

CS-50 • CS-60
CS-80

BULLETIN NO. E-46

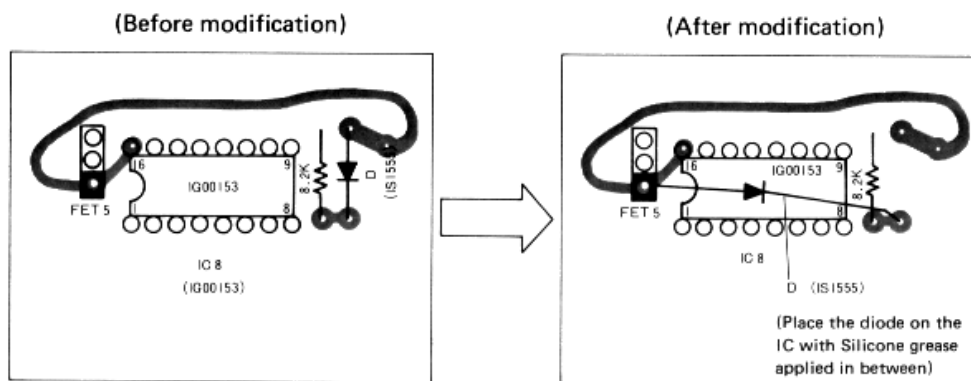
DATE: JAN, 1978

COUNTERMEASURES FOR STABILIZING THE PITCH IN COMBO SYNTHESIZER SERIES

We hereby announce that the undermentioned modifications have been made to stabilize the pitch in the Polyphonic Synthesizer.

(Countermeasures)

- The IC IG00153 (VCOIII) on each "M" circuit board (VCO circuit) is ranked by temperature characteristics and therefore, the applicable ranges of each IG00153 used for an instrument should not exceed 2 ranks.
- The location of the temperature compensated diode IS1555 on each "M" circuit board (VCO circuit) is changed as illustrated below;



- (Note) · The "M" circuit board is not changed.
- Bring the diode IS1555 into contact with the IC IG00153 by applying silicone grease etc., between them.



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(Serial numbers of the applicable models)

- CS-80 : # 1169 and later models (October and later production)
- CS-60 : # 1326 and later models (Mid-October and later production)
- CS-50 : # 1546 and later models (November and later production)

(Note) In addition to the above models, the countermeasures are also applicable to the following models which were produced prior to October, 1977.

CS-80	U.S. model	1116 ~ 1122, 1124, 1133 ~ 1147
	Canadian model	1148 ~ 1155
	Northern European model	1033, 1128, 1131, 1132, 1159 ~ 1168
CS-60	U.S. model	1294 ~ 1310
	Canadian model	1275
	Northern European model	1159, 1185, 1204, 1229, 1246, 1247, 1243, 1281 ~ 1293, 1316 ~ 1325
	South African model	1149, 1279
	Australian model	1029, 1030, 1090
	General export model	1280, 1150
CS-50	U.S. model	1398 ~ 1414
	Canadian model	1420, 1440, 1445 ~ 1448, 1450 ~ 1452, 1455 ~ 1464, 1439
	Northern European model	1067, 1362, 1371, 1376, 1385, 1388, 1386, 1361, 1370, 1367, 1390 ~ 1395
	Australian model	1031, 1034, 1118, 1168
	South African model	1169, 1119
	General export model	1170, 1120, 1215, 1360, 1465



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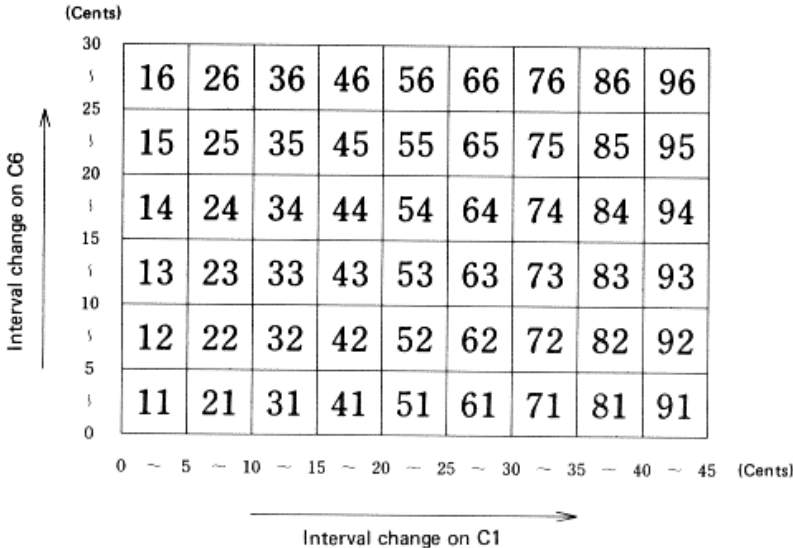
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• **Ranking of the IC IG00153 (VCOIII) by temperature characteristics.**

Each IC IG00153 built into the "M" circuit board is ranked and labelled every 5°C, according to the degree of change in the musical interval on C1 and C6 affected by the ambient temperature change from 25 to 50°C.

[IG00153 ranking table by temperature characteristics]



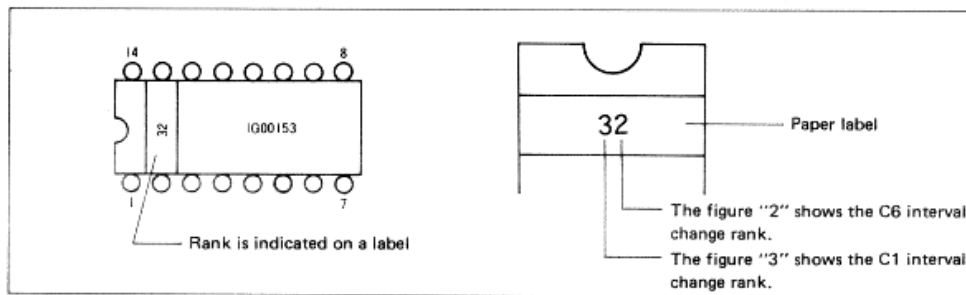
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• **Example of rank indication**

An IC IG00153 which shows an interval change of 12°C on C1 and 6°C on C6 by temperature change from 25 to 50°C is ranked as "32" and labelled as shown below;



(Note) The label is color coded by the C6 rankings.

C6 rank	1	2	3	4	5	6	...
Color code	White	Orange	Pink	Yellow	Green	Blue	...

(The lower digit of rank indication)

• **Applicable range of each IG00153 to an instrument:**

- Only the same figure representing the interval change on C6 can be used.
- Only the neighboring figure representing the interval change on C1 can be used in pairs at the same time for an instrument.

For example, an instrument can have;

- IC IG00153 of "54" and "64". (Label color is yellow)
- IC IG00153 of "23" and "13". (Label color is pink)

Therefore, ICs with different label color can not be used together at the same time for an instrument.