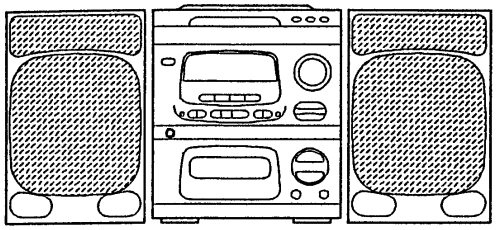
aiwa

aiwa SERVICE

NSX-450G
NSX-400
CX-N4500G
CX-N4000
CX-N3900
CX-N450G
CX-N400
CX-NAP1



COMPACT DISC STEREO SYSTEM

SERVICE MANUAL

- BASIC TAPE MECHANISM: 2ZM-1 R2N
- BASIC CD MECHANISM: 4ZG-1GFR <450G,4500G>
  4ZG-1FR <EXCEPT 450G,4500G>
- TYPE: HE,HR,LH,HS,U,C
  EEZ,EZ,EE,K,Z,G

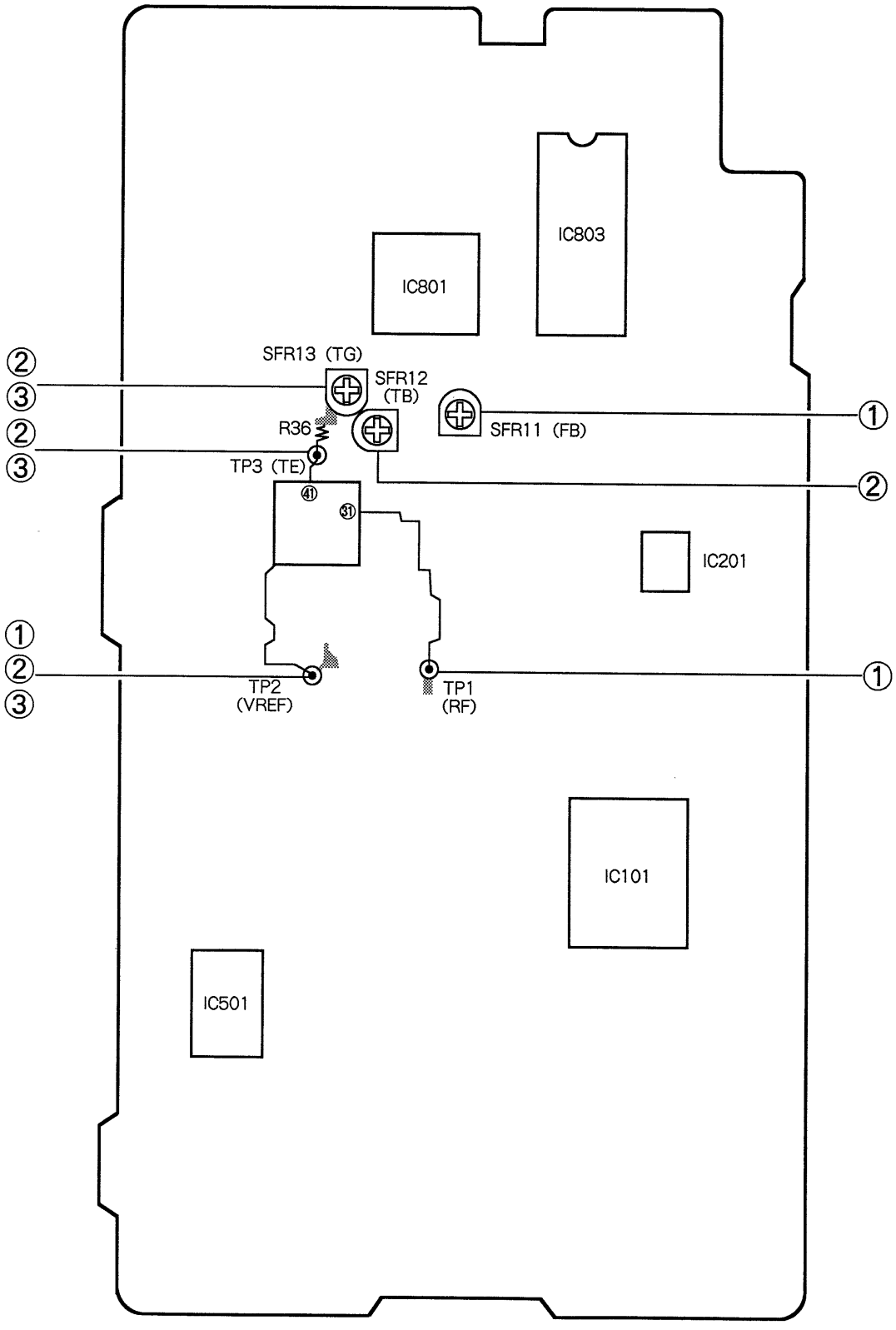
SUPPLEMENT

- CD mechanism of NSX-450G/400,CX-N4500G/N4000/N3900/N450G/N400/NAP1 is changed from 1ZG-1 to 4ZG-1.

- This Service Manual contains only electrical adjustment for CD block of NSX-450G/400,CX-N4500G/N4000/N3900/N450G/N400/NAP1.
  For CD biock, see Service Manual of 4ZG-1 (S/M Code No. 09-046-056-10T).
  If requiring the other information, see Service Manual
  NSX-450G/400 ‹HE,HR,LH› (S/M Code No. 09-947-061-10T),
  NSX-400 ‹HS› (S/M Code No. 09-94C-087-50T),
  CX-N4500G/N4000/N3900 ‹U,C› (S/M Code No. 09-948-067-50T),
  CX-N450G/N400/NAP1 ‹EEZ,EZ,EE,K,Z› (S/M Code No. 09-949-071-40T),
  CX-N400 ‹G› (S/M Code No. 09-94A-074-30T).

S/M Code No. 09-94B-086-40T

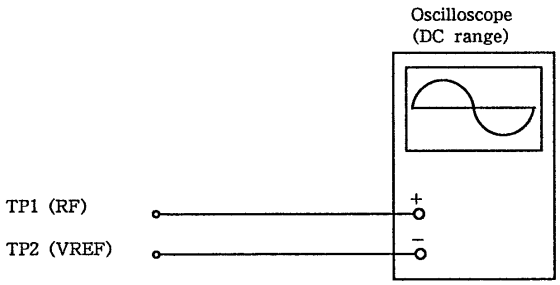
A 3CD C.B


IC803
IC801
SFR13 (TG)
SFR12 (TB)
SFR11 (FB)
R36
TP3 (TE)
41
31
IC201
TP2 (VREF)
TP1 (RF)
IC101
IC501
2
3
2
3
1
2
2
1
1
2
3

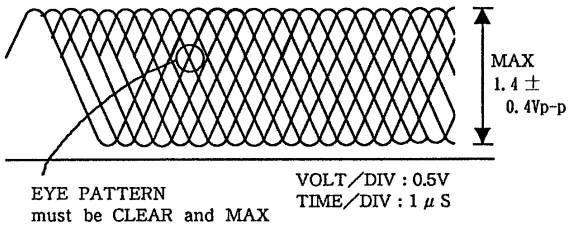
Note : Connect a probe (10 : 1) of the osilloscope or the frequency counter to a test point.

1. Focus Bias Adjustment

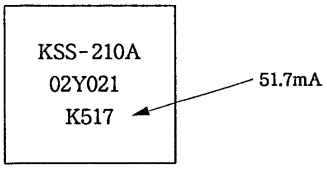
Make the focus bias adjustment when replacing and repairing the optical block.



1) Connect an oscilloscope to test points TP1 (RF) and TP2 (VREF).
2) Turn on the power switch.
3) Insert test disc TCD-782 (YEDS-18) and play back the second composition.
4) Adjust SFR11 so that RF signal of test point TP1 (RF) is MAX and CLEARREST.

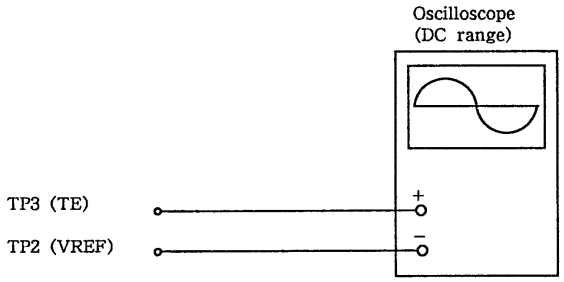


Note : The current of the laser signal can be checked with the voltages on both sides of R28 (10 Ω). Thedifference for the specified value shown on the lavel must be withim ± 6.0mA.

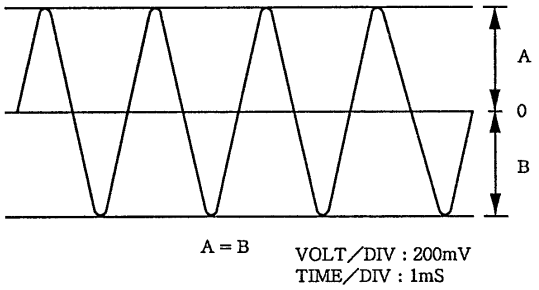


$$\text{Laser current Iop} = \frac{\text{Voltage across R28}}{10\,\Omega}$$

2. Tracking Balance Adjustment



1) Connect an oscilloscope to test points TP3 (TE) and TP2 (VREF).
2) Turn on the power switch.
3) Insert test disc TCD-782 (YEDS-18) andpress the PLAY button.
4) Connect the intermediate point of SFR13 to TP2 (VREF).
5) Adjust SFR12 so that the waveform on the oscilloscope is vertically symmetrical as shown in the figure below.
6) After the adjustment is completed, remove the connected lead wires from the terminals.



3. Tracking Gain Adjustment

A servo analyzer is necessary in order to perform this adjustment exactly. However, this gain has margin, so even if it is slightly off, there is no problem. Therfore, do not perform this adjustment.

Focus/tracking gain determines the pick-up follow-up (vertical and horizontal) relative to mechanical noise and mechinical shock when 2-axis device operates. However, as these reciprocate, the adjustment is at the point where both are satisfied.

- When gain is raised, the noise increases when the 2-axis device opearates.
- When gain is lowered, it is more susceptible to mechanical shock and skipping occurs more easily.

When gain adjustment is off, the symptoms below appear.

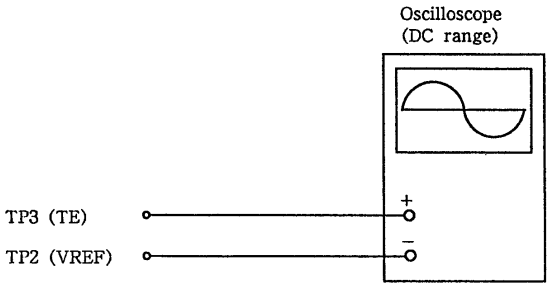
Gain / Symptoms	(Focus)	Tracking
● The time until music starts becomes longer for STOP→▶PLAY or automatic selection (⏮ ⏭buttons pressed.) (Normally takes about 2 seconds.)	low	low or high
● Music does not start and disc continues to rotate for STOP→▶PLAY or automatic selection (⏮ ⏭buttons pressed.)	–	low
● Disc stops to rotate shortly after STOP→▶PLAY.	low or high	–
● Sound is interrupted during PLAY. Or time counter display stops.	–	low
● More noises during the 2-axis device operation.	high	high

The following is simple adjustment method.

– Simple adjustment –

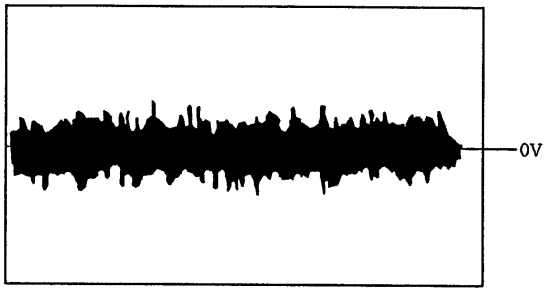
Note : Since exact adjustment cannot be performed, remember the positions of the controls before the performing the adjustment. If the positions after the simple adjustment are only a little different, return the controls to the original position.

Procedure



サービス技術ニュース	
番 号	連絡内容
G – –	
G – –	
G – –	

1) Keep the set horizontal.(If the set is not kept horizontally, this adjustment cannot be performed due to the gravity against the 2 – axis device.)
2) Insert test disc TCD-782 (YEDS-18) and play back the second composition.
3) Connect an oscilloscope to TP3 (TE),TP2 (VREF) of the CD C.B.
4) Adjust SFR3 so that the waveform appears as shown in the figure below.(tracking gain adjustment)

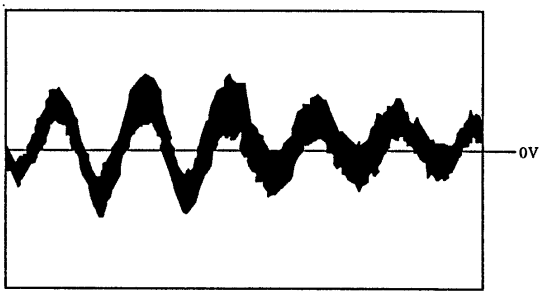


VOLT/DIV : 50mV
TIME/DIV : 1mS

- Incorrect example

Low tracking gain

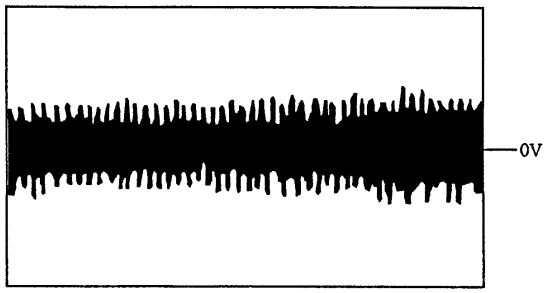
The fundamental wave appearsas compared with the waveform adjusted.



VOLT/DIV : 50mV
TIME/DIV : 1mS

High tracking gain

The frequency of the fundamental wave is higher than in low gain.



VOLT/DIV : 50mV
TIME/DIV : 1mS

アイワ株式会社
AIWA CO.,LTD.

931196 750038

Tokyo Japan

〒110 東京都台東区池之端 1 – 2 –11 ☎ 03 (3827) 3111 (代表)

Printed in Japan