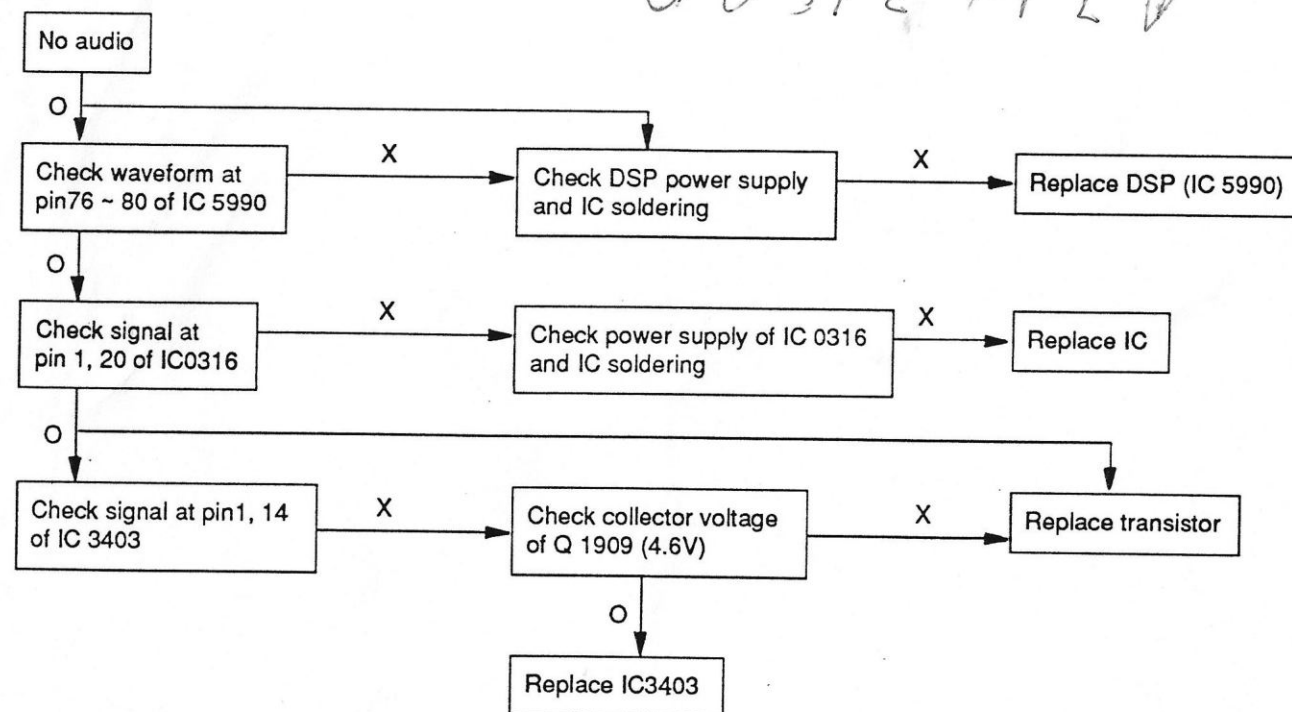
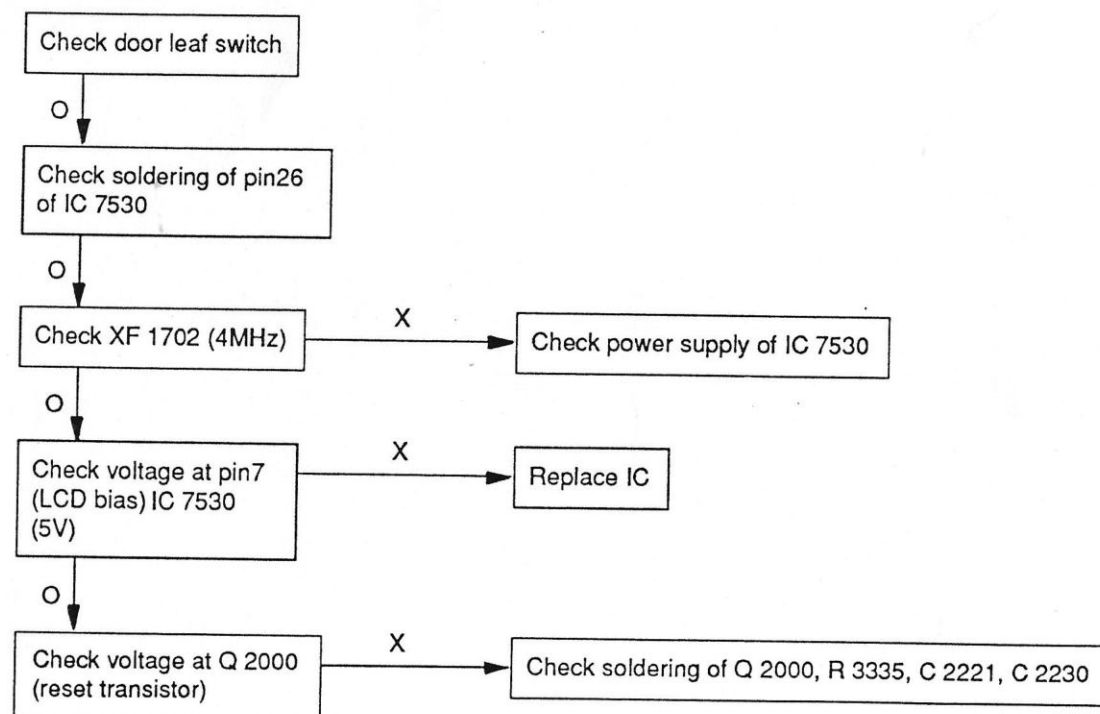


4) NO AUDIO



5) DISPLAY NOT WORKING



■ ADJUSTMENT

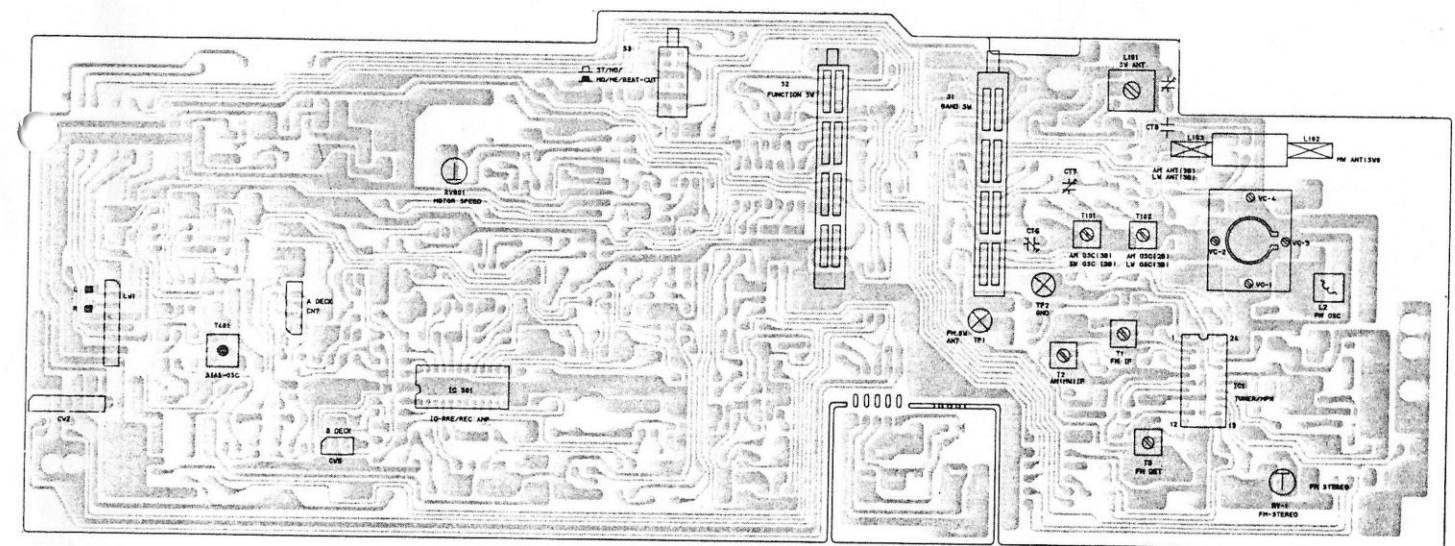
● INSTRUMENTS AND TOOLS

1. AM STANDARD SIGNAL GENERATOR
2. FM STANDARD SIGNAL GENERATOR
3. FM/AM IF GENERATOR: 10.7MHZ, 455KHZ (465KHZ).
4. OSCILLOSCOPE
5. OUTPUT METER: LEVEL METER OR AC VOLTMETER.
6. LOOP ANTENNA
7. DUMMY LOAD (4 ohm)
8. SW DUMMY ANT.
9. FREQUENCY COUNTER
10. FM STEREO MODULATOR

● IMPORTANTS

1. Check the power source voltage.
2. Select desired Band and Function.
3. Set Tone Control at mid position
4. Modulate AM to 30% amplitude with 400Hz signal and FM to 22.5KHz deviation with 400Hz signal.
5. Set Volume Control to approximately 50mW (4ohm)

● LOCATION OF ADJUSTMENT POINTS (AUDIO SECTION) TUNER PCB (PARTS SIDE)



1. TUNER SECTION
1) FM ADJUSTMENT

Item	CONNECTION	Step	S.S.G Frequency	Radio Dial Setting	Adjustment Point	REMARK
IF Adjustment	Fig. 1	1	10.7MHz	Tune to the lowest	T1 (ORG) FM IFT T3 (BLU or BLK) FM DET	Max gain and symmetrical "S" curve.
		2	Repeat step 1 until no further improvement can be made.			
Frequency coverage adjustment	Fig. 2	3	87.3MHz	Tune to the lowest	L2 FM OSC COIL	Best resonating point of SSG.
		4	108.3MHz	Tune to the highest	VC1 OSC TRIMMER	Best resonating point of SSG.
		5	Repeat steps 3 and 4 several times.			
Tracking adjustment	Fig. 2	6	90MHz	90MHz	Not required	
		7	106MHz	106MHz	VC2 ANT TRIMMER	Maximum Output
Stereo separation adjustment	Connect Stereo Generator to S.S.G additionally in Fig. 2	8	98MHz	98MHz	RV1	Best separation

FM IF OUTPUT: IC101 (TA8167N) PIN NO. 19

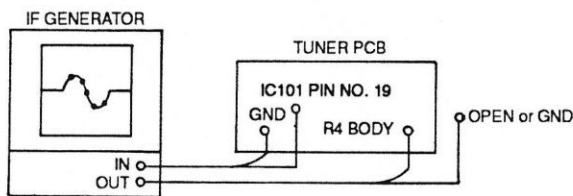


Fig. 1

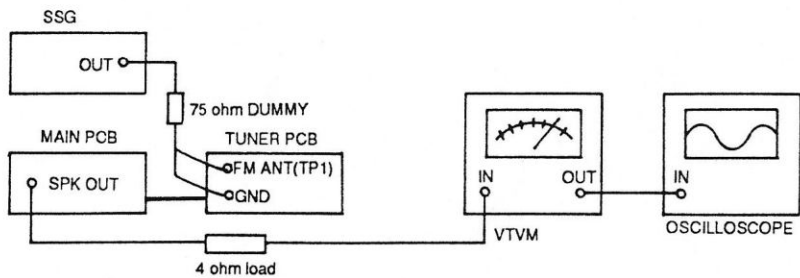


Fig. 2

2) 2BAND (FM/AM) AM ADJUSTMENT

Item	CONNECTION	Step	S.S.G Frequency	Radio Dial Setting	Adjustment point	REMARK
IF Adjustment	Connect FM/AM IF generator to loop ANT. Couple the AM ANT coil close to loop ANT and take out the signal from AM IF out point (IC1 pin No 19) (See Fig. 3)	1	455KHz (465KHz)	Tune to the lowest	AM IFT T2 (WHT)	Maximum output and best "V" curve
		2	Repeat 1 until no futher improvement can be made.			
AM frequency coverage adjustment	Connect AM signal generator to loop antenna, VTVM and oscilloscope as Fig. 4.	3	515KHz	Tune to the lowest	AM OSC COIL (RED) T102	Best resonating point of SSG
		4	1650KHz	Tune to the highest	AM OSC TRIMMER (VC3)	Best resonating point of SSG
		5	Repeat steps 3 and 4 several times			
AM tracking adjustment	See Fig. 4	6	620KHz	Tune to (620KHz)	AM ANT COIL L103	Maximum output
		7	1400KHz	Tune to (1400KHz)	AM ANT TRIMMER (VC4)	Maximum output
		8	Repeat steps 6 and 7 to obtain suitable sensitivity at 620KHz and 1400KHz.			

AM IF OUTPUT : IC101 (TA8167N) PIN NO. 19.

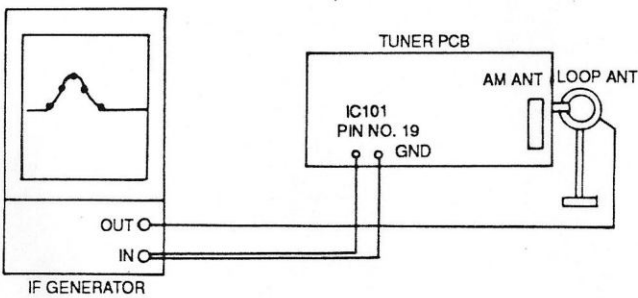


Fig. 3

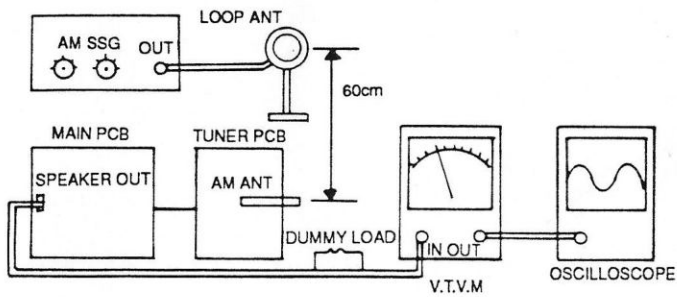


Fig. 4

3) 3BAND (FM/SW/AM) AM/SW ADJUSTMENTS

Item	CONNECTION	Step	S.S.G Frequency	Radio Dial Setting	Adjustment point	REMARK
IF Adjustment	IF is the same as 2 band's					
AM frequency coverage adjustment	Connect as Fig. 4	1	515KHz	Tune to the lowest	AM OSC COIL (RED) T102	Best resonating point of SSG
		2	1650KHz	Tune to the lowest	AM OSC TRIMMER VC3	Best resonating point of SSG.
		3	Repeat steps 1 and 2 several times			
AM tracking adjustment	Connect as Fig. 4	4	620KHz	Tune to signal (620KHz)	AM ANT COIL L102	Maximum output
		5	1400KHz	Tune to signal (1400KHz)	AM ANT TRIMMER (VC4)	Maximum output
		6	Repeat steps 4 and 5 to obtain suitable sensitivity at 620KHz and 1400KHz.			
SW frequency coverage adjustment	Connect AM(SW) signal generator to SW ANT terminal (TP1) thru SW dummy ANT and speaker output to VTVM across 4 ohm load. (see Fig. 5 Fig. 6)	7	5.7MHz	Tune to the lowest	SW OSC COIL T101	Best resonating point of SSG.
		8	18.5MHz	Tune to the highest	SW OSC TRIMMER CT6	Best resonating point of SSG.
		9	Repeat steps 7 and 8 several times			
SW tracking adjustment	See Fig. 5, Fig. 6	10	7MHz	Tune to signal (7MHz)	SW ANT COIL L101	Maximum output
		11	15MHz	Tune to signal (15MHz)		

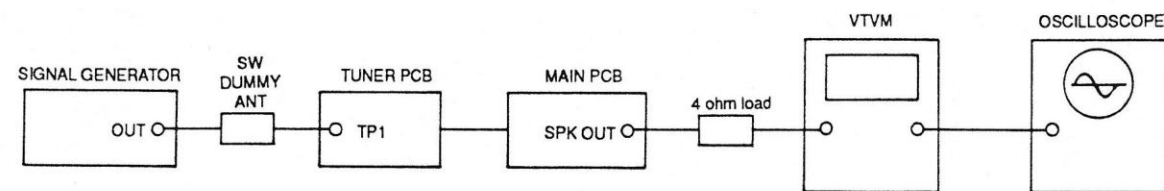


Fig. 5

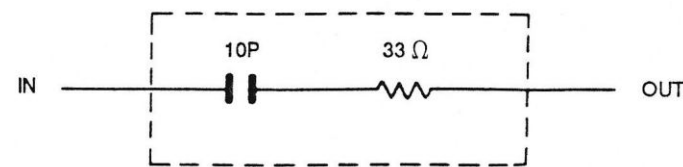


Fig. 6

4) 3BAND (FM/MW/LW) MW(AM)/LW ADJUSTMENTS

Item	CONNECTION	Step	S.S.G Frequency	Radio Dial Setting	Adjustment point	REMARK
IF Adjustment	IF is the same as 2 band's					
MW(AM) frequency coverage adjustment	Same as 2 band's (see Fig. 4)	1	515KHz	Tune to the lowest	MW OSC COIL T101 (RED)	Best resonating poing of SSG
		2	1650KHz	Tune to the highest	MW OSC TRIMMER VC3	Best resonating point of SSG
		3	Repeat steps 1 and 2 several times.			
MW(AM) tracking adjustment	Same as 2 band's (see Fig. 4)	4	620KHz	Tune to signal (620KHz)	MW ANT COIL L102	Maximum output
		5	1400KHz	Tune to signal (1400KHz)	MW ANT TRIMMER VC4	Maximum output
		6	Repeat steps 4 and 5 to obtain suitable sensitivity at 620KHz and 1400KHz			
LW frequency coverage adjustment	See Fig. 4	7	145KHz	Tune to the lowest	LW OSC COIL T102 (BRN)	Best resonating point of SSG
		8	295KHz	Tune to the highest	LW OSC TRIMMER CT7	Best resonating point of SSG
		9	Repeat steps 7 and 8 several times			
LW tracking adjustment	See Fig. 4	10	170KHz	Tune to signal (170KHz)	LW ANT COIL L103	Maximum output
		11	270KHz	Tune to signal (270KHz)	LW ANT TRIMMER CT8	Maximum output
		12	Repeat steps 10 and 11 to obtain suitable sensitivity at 170KHz and 270KHz.			

AJW 315CD

2. TAPE SECTION

1. RECORDING BIAS ADJUSTMENT

- Connect frequency counter to C401 (see Fig. 7) and set R/P switch (S3-0) to record position.
- Adjust T401 (BIAS OSC COIL) until frequency counter reads 52KHz at STEREO position of FM MODE/BEAT CUT switch.

2. TAPE AZIMUTH ADJUSTMENT

- Connect the equipment as per Fig. 8 to adjust the tape azimuth with test tape (recorded at 8KHz MTT-113CN).
- Play the test tape after inserting in DECK A, set VOLUME to three o'clock direction.
- Adjust the azimuth adjustment screw of left side of record/play head for maximum output and the same channel phase. (see Fig. 9, 10).
- Repeat steps a – c at DECK B position.
- After adjustment, be sure to lock the adjusting screws.

3. TAPE SPEED ADJUSTMENT

- a) Connect the equipments as Fig. 8 to adjust the tape speed with test tape [recorded at 3KHz, MTT-111N].
- b) Normal speed
 - 1) Set the FUNCTION selector to "NORMAL" position and press the PLAY (►) button.
 - 2) Adjust the semi-fixed resistor (RV801) so that the frequency counter reads 3KHz.
- c) High speed
 - 1) Insert a test tape into DECK B and set the FUNCTION selector to "HIGH" position.
 - 2) Press the RECORD (●) button of DECK A and press the PLAY (►) button of DECK B.
 - 3) Then the speed of "HIGH" position is fixed approximately 5400Hz-6600Hz.

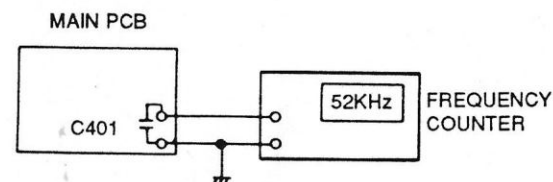


Fig. 7.

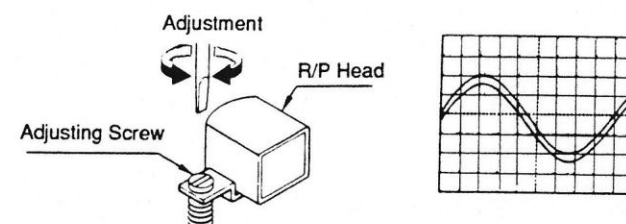


Fig. 9. without auto-reverse

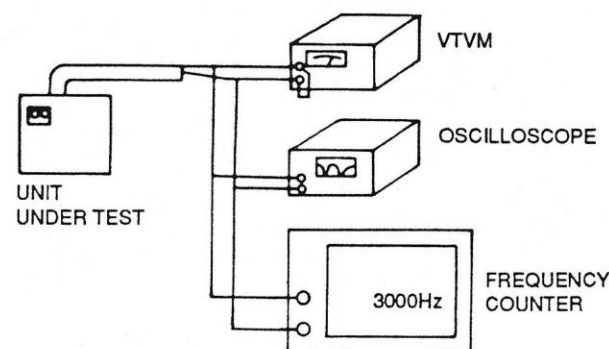


Fig. 8.

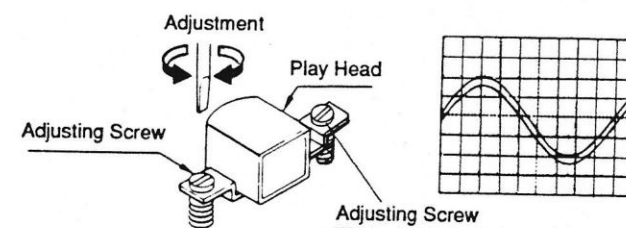


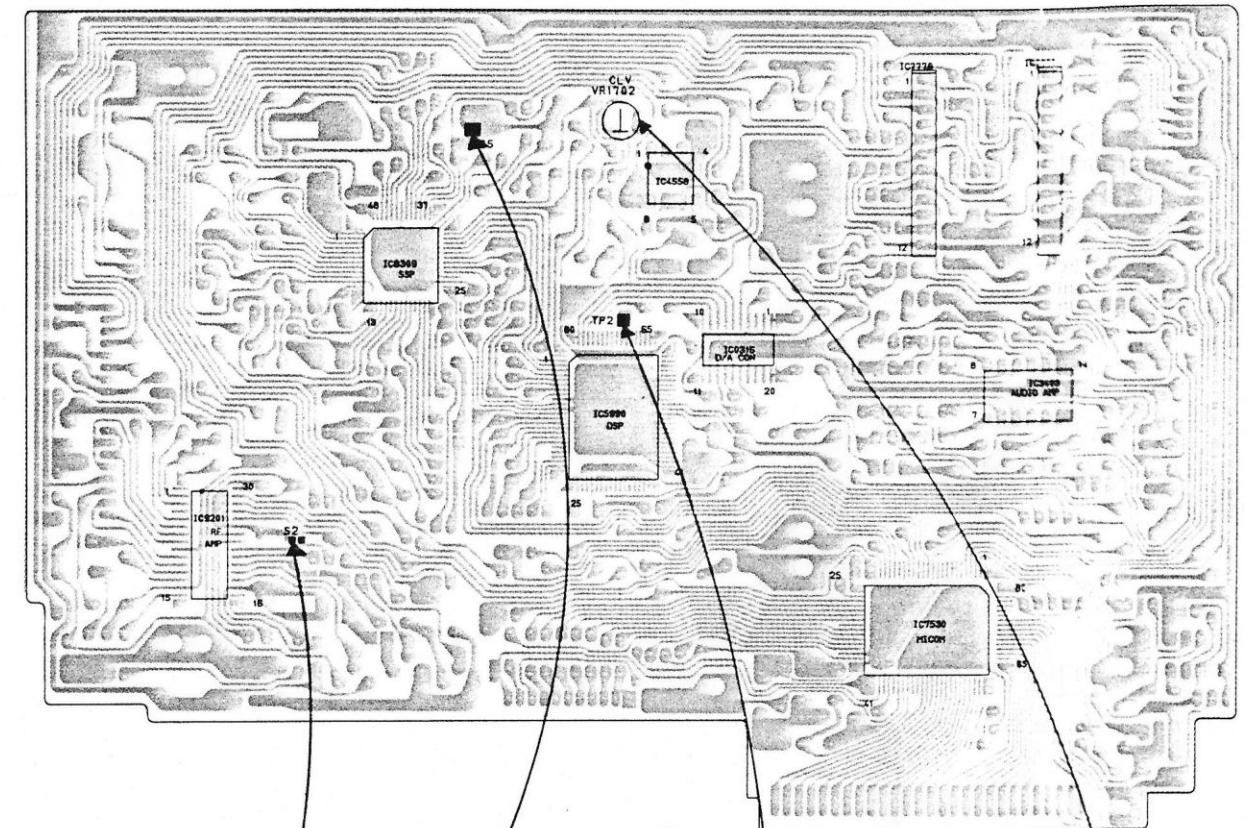
Fig. 10. with auto-reverse

3. CD SECTION

1) CLV ADJUSTMENT

10 : 1 damping probe.

- Turn power on without loading a disc.
- Connect S2 (Asymmetry ; short)
- Connect TP5 to GND and TP2 to positive terminal on the Frequency Counter.
- Adjust VR 1702 so that the Frequency Counter reads $4.460\text{MHz} \pm (0.01\text{MHz})$.
- Disconnect S2.

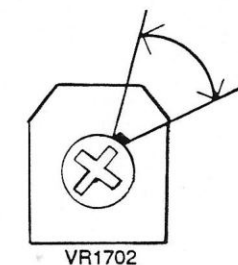


Asymmetry point

GND port of FREQ. COUNTER

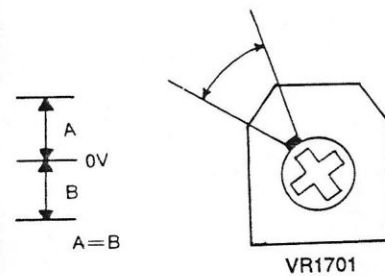
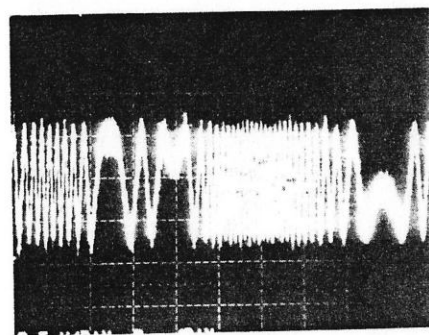
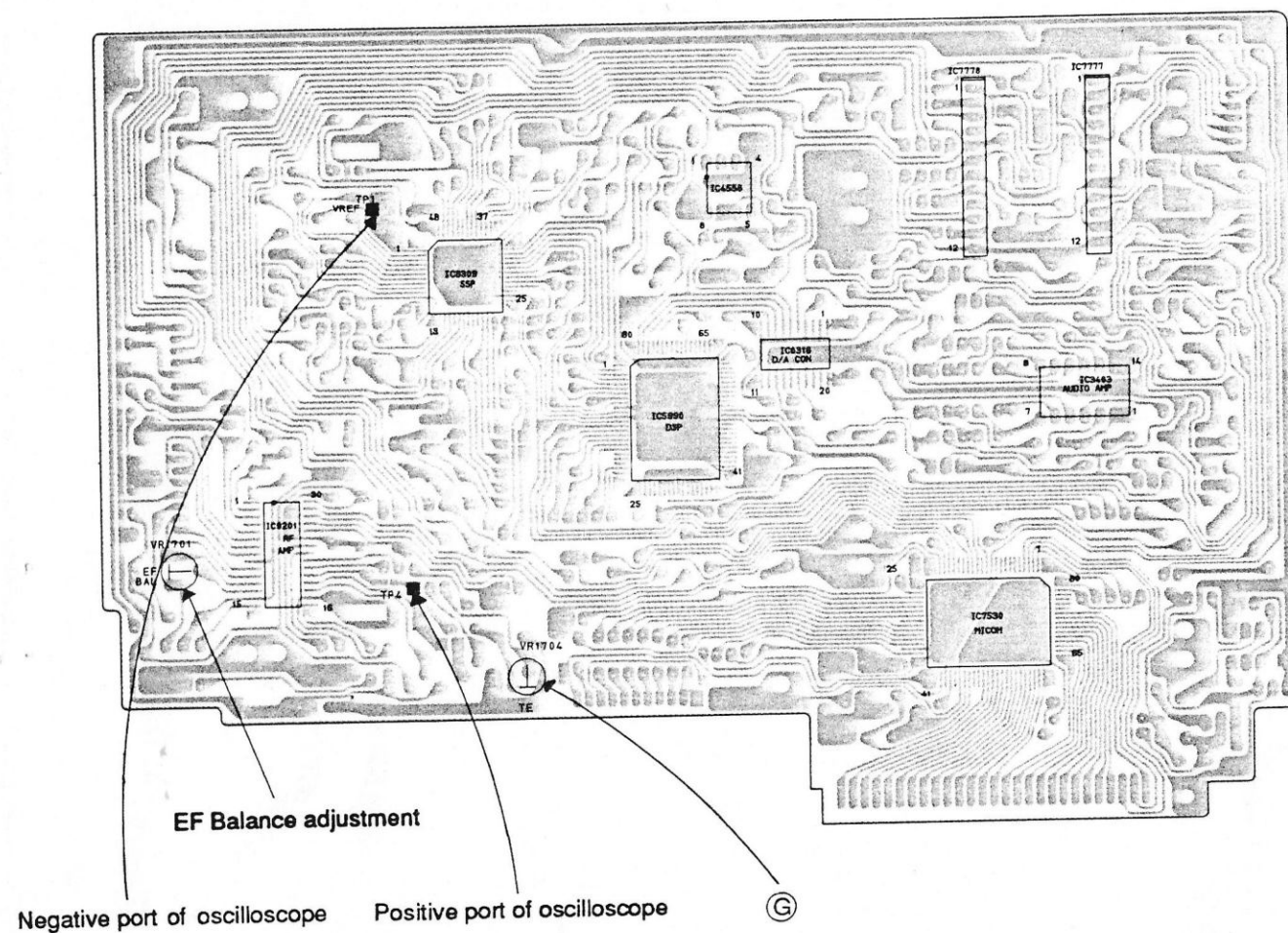
R Positive port of
FREQ. COUNTER

CLV adjustment



2) EF BALANCE ADJUSTMENT (Power On)

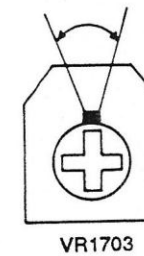
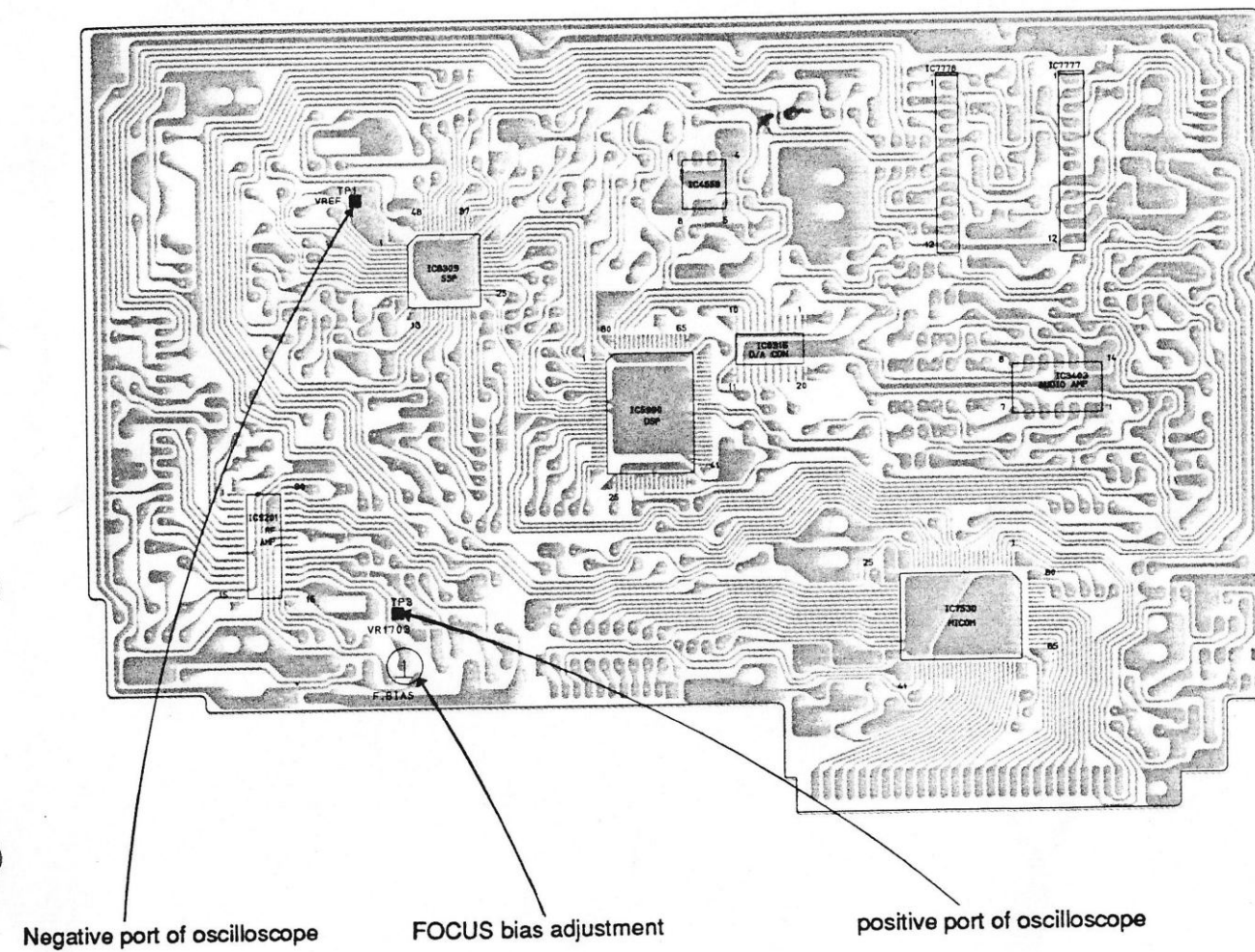
- Set Oscilloscope Time/Div to 2mS.
- Set Oscilloscope Volt/Div to 0.5V.
- Connect TP1 (Vref) to GND and TP4 (T.E) to positive terminal on the oscilloscope.
- Press PLAY after loading a disc.
- Adjust VR1704 all the way counter clockwise. (Intermittent Sound)
- Adjust VR1701 so that the waveform is equally symmetrical above and below (A = B) the Center.
- Adjust VR1704 so that Sound comes out normally. (Near mid-position of VR1704)



3) FOCUS BIAS ADJUSTMENT

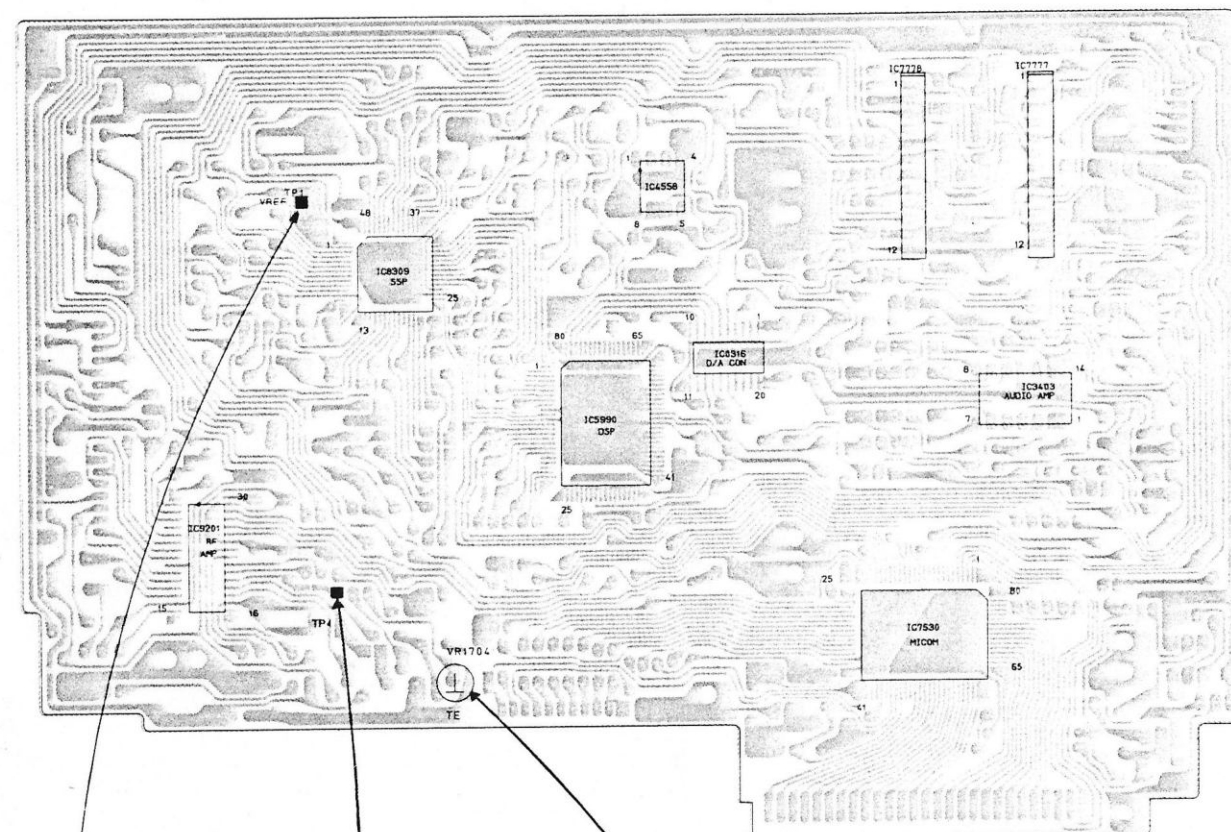
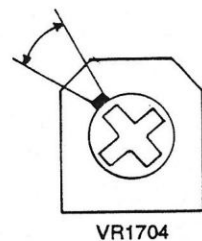
- Turn power on without loading a disc.
- Set Oscilloscope Vol/Div to DC200mV.
- Connect TP1 (Vref) to GND and TP3 (F.E) to positive terminal on the oscilloscope.
- Adjust VR1703 so that the voltage is 200mV DC on the oscilloscope.

Ag - W315CD



4) TRACKING GAIN ADJUSTMENT (Power On)

- Connect TP1 (Vref) to GND and TP4 to positive terminal on Oscilloscope.
- Press PLAY after loading a disc.
- Adjust VR1704 so that the waveform is as shown in the figure below

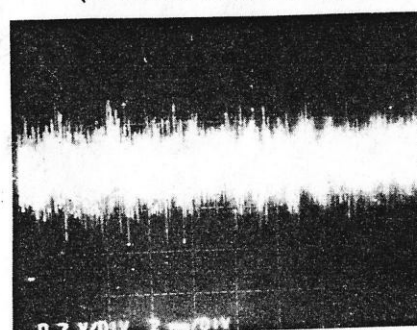


Negative port of oscilloscope

positive port of oscilloscope

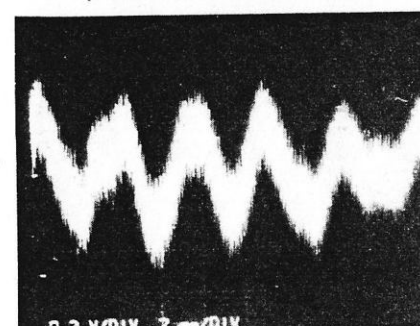
Tracking gain adjustment

(NORMAL WAVEFORM)



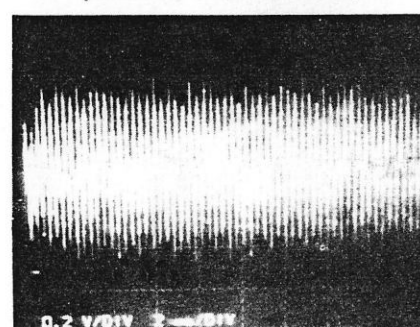
VOLT/DIV : 0.2V
TIME/DIV : 2mS

(LOW TRACKING GAIN)



VOLT/DIV : 0.2V
TIME/DIV : 2mS

(HIGH TRACKING GAIN)

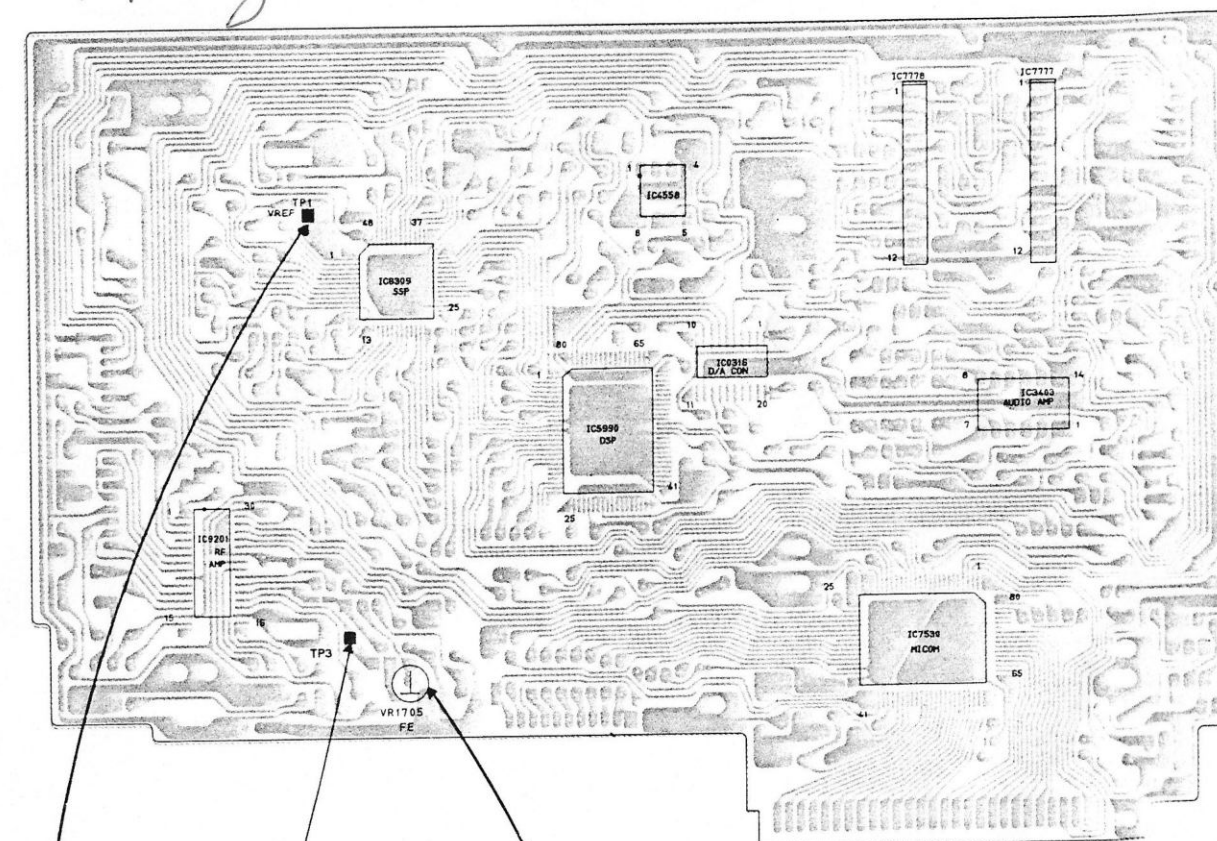


VOLT/DIV : 0.2V
TIME/DIV : 2mS

5) FOCUS GAIN ADJUSTMENT (Power On)

- Connect TP1 (Vref) to GND and TP3 to positive terminal on Oscilloscope.
- Press PLAY after loading a disc.
- Adjust VR1705 so that the waveform is as shown in the figure below.

Ag-W315-CD

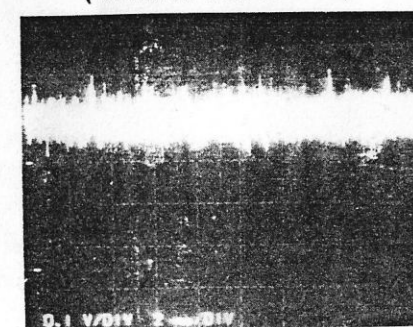


Negative port of oscilloscope

positive port of oscilloscope

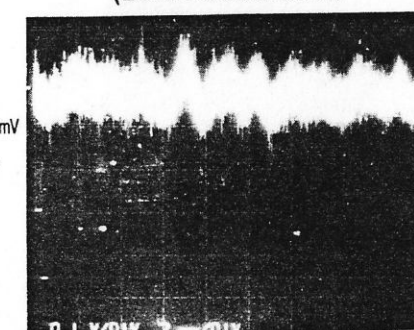
focus gain adjustment

(NORMAL WAVEFORM)



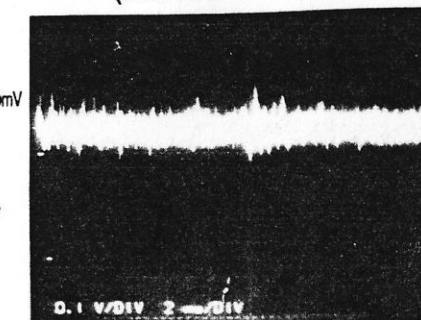
VOLT/DIV : 0.1V
TIME/DIV : 2mS

(LOW FOCUS GAIN)



VOLT/DIV : 0.1V
TIME/DIV : 2mS

(HIGH FOCUS GAIN)



VOLT/DIV : 0.1V
TIME/DIV : 2mS