V1.10 of Control Board. Addendum to AAA-1C documentation

1. Specifications

Specifications of this version are the same as AAA-1C. The only differences in electrical parameters are the addition of a second signal limiter in Control board. The new versions of Amplifier and Control boards are compatible with all older models and they can be interchanged. The gain and phase response of all versions are the same and they can be used in phased array connection.

Maximal output voltage:

6V p-p without limiter

,4.2 V pp with limiter #1

2.0 V pp with limiter #2. In this mode the output signal is attenuated with 3.6 dB compared to the modes without limiter or with limiter #1.

The reason for the new modification is that on the market there are new SDR receivers which have limitations for maximal input RF voltage. Read *http://active-antenna.eu/application-notes/receiver-front-end-protection/* for additional explanations.

2. Amplifier Board v. 7.01

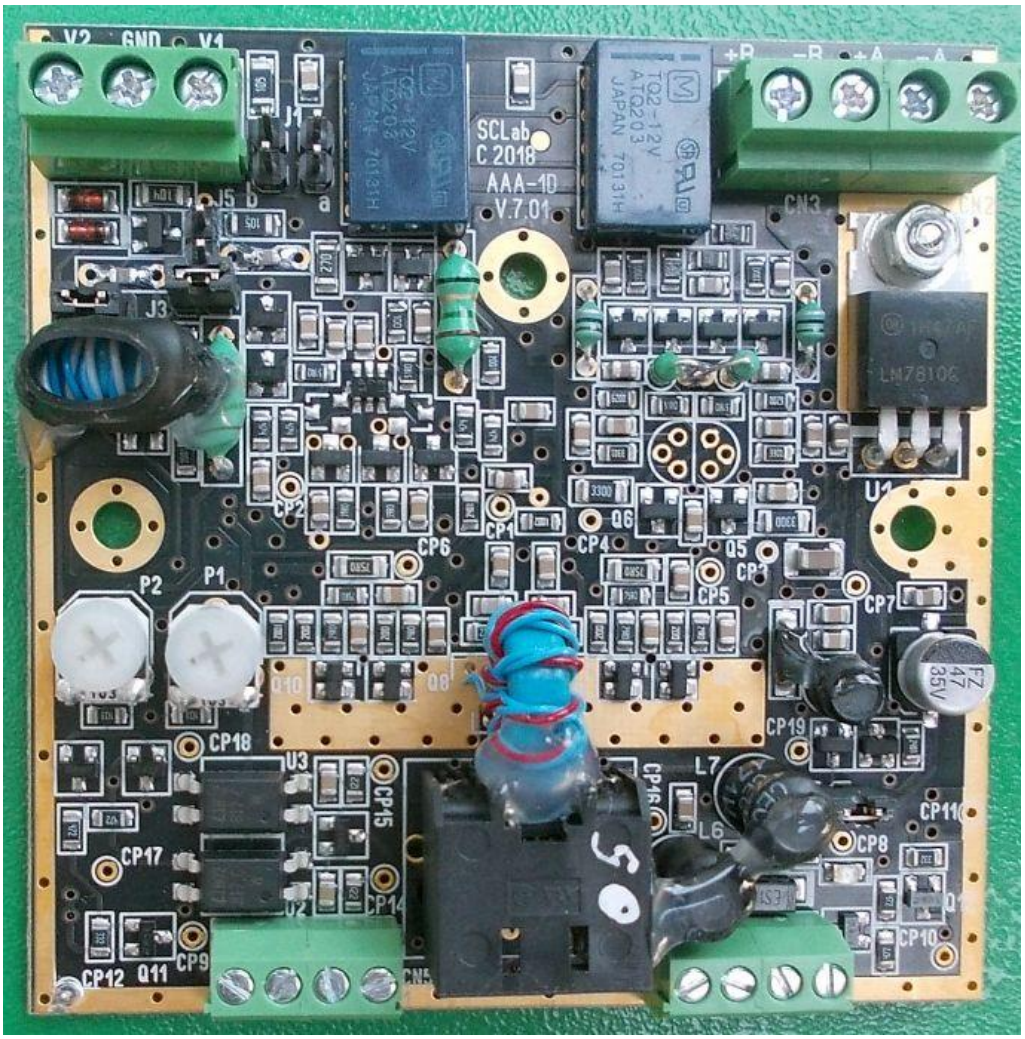

Fig.1

There is a new PCB version of the amplifier board. The board is denoted on PCB as *v.7.01.* (***Fig. 1***) Connectors and control points are the same as AAA-1C. There are minor modifications in PCB topology to ease the production. No changes in specifications.

3. Control Board V.1.10

The picture of the Control board denoted as *V. 1.10* is shown on ***Fig.2*** and the schematics on ***Fig.6*** . The jumper position for different limiter modes are shown on ***Fig.3,4,5***. *"*pp*"* means peak to peak voltage.

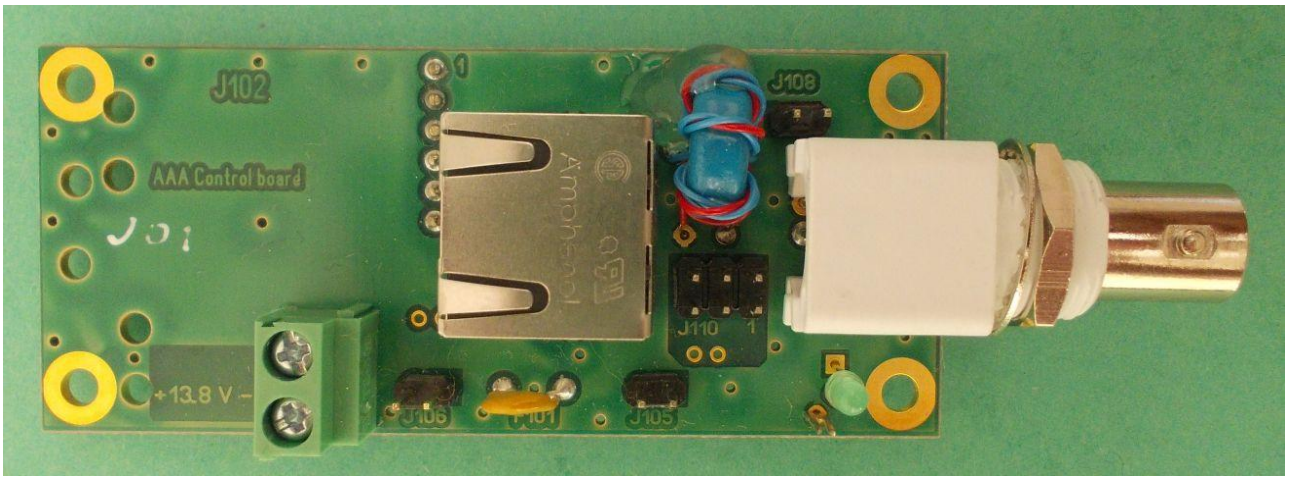

Fig.2

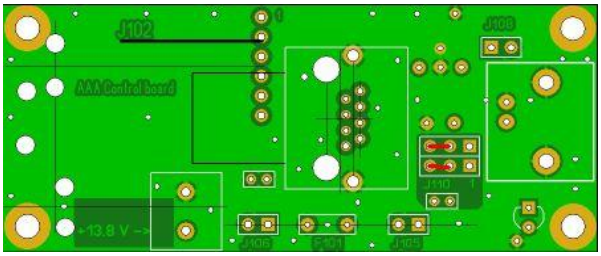

Fig.3 *Normal position, no limiters J110a 2-3 = ON, J110b 2-3 = ON.*

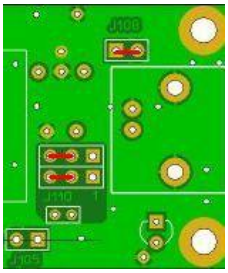

Fig.4 *Limiter #1 limits to 4.2 V pp . J108 =ON, J110a 2-3 = ON, J110b 2-3 = ON*

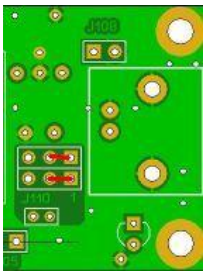

Fig.5 *Limiter #2 limits to 2 V pp and 3.6 dB attenuation. J110a 1-2 = ON, J110b 1-2 = ON.*

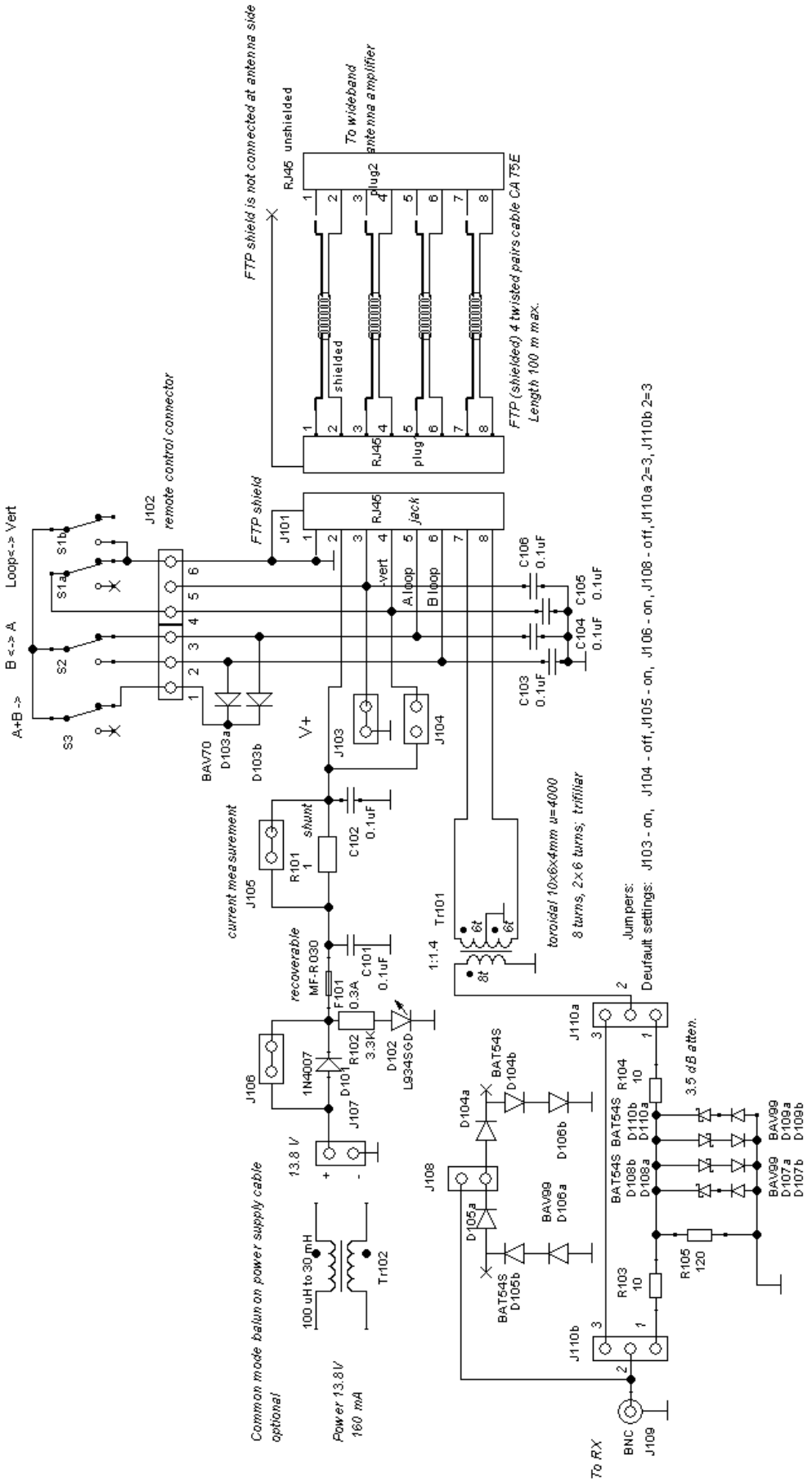
FTP shield is not connected at antenna side
RJ45 unshielded
To wideband antenna amplifier
plug2
shielded
RJ45
plug
FTP (shielded) 4 twisted pairs cable CAT5E
Length 100 m max.
J102
remote control connector
FTP shield
J101
RJ45
jack
Loop<-> Vert
B <-> A
A+B ->
S1a
S1b
S2
S3
Vert
A loop
B loop
C106 0.1uF
C105 0.1uF
C104 0.1uF
C103 0.1uF
BAV70
D103a
D103b
V+
J103
J104
current measurement
J105
R101 shunt
C102 0.1uF
recoverable
MF-R030
F101 0.3A
C101 0.1uF
1:1.4
Tr101
toroidal 10x6x4mm u=4000
8 turns, 2x6 turns, trifiliar
Jumpers:
Deufault settings: J103 - on, J104 - off, J105 - on, J106 - on, J108 - off, J110a 2=3, J110b 2=3
J106
1N4007
D101
R102 3.3K
D102 L934SGD
J107
13.8 V
J110a
BAT54S
D104b
D104a
D106b
J108
D105a
BAV99
D106a
BAT54S
D105b
R104 10
3.5 dB atten.
BAT54S
D110b
D110a
BAT54S
D108b
D108a
BAV99
D109a
D109b
BAV99
D107a
D107b
R105 120
R103 10
J110b
Common mode balun on power supply cable optional
100 uH to 30 mH
Tr102
Power 13.8 V 160 mA
To RX
BNC
J109

Fig.6