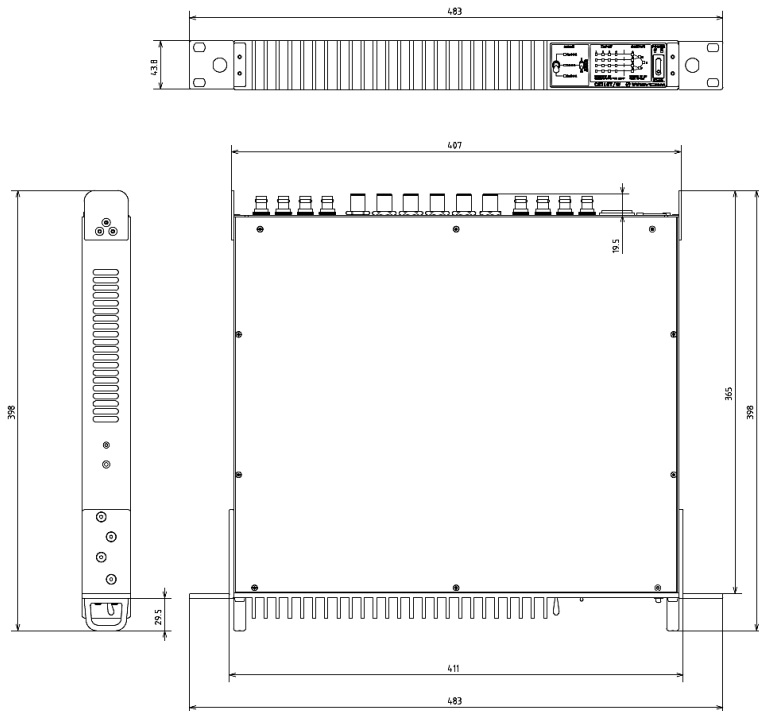
Enabling external compensation on MTK952Ns, the transmitters raise power of 12dB in order to limit to 10mW the maximum power at the output of CSI16T.



TECHNICAL SPECIFICATIONS

| | |
|--------------------------|--|
| Bandwidth | 470 MHz – 800MHz |
| Input Connectors | 16 BNC-F, 50 Ω of impedance |
| Input Connectors | 6 N-F, 50 Ω of impedance |
| Max input power | 3W (for each input connector) |
| Combiner loss | approx. 6 dB for 4x [4:1] * |
| | approx. 9 dB for 2x [8:1] * |
| | approx. 12dB for [16:1] * |
| Power supply | AC connector 90÷264Vac /47÷63Hz, (fuse protected) T2A-50W max |
| | DC connector 10÷ 28 Vdc |
| Temperature range | -25 ÷ +55 °C |
| Case | Aluminum, black varnish |
| Weight | 4,60 Kg |
| Dimensions | 19"/1U 483 x 398 x 44 mm (WxDxH) with brackets |

* Ports terminated at 50 Ω (2Watt)





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