4.3.2 Use as a multiplier (with two inputs $X$, $Y$)

(Use amplifier of LA-121)

As the input impedance of the multiplier is less than 100 KΩ, it is required that every output impedance for $X$, $Y$ should be low enough in comparison with them.

Fig. 4-14

4.3.3 Use as a divider

(Use amplifier of LA-121)

Fig. 4-15
As the input impedance of the divider is 1MΩ at Z side and about 100 KΩ at X side, it is required that the output impedance for X should be low enough compared with this input impedance.

(NOTE) Note for division

It is necessary that input signals X, Z should satisfy the condition described below at any moment.

\[ X > Z \]

\[ X > 0 \]

4.4 Voltage comparator (CP)

This voltage comparator is not equipped with an operational amplifier, so it is necessary to combine it with an amplifier of the linear panel. Patching in case of such combination is shown in Fig. 4-16.

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Fig. 4-16

With the patching shown in Fig. 4-16, the comparator relay operates (switched over to side in Fig. 4-16) when the sum of compared input IN-1 and IN-2 is negative. An example of operation is shown in Fig. 4-17.
With IN-2 grounded, the comparator relay turns to $+$ side when $+$ voltage is applied to the compared input IN-1 through the switch S and turns to $-$ side when $-$ voltage is applied.

Fig. 4-18 is the illustration of this operation.
5. Control board CT-121

5.1 General

The control board CT-121 contains a control panel and an output selecting panel. It is equipped with every device necessary for control, indication and selection. A power supply is also mounted in the rear of the case. Its outside view is shown in Fig. 5-1.

![Diagram of control board CT-121](image)

**Fig. 5-1** Outside view of control board
A3, A4 = A1, A2.