EOM RF Amplifier Plan

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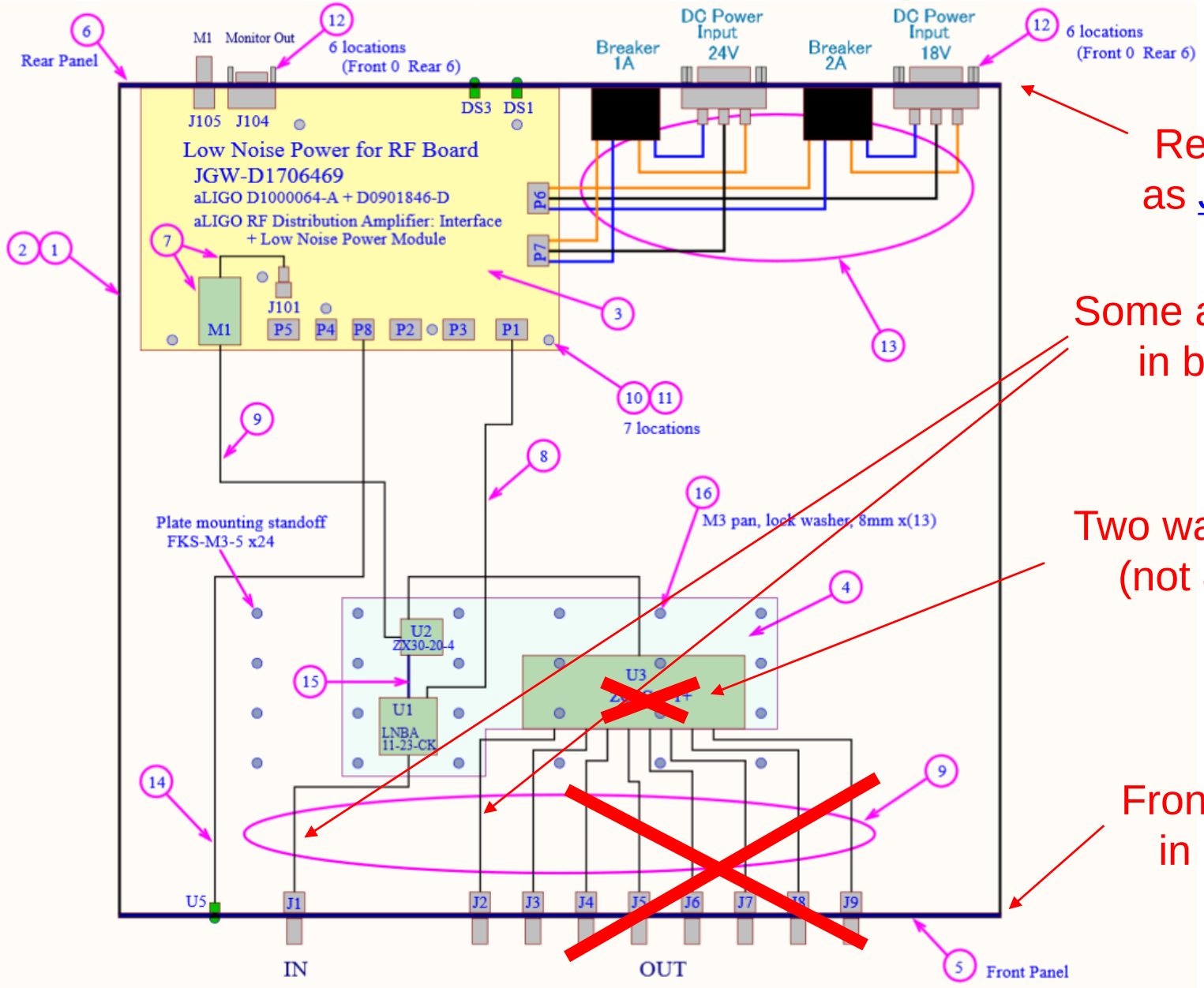
Summary

- RF Amplifier for driving EOM
- Basically same as RF Distribution Amplifier (JGW-D1706462)
  - But 2-way splitter instead of 8-way
  - Include some attenuators to tune modulation depth (could be voltage controlled one)
  - Might include some bandpass filters
  - Different front panel, same rear panel
- Make at least 3 chassis for f1,f2,f3
  - f1: 16.881 MHz (split into two)
  - f2: 45.016 MHz (no split)
  - f3: 56.270 MHz (split into two)
- RF parts will be prepared and assembled by MIF/IOO

Top Assembly Plan

JGW-D1706462



Rear panel same as JGW-D1706468

Some attenuators in between

Two way splitter (not 8-way)

Front panel plan in next page

Front Panel and RF Chain

- Design available at [JGW-D1809208]

Attenuators will be put outside of the chassis during commissioning period for easier tuning

ZX30-20-4

ZFSC-2-1-S+

RF monitor

wil be voltage controlled in the future

LNBA-11-23-CK

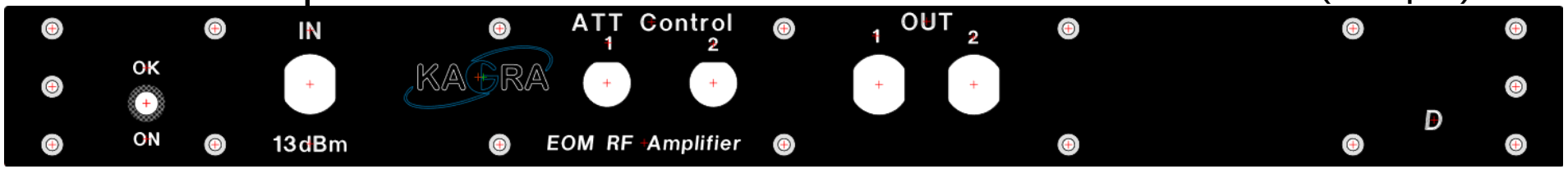
VAT-3+

VAT-3+

attenuation level depends on mod freq. (see p.5)

VAT-?+

VAT-?+



RF input (N)

Two RF outputs (N)

- Rear panel same as [JGW-D1706468]

Two voltage inputs for voltage controlled attenuators (BNC)

* We might want to isolate this connector from chassis

Parts Prepared by MIF/IOO

- U1: RF amplifier Wenzel LNBA-11-23-CK-100-15 (in hand)
- U2: RF coupler Mini Circuits ZX30-20-4 (in hand)
- U3: two-way RF splitter Mini Circuits ZFSC-2-1-S+ (ordered)

- RF attenuators (Mini Circuits VAT-1+ etc) (ordered)
- Voltage controlled RF attenuators (Teledyne GC2510 ?) (ordered)
- Bandbass filters (TBD, if necessary)

- TO BE DISCUSSED
  - Mounting plate? (like JGW-D1706464)
  - Connectors and cables (semi-rigid SMA cables)?

Variations

- f1: 16.880962 MHz
  in -> amplifier -> splitter -> -3dB (variable) -> -4dB -> out
  -> -3dB (variable) -> -3dB -> out
- f2: 45.015898 MHz
  in -> amplifier -> splitter -> -3dB (variable) -> (-5dB) -> out
  (-5dB attenuator for if no MZM)
- f3: 56.269873 MHz
  in -> amplifier -> splitter -> -3dB (variable) -> -6dB -> out
  -> -3dB (variable) -> -7dB -> out

"-3dB (variable) " are the ones which will be replaced to voltage controlled attenuators in the future