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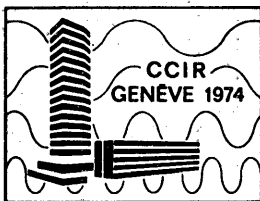
C.C.I.R.

GENEVA, 1974

SUPPLEMENT No. 1 TO REPORT 440-1

GENERAL GRAPHICAL SYMBOLS

FOR RADIOCOMMUNICATIONS



Published by the
INTERNATIONAL TELECOMMUNICATION UNION

GENEVA, 1975

INTERNATIONAL RADIO CONSULTATIVE COMMITTEE

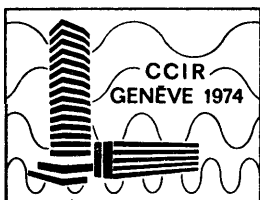
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Report 440-2, adopted unanimously, consists of:

1. Report 440-1, Geneva, 1972, which has already been published as a separate volume,
2. Supplement No. 1, which is presented in this publication.

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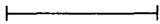
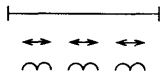
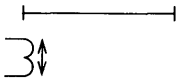
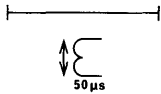
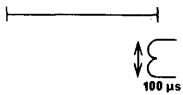
DELAY LINES AND BLOCK SYMBOLS OF DELAY LINES

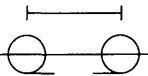
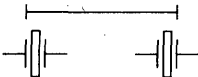
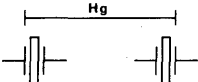
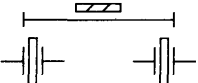
SYMBOLS TAKEN FROM FIRST SUPPLEMENT

TO PUBLICATION 117-13 OF THE IEC


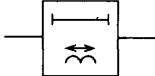

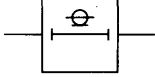
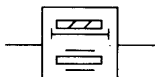
(Block symbols for transmission and miscellaneous applications)

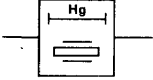
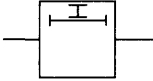
DELAY LINES

No.	Symbol	Description
1400		<p>Symbol indicating delay or delay line.</p> <p><i>Note 1.</i> — The delay time may be indicated.</p> <p><i>Note 2.</i> — The length of the delay symbol may be varied depending on its application.</p>
1401		<p>Magnetostrictive delay line shown with its windings.</p> <p><i>Example:</i></p> <p>With three windings, assembled representation.</p> <p><i>Note 3.</i> — The winding symbols may be oriented as required.</p>
1401.1	  	<p>Magnetostrictive delay line with one input and two outputs giving delays of 50 μs and 100 μs respectively.</p> <p><i>Detached representation.</i></p> <p>Input.</p> <p>Intermediate output.</p> <p>Final output.</p>

No.	Symbol	Description
1402		Coaxial delay line.
1403		Delay line with piezoelectric transducers.
1404		Mercury delay line with piezoelectric transducers.
1405		Solid material delay line with piezoelectric transducers.

BLOCK SYMBOLS FOR DELAY LINES

No.	Symbol	Description
1410		<p>Delay line. <i>General symbol.</i></p> <p><i>Note 4.</i> — The type of delay line may be shown by using the appropriate qualifying symbols.</p> <p><i>Note 5.</i> — Symbol No. 1410 may be used also to represent delay devices or delay elements of any kind.</p>
1411		<p>Magnetostrictive delay line.</p>
1412		<p>Magnetostrictive delay line with one input and two outputs giving delays at 50 μs and 100 μs.</p>
1413		<p>Coaxial delay line.</p>
1414		<p>Solid material delay line with piezoelectric transducers.</p>

No.	Symbol	Description
1415		Mercury delay line with piezoelectric transducers.
1416		Artificial line used as a delay line.

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THRESHOLD DEVICES
DISTORTION CORRECTORS
NON-DISTORTING AMPLITUDE CONTROLLER

SYMBOLS TAKEN FROM SECOND SUPPLEMENT

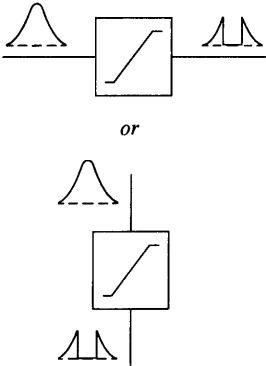
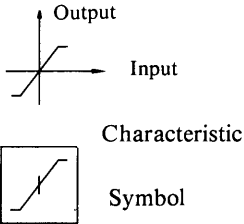
TO PUBLICATION 117-13 OF THE IEC

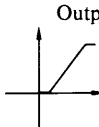

(Block symbols for transmission and miscellaneous applications)

THRESHOLD DEVICES — GENERAL SYMBOL



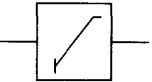
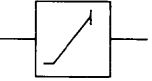
No.	Symbol	Description
1421		Threshold device (e.g. clippers) <i>General symbol.</i>

METHOD OF DERIVING THE SYMBOLS


No.	Symbol	Description
1422		<p>When it is necessary to show details of the operation carried out by the device, one of the following methods should be used.</p>
1422.1	<p><i>Examples:</i></p>  <p style="text-align: center;"><i>or</i></p>	<p>Method 1</p> <p>Use of the general symbol supplemented by the appropriate wave-forms next to the input and output signal paths.</p>
1422.2.1	 <p style="text-align: center;">Characteristic</p> <p style="text-align: center;">Symbol</p>	<p>Method 2</p> <p>Use of a symbol consisting of a rectangle containing a figure derived from the input/output characteristic in the following manner:</p> <p>The axes are deleted but the origin is indicated by a short vertical stroke representing the y-axes.</p>

No.	Symbol	Description
1422.2.2	<p data-bbox="255 312 345 338"><i>Example:</i></p> <div data-bbox="255 396 431 523"></div> <p data-bbox="360 548 504 575">Characteristic</p> <div data-bbox="255 580 332 662"></div> <p data-bbox="360 624 440 651">Symbol</p>	<p data-bbox="580 346 1115 428">The origin may be located in the rectangle in such a position that the characteristic makes the maximum use of the available space.</p>

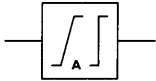
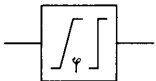

EXAMPLES

No.	Symbol	Description
1425		Device having a linear input/output characteristic for all signals which exceed a given threshold value and which has no output for input signals having an instantaneous amplitude between zero and that threshold.
1426		Device having a linear input/output characteristic for all signals which exceed a preset threshold value and which has no output for input signals having an instantaneous amplitude between zero and that threshold.
1427		Positive peak clipper.
1428		Negative peak clipper.


DISTORTION CORRECTORS — GENERAL SYMBOL

No.	Symbol	Description
1431		Distortion corrector. <i>General symbol.</i>

EXAMPLES

No.	Symbol	Description
1432		Amplitude/frequency distortion corrector, e.g. equalizer.
1433		Phase/frequency distortion corrector. <i>Note.</i> — If it is desirable to indicate that the equalization refers to the time derivative of ϕ , ϕ may be replaced by $\dot{\phi}$.
1434		Delay/frequency distortion corrector.

NON-DISTORTING AMPLITUDE CONTROLLER

No.	Symbol	Description
1441		Non-distorting amplitude controller.

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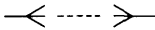
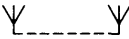
TELECOMMUNICATION LINES

SYMBOLS TAKEN FROM

PUBLICATION 117-14 OF THE IEC

(Telecommunication lines and accessories)


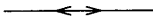

LINES — GENERAL SYMBOL

No.	Symbol	Description
428		<p>Line, circuit, cable or radio link. <i>General symbol.</i></p> <p><i>Note 1.</i> — A dashed line may be used to identify a radio link or any radio section of a circuit.</p> <p><i>Note 2.</i> — Aerial symbols may be placed at the radio terminal points.</p>
428.1.1		<p><i>Example:</i></p> <p>Radio link.</p>
428.1.2	<p>or</p> 	

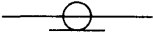
QUALIFYING SYMBOLS TO INDICATE THE USAGE OF CIRCUITS

No.	Symbol	Description
1500	F	Telephony.
1501	T	Telegraphy and transmission of data.
1502	V	Vision (Video) of a television circuit.
1503	S	Sound of a television or a music circuit.

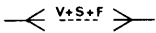
QUALIFYING SYMBOLS TO INDICATE DIRECTION OF WORKING OR PROPAGATION

No.	Symbol	Description
1302		One way.
1303		Both ways, not simultaneously.
1304		Both ways, simultaneously. <i>Note 3.</i> — The arrows are drawn on the signal path or may be shown on an appropriate side of a block symbol.

TYPE OF LINE

No.	Symbol	Description
63D		Coaxial line. <i>Note 4.</i> — If necessary, the qualifying symbol may be repeated.

EXAMPLES

No.	Symbol	Description
1521		Radio link carrying television (vision and sound) and telephony.

