Reset Form

Modulator Test in PA Room

Modulator # _____ **Date:** _____

Resistors 10 Ω(Divider)

1		Right
2		Middle
3		Left

200Ω(Shunt)

1		Front
2		Back

10Ω(Cap)

1		Top
2		Bottom

NIM Crate Good or Bad

Power Supplies

±15V Deck	DC	AC
15		
-15		
AC	N/A	

5V Deck	DC	AC
5		
AC	N/A	

±15V Rear	DC	AC
15		
-15		
AC	N/A	

Fast over current 50 ohm input

Swipper Voltage

170 Volt Deck Power Supply _____

Series Tube Fil Voltage (DVM)

Series Tube Filament Voltage (meter)

Series Tube Filament Current (meter)

Deck Readings

Meter

FET Drain - 800F Cathode I	
Y567 Grid Voltage	
Y567 Screen Voltage	
Block Counts	

DVM Readings

	800V P.S.		
	800V Divider		
TP2	800V Trip level		.75
	Neg. 700V P.S.		
	Neg. 700V Divider		
TP1	Neg. 700V Trip Level		.75

Y567 Tube ID

FET = **N/A** / 800F Tube ID

Bleeder Resistor 250K

Disconnect Bleeder with ground bolt

Bleeder reconnected?

knee set

FET **Resistors under Y567**

500Ω 7.5kΩ	Top		**FET**
1KΩ 7.5kΩ	Bottom		**335 Ohms**
100Ω	Grid resistor		
1kΩ / 2kΩ	2 / 1 Wire Mesh		

Completed By: _____

Verified By: _____

Approved:___ _____

(**Adamus, Scala or Reid**)

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Reset Form

Modulator Test After Repairs

Modulator # _____ **Date:** _____

Resistors 10 Ω(Divider)

1		Right
2		Middle
3		Left

200Ω(Shunt)

1		Front
2		Back

10Ω(Cap)

1		Top
2		Bottom

NIM Crate Good or Bad

Power Supplies

±15V Deck	DC	AC
15		
-15		
AC	N/A	

5V Deck	DC	AC
5		
AC	N/A	

±15V Rear	DC	AC
15		
-15		
AC	N/A	

Fast over current 50 ohm input

Swipper Voltage

Series Tube Fil Voltage (DVM)

Series Tube Filament Voltage (meter)

Series Tube Filament Current (meter)

Deck Readings

Meter

FET Drain - 800F Cathode I	
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	800V Divider		
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500Ω 7.5kΩ	Top		**FET**
1KΩ 7.5kΩ	Bottom		**335 Ohms**
100Ω	Grid resistor		
1kΩ / 2kΩ	2 / 1 Wire Mesh		

Completed By: _____

Verified By: _____

Approved By: _____

(Adamus, Scala or Reid)

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Booster RF Test Station Checkout Procedure for testing New Booster Modulators

S/N: _____

Date: _____, 202___

1. _____ Tie-up to cable tray all old cables needed for old style modulator and PA operation to preserve for possible future running of old modulator & PA.

2. _____ Install new modulator in test station

3. _____ Connect LCW thru regulator on floor to modulator.

4. _____ Connect all external cables to top of modulator including Anode Power Supply Door interlock cable.
   a. _____ Re-terminate existing RG220 HV cables to modulator (HV in and HV out). Make sure they are labeled appropriately.
   b. _____ Connect Anode Power Supply Door interlock cable
   c. _____ Connect all other cables to modulator
   d. _____ Check personnel safety ground connected to top back of modulator.
   e. _____ Check APS return ground connected to top back of modulator.

5. _____ Install New style PA on test resonator.

6. _____ Install solid state driver rack to the right of PA resonator.

7. _____ Install control cables between SSD rack and modulator.

8. _____ Install control cables between SSD rack test station relay control racks.

9. _____ Connect SSD 120v control power.

10. _____ Connect SSD 480v to wall 30A disconnect.

11. _____ Turn on modulator 480v breaker on front of modulator.

12. _____ Check and record modulator water flow _____GPM.

13. _____ Check and record PA water flow _____GPM.

14. _____ Check and record SSD water flow _____GPM.

15. _____ Turn on 480v filament breaker on front of modulator.

16. _____ Set PA filament voltage to 15.0 volts as measured with true RMS DVM. _____ Volts

17. _____ Record PA filament current (should be ~ 200amps). _____A

18. _____ Confirm APS door interlock drops anode power supply door chain and front panel circuit breaker by opening modulator HV compartment door and checking door status on APS control unit & observing that the 480v breaker is tripped.

19. _____ Turn on 480 volt breaker to deck power supply.

20. _____ Reset modulator

21. _____ Time out modulator

22. _____Confirm modulator deck is on and record readings

a. _____ Y567 grid voltage _____.
b. _____ 800F cathode current _____.
c. _____ Record blocking circuit counter _____.

d. _____ Measure positive 800v power supply _____.
e. _____ Measure voltage divided 800v ps. _____
f. _____ Set + 800v trip level to 7.4 volts. (~75v below nom)

g. _____ Measure negative 700v power supply _____.
h. _____ Measure voltage divided 700v ps. _____.
i. _____ Set -700v trip level to 6.2 volts.(~75v below nom)

23. Performed by: _____ Date:_____

24. Verified by: _____ Date:_____

25. Approved by: _____ Date:_____
(M. Adamus, R. Scala, or J. Reid)

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(**Continue after Approval**)

26. _____ Remove LOTO lock from disconnect in basement.

27. _____ Turn ON Anode PS

28. _____ Check to see Anode PS voltage is present on Front panel meter on modulator. Record Voltage Reading: _____.

29. _____ Connect variable slope generator to PA grid power supply.

30. _____ Connect DC power supply to modulator input.

31. _____ Program modulator to 15 KV DC and record Vin Program: _____.

32. _____ Program grid power supply with generator with 100uSec flat-top pulse with rise and fall times of ~ 100uSec.

33. _____ Pulse modulator output current to ~ 20amps to check blocking level.
Modulator should block at 20 amps: _____.
Blocking circuit dial should be about 5.0 and the measured voltage on the center slider is 1.0v DC.

34. _____Take picture of modulator current and voltage showing the start of blocking and also on the recovery from blocking.

Performed by: _____ Date: _____

Verified by: _____ Date: _____

Final Signoff: _____ Date:_____

(M. Adamus, or J. Reid)

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