3A3 Calibration Outline

Presets

Posit. Pots	Centered
Atten Bal Pots	Centered
Bandwidth	Hi
AC Stab	Off

Put 3A3 on extender. These presets apply to 3A3's with FET front ends when the control exists.

Nuvistor Front Ends Only

1. Adj Range Controls (R693, R694) — Min trace shift as v/cm is rotated from 10mv/cm to .1mv/cm. (Front panel)

FET Front Ends Only

1a. Coarse Atten Bal (R131, R331) — Atten Bal Range must be centered. This adj located inside plastic box & is very touchy. (May not get trace on screen cause R131 is a wire wound pot.)

1b. Atten Bal Range (Front Panel) — Min trace shift from 10mv/cm to .1mv/cm.

All Instruments

2. Var. DC Bal. (R159, R359) — Min trace shift as Var. is rotated at 10mv/cm. (Atten Bal must be correct)

3. Gain (R175, R475) — Set at 10mv/cm.

4. Check Attenuators — Both +&- inputs ±3%.

5. Check Noise — .4cm at .1mv/cm. FET's much better

6. Check Microphonics — 4cm max at .1mv/cm. FET 's none

7. Grid Current Zero (1mv/cm) AC Stab-Off (FET's-.1mv/cm)

Ch.	+Input	-Input
1	R110	R210
2	R310	R410

8. Adj Diff Bal — Check only for FET's at .1mv/cm — Use 10v of 100cps sinewave at .1mv/cm. For FET's use 20v, 1cm max deflection.

V/CM	Cal Sig.(Nuvistor)	Sinewave(FET)	Ch. 1 Adj	Ch. 2 Adj	
		Low Freq Diff Bal check			
.1mv	10v	10v 100cps	R131	R331	FET no adj
20mv	20v	20v use cal.	R105f	R305f	
.2v	50v	50v	R106f	R306f	
2v	100v	100v	R107f	R307f	

3A3 Calibration Outline (cont)

9. Adj Neutralization Caps & Input C — 10mv/cm, 47pf.

Apply Signal	Switch	Min Change	Flat Top
Ch 1, +	Ch 1, -DC to Gnd	C116	C109
Ch 1, -	Ch 1, +DC to Gnd	C216	C209
Ch 2, +	Ch 2, -DC to Gnd	C316	C309
Ch 2, -	Ch 2, +DC to Gnd	C416	C409

10. Attenuators Compensations

	Ch 1				Ch 2			
	+		-		+		-	
V/CM	Corner	Top	Corner	Top	Corner	Top	Corner	Top
20mv	C105c	C105A	C205c	C205A	C305c	C305A	C405c	C405A
.2v	C106c	C106A	C206c	C206A	C306c	C306A	C406c	C406A
2v	C107c	C107A	C207c	C207A	C307c	C307A	C407c	C407A

11. Adj HF Diff Bal Caps (Nuvistor Front End) — (.1mv/cm) Use 100kc 10v sinewave to both inputs.
Ch 1: C114 & C115 - Interact.
Ch 2: C314 & C315 - Interact.

HF Diff Bal (FET Front End)

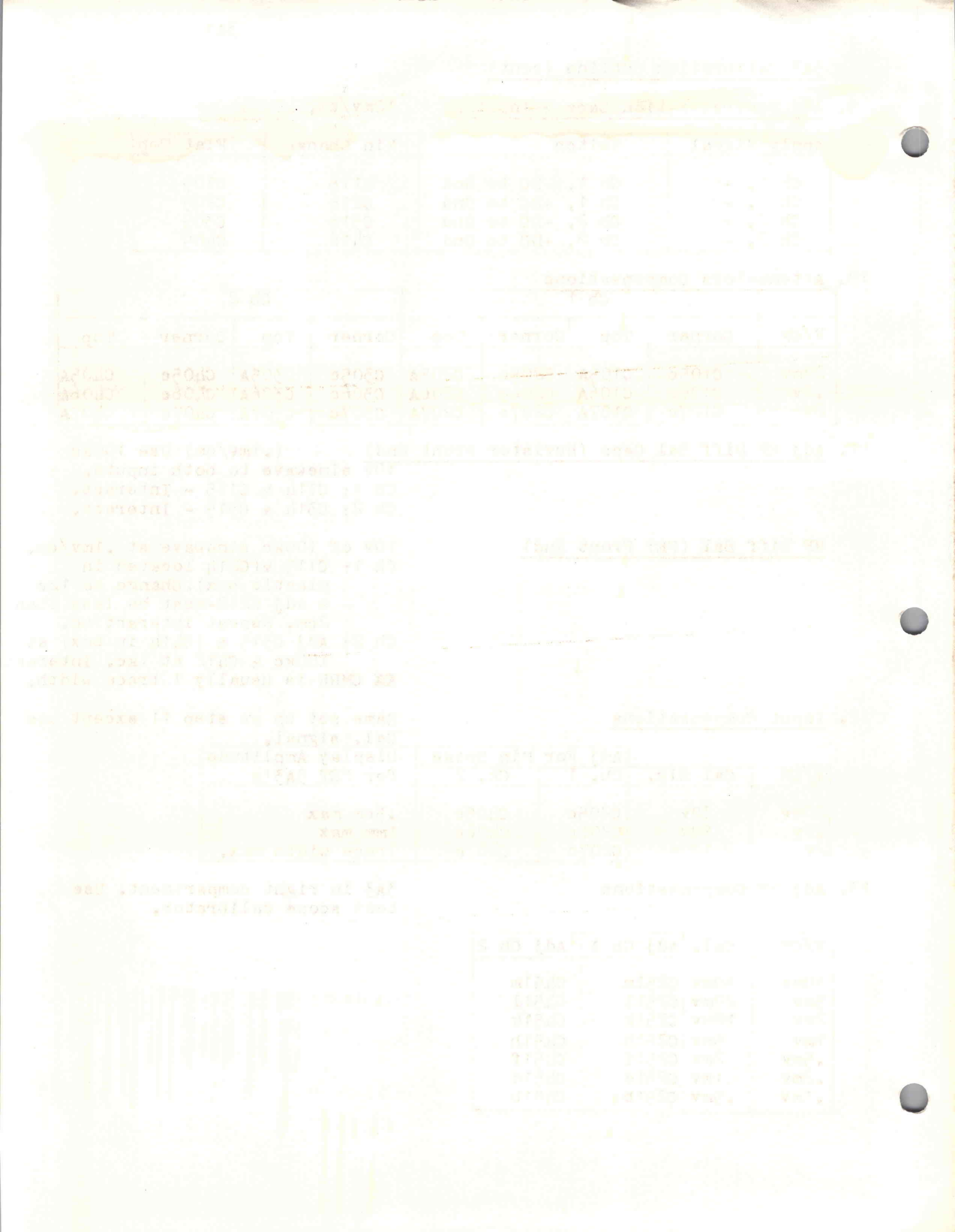
10v of 100kc sinewave at .1mv/cm.
Ch 1: C115 &(C214 located in plastic box). Change to 1kc & adj C212-must be less than 2cm. Repeat interaction.
Ch 2: Adj C315 & (C414 in box) at 100kc & C412 at 1kc. Interact
CMRR is usually 1 trace width.

12. Input Compensations — Same set up as step 11 except use Cal. signal.

		Adj For Min Spike		Display Amplitude
V/CM	Cal Sig.	Ch. 1	Ch. 2	for FET 3A3's
20mv	20v	C205c	C405c	.5cm max
.2v	50v	C206c	C406c	1mm max
2v	100v	C207c	C407c	Trace width max.

13. Adj HF Compensations — 3A3 in right compartment. Use test scope calibrator.

V/CM	Cal.	Adj Ch 1	Adj Ch 2
10mv	50mv	C251m	C451m
5mv	20mv	C251l	C451l
2mv	10mv	C251k	C451k
1mv	5mv	C251h	C451h
.5mv	2mv	C251f	C451f
.2mv	1mv	C251d	C451d
.1mv	.5mv	C251b	C451b



~~15.~~ 14. ADJUST TRIGGER DC LEVEL & BALANCE

Short pins 3&8 of V 583 together & probe pin 3 with test scope DC coupled. Use 10mv/div on both 3A3 channels & check Atten Bal

TRIGGER	ADJUST FOR ZERO VOLTS
CH 1	R525
CH 2	R555
Comp	R565
REMOVE SHORT	
CH 1	R511
CH 2	R541

~~16.~~ 15. ADJUST TRIGGER AMP HF COMPENSATION

TRIGGER	50mv CAL SIGNAL	PROBE	ADJUST FOR FLAT TOP
CH 2	CH 2, +	pin 3,V583	C548
CH 2	CH 2, +	pin 8,V583	C538
CH 1	CH 1, +	pin 3,V583	C518
CH 1	CH 1, +	pin 8,V583	C508
Comp	CH 1, +	pin 8,V583	C561
Comp	CH 1, +	pin 3,V583	C569

~~17.~~ 16. CHECK CHOPPED & ALTERNATE OPERATION

15. ADJUST TRIGGER DC LEVEL & BALANCE

Short pins 3&6 of V 383 together &
probe pin 3 with test scope DC coupled.
Use 10mv/div on both 343 channels & check
After bal

16.

TRIGGER	ADJUST FOR ZERO VOLTS
CH 1	R523
CH 2	R395
Comp	R565
REMOVE SHORT	
CH 1	R511
CH 2	R541

16. ADJUST TRIGGER AMP IN COMPENSATION

TRIGGER	50Ω CAL SIGNAL	PROBE	ADJUST FOR FLAT TOP
CH 2	CH 2, +	pin 3, V363	C538
CH 2	CH 2, -	pin 6, V363	C538
CH 1	CH 1, +	pin 3, V383	C528
CH 1	CH 1, -	pin 6, V383	C508
Comp	CH 1, +	pin 3, V383	C504
Comp	CH 1, +	pin 3, V363	C536

17. CHECK CHOPPED & ALTERNATE OPERATION