

EOM RF Amplifier Plan

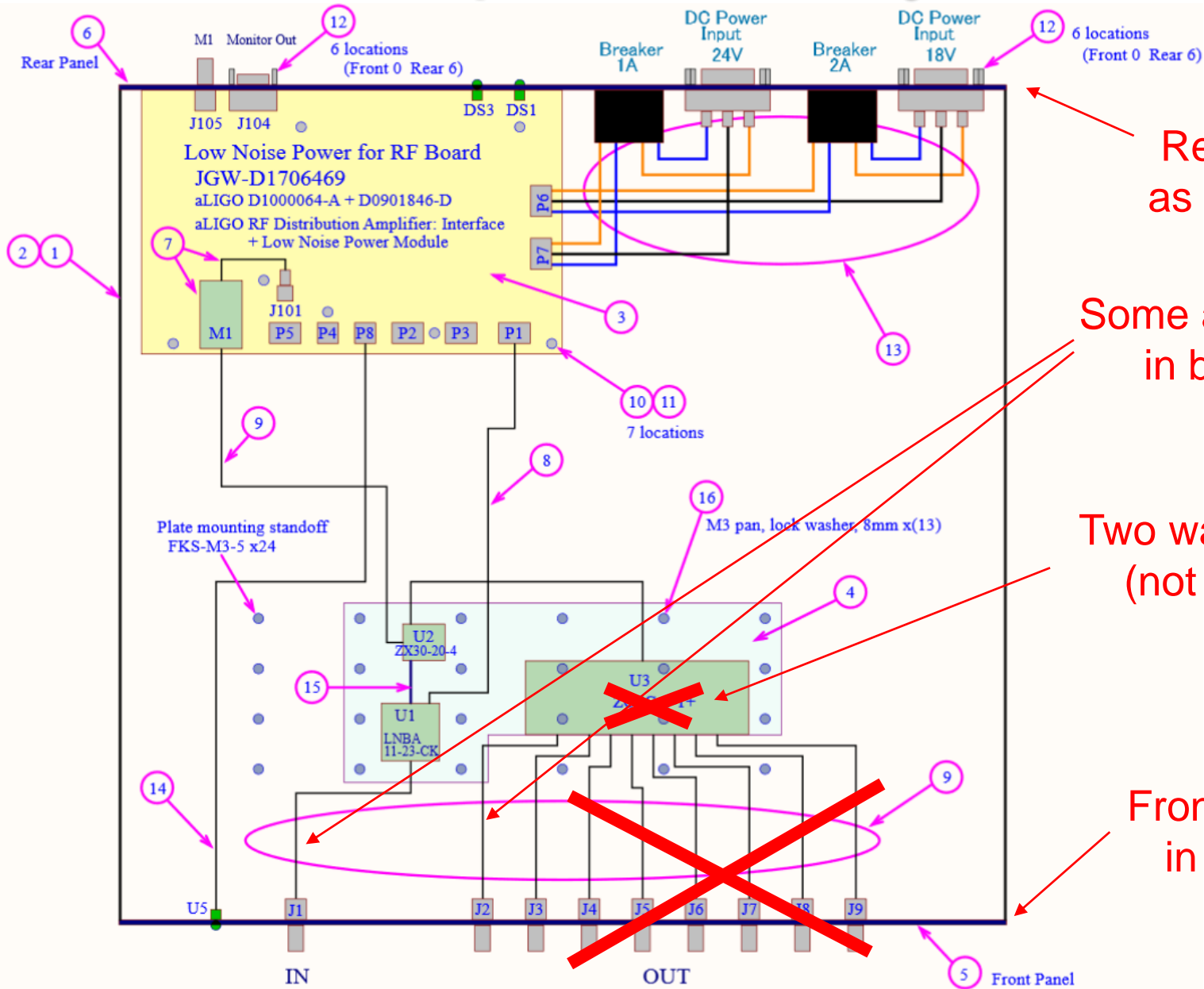
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Summary

- 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)

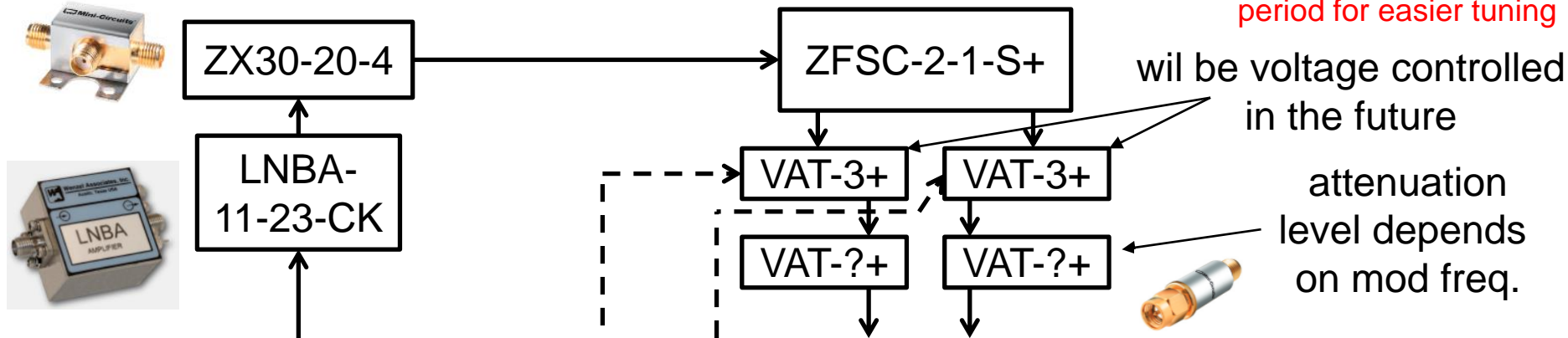
Front panel plan in next page

Front Panel and RF Chain

- Design available at [JGW-D1809208](https://www.jgwireless.com/JGW-D1809208)

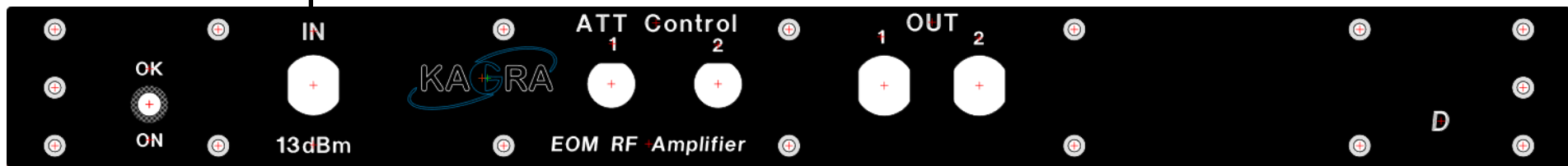


Attenuators will be put outside of the chassis during commissioning period for easier tuning



will be voltage controlled in the future

attenuation level depends on mod freq.



RF input (N)

Two RF outputs (N)

Two voltage inputs for voltage controlled attenuators (BNC)

- Rear panel same as [JGW-D1706468](https://www.jgwireless.com/JGW-D1706468)

* 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)
- Bandpass 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 -> -> -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