

INTERNATIONAL ELECTROTECHNICAL COMMISSION

TECHNICAL COMMITTEE No. 3: GRAPHICAL SYMBOLS

Unconfirmed Minutes of the meeting
held in Helsinki
on 9th September 1971

Present:

Chairman: Mr. E. GEORGII (Switzerland)
Secretary: Mr. E. RUOSCH (Switzerland)

<u>COUNTRY</u>	<u>DELEGATES</u>
FINLAND	Mr. T. Hankio Mr. J. Jauhainen Mr. R. Huttunen Mr. K. Nurminen Mr. R. Svensson Mr. T. Viitanen
FRANCE	Mr. P.J.M. Cornu Mr. Ch.A. Pannier Mr. J.J. Thurwanger
GERMANY	Mr. H. Hollender Mr. E. Teller
NORWAY	Mr. J. Pettersen
SWEDEN	Mr. J. Nordlöf
SWITZERLAND	Mr. M. Ducommun
UNITED KINGDOM	Mr. S.J. Aries Mr. J. Askov Mr. L.D. Green
U.S.A.	Mr. Ch.A. Fricke Mr. G. Shapiro
CCIR Observer	Mr. P. Guillot

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I. OPENING OF THE MEETING

Mr. Georgii, the Chairman of Technical Committee No. 3 opened the meeting and welcomed the delegates present.

II. APPROVAL OF THE DRAFT AGENDA

The draft agenda, Document 3(Central Office)545, was approved without amendments.

III. CONFIRMATION OF THE MINUTES OF THE MEETING HELD IN ZURICH ON
19TH NOVEMBER 1970: RM 1359/TC 3

The above-mentioned Minutes were confirmed.

IV. REPORT FROM THE CHAIRMAN OF CCI/IEC JOINT WORKING GROUP: GRAPHICAL
SYMBOLS FOR TELECOMMUNICATION EQUIPMENTS. (APPENDIX A)

Due to a change of employment, Mr. Bondesson had relinquished his duty of Secretary of the Group after the meeting in Rome. The Group was fortunate enough to secure the services of Mr. J. Nordelöf as his successor. Mr. M. Dubran was confirmed as permanent member of the Group from the IEC side and Mr. Shapiro had taken the place of Mr. Muller. There was also a need to appoint

a replacement for Mr. Georgii and Professor Schönfeld, who had resigned, thus there was a need for about four new members from the IEC side. TC 3 concluded that an inquiry all round would be started, especially by Mr. Thurwanger and Mr. Nordelöf. The Chairman of the JWG, Mr. Aries, could designate new members of the Group.

V. REPORTS FROM SUB-COMMITTEE 3A: GRAPHICAL SYMBOLS FOR DIAGRAMS AND ITS WORKING GROUPS

a) Report from SC 3A (Appendix B)

b) Report from Working Group 1: Graphical Symbols for Aircraft Electrical Systems

TC 3 had received no report from WG 1. Document 3A(Secretariat)12: Aircraft Electrical Systems, had been referred back to be dealt with by WG 1 by the end of this year. The document would then be circulated to the National Committees for approval under the Six Months' Rule.

c) Report from Working Group 2: Graphical Symbols for Information Processing (Appendix C)

Mr. J.N.A. van Poeteren had resigned as Chairman and member of WG 2, which he had conducted in a very able way during the past five years. Mr. Eversdijk was proposed as his successor. TC 3 agreed to this appointment and to Mr. Polis sending out a letter advising that Mr. Eversdijk had been appointed by SC 3A and TC 3.

Document 3A(Secretariat)11: Additional symbols for binary logic elements, had been referred back to be dealt with by WG 2 in October 1971. The document would then be circulated to the National Committees for approval under the Six Months' Rule.

VI. REPORT FROM SUB-COMMITTEE 3B: PREPARATION OF DIAGRAMS, CHARTS AND TABLES - ITEM DESIGNATIONS (APPENDIX D)

Due to Professor Schönfeld's resignation a new Chairman would be elected. Mr. Fricke emphasized the good work that had been done in SC 3B under the direction of Professor Schönfeld.

VII. REPORT FROM SUB-COMMITTEE 3C: GRAPHICAL SYMBOLS FOR USE ON EQUIPMENT (APPENDIX E)

The Voting Report of Document 3C(Central Office)5: Symbol for dangerous voltage, had not yet appeared.

VIII. OTHER BUSINESS

a) In a letter dated December 1970, the General Secretary of the IEC, Mr. Stanford, had informed TC 3 that TC 24 had requested in Document 24(Secretariat)139: Graphical symbols for concepts used in the draft conventions concerning electric and magnetic circuits, that graphical symbols for gyrators be prepared. Mr. Shapiro would contact the Chairman of TC 24 and clarify the situation. The problem would then be transferred to the Joint Working Group.

b) Regarding the difficulties concerning symbols for

- Neutral
- Neutral used for protection purposes, and
- Protective conductor,

this was dealt with in Document 30(Central Office)11: Symbols for earth and chassis conventions.

c) Index listings for IEC Publication 117 and for TC 3 documents. (Document 3(U.S.A.)509).

The comments of the U.S. National Committee on the index should give basic rules for a new index with a brief description of the item name or title of each symbol. Copies of this document were circulated to all members of TC 3. Comments on this document were requested to be forwarded to Mr. Shapiro of the U.S. National Committee directly.

d) There were difficulties in some Technical Committees concerning the functional symbols. A brief terminology was requested. This problem would be dealt with by the Joint Working Group and might be dealt with together with the Index.

IX. DATE OF NEXT MEETING

The next meeting of TC 3, SC 3A and SC 3C would be held in November 1972 in Athens during the IEC General Meeting. The next meeting of SC 3B was planned for August or September 1972.

Number of half-day sittings required:

TC 3	2	} half-days
SC 3A	10	
SC 3B	10	
SC 3C	4	

X. CLOSE OF MEETING

On behalf of all the delegates, Mr. Georgii expressed his sincere appreciation to the Finnish National Committee and to the Helsinki Telephone Company for the perfect organization of the meetings and the excellent facilities provided in respect of the Secretariat, refreshments and meals. He expressed special thanks to Mr. Yrjölä, Mr. Nordman, Mr. Ilomaki, Professor Jauhianen, Mr. Huttunen, Mr. Viitanen, Miss Eerola and Mrs Haarna for the excellent hospitality.

Mr. Georgii also thanked the Chairmen and Secretaries of the Sub-Committees and Working Groups, as well as all delegates, for the very good work that had been done.

Mr. Thurwanger, on behalf of the delegates, expressed his compliments to Mr. Georgii for having accomplished an often difficult task with such admirable authority and decision.

The Chairman then declared the meeting closed.

APPENDIX A

Report of the Chairman of the CCI/IEC Joint Working Group

Last Meeting

At the kind invitation of Professor Ferrari-Toniolo the Group met in Rome from 30th March to 2nd April. Some of the items on the Agenda resulted from requests by Sub-Committees 3A and 3C and others consisted of proposals submitted by members of the Group. Because of the content of some of these items, the additional heavy current experts who had strengthened the Group at the previous meeting were again invited to attend, but only one was able to come. As a result of the discussions, a number of documents were prepared and submitted to the parent organizations. Those forwarded to SC 3A have since been issued as Secretariat documents as follows:

- 3A(Secretariat)13 Symbols for miscellaneous generators of electrical power
- 3A(Secretariat)14 Symbols for counting devices
- 3A(Secretariat)15 Symbols for plant details in local telephone networks
- 3A(Secretariat)16 Symbols for lamps
- 3A(Secretariat)17 Symbols for limit switches
- 3A(Secretariat)18 Symbols for heat sensitive switches
- 3A(Secretariat)19 Symbols for ferrite beads

Secretariat

Due to a change of employment Mr. Bondesson relinquished his duty of Secretary to the Group immediately after the meeting in Rome. Mr. Bondesson had held the position since the JWG was founded in 1961 and his enthusiasm and efficiency have undoubtedly contributed greatly to the successful completion of many tasks. As his successor, the Group was fortunate enough to secure the services of Mr. J. Nordelöf.

Next Meeting

Although there are still a few outstanding matters there is insufficient work on hand at the time of writing to justify the arrangement of a meeting in Spring 1972.

APPENDIX B

Report from the Chairman of SC 3A

Results of the meeting

Ready for publication

Documents

- 3A(Central Office)5: Polarized relays, as an amendment to Publication 117-3, Chapter VII.
- 3A(Central Office)6: Ferrite cores and magnetic storage matrices, as a new Publication 117-16.
- 3A(Central Office)7: Signalling lamp and position indicator, as an amendment to Publication 117-3, Chapter III.
- 3A(Central Office)8: Measuring relays and related devices, as a supplement to Publication 117-3, New Chapter VIII.
- 3A(Central Office)9: Threshold devices (e.g. clippers), as a supplement to Publication 117-13, New chapter.

For circulation for approval under the Six Months' Rule

- 3A(Secretariat)11: Additional symbols for binary logic elements, after having been dealt with by Working Group 2 of SC 3A in October 1971 as supplement to Publication 117-15.
- 3A(Secretariat)12: Aircraft electrical systems, as supplement to different Publication 117 ...

For circulation as Secretariat documents

- 3A(Secretariat)8: Contact units and switches.
- 3A(Secretariat)9: Button and lever-type switches.
- 3A(Secretariat)10: Multi-position switches.

The above documents will be grouped together in one new Secretariat document. Amendment to Publication 117-3.

- 3A(Secretariat)7: Radiation measuring equipment.

After having been dealt with by the new Working Group 3 of SC 3A, before the end of 1971.

Miscellaneous

- 3A(Secretariat)6: Industrial electro heating appliances, would be referred to TC 27 for comments.
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APPENDIX C

Report of SC 3A/WG 2 concerning the work on graphical symbols for information processing

Working Group SC 3A/WG 2 has the opinion that its main task is the development of a sound philosophy for graphical symbols for information processing. This is more than designing a set of symbols and this is the reason that the Working Group has often commented on its former work. During its last meeting in Munich from 5th to 11th May 1971, the Working Group decided to slow down the work on logical symbols, as it seemed useless to go too far in detail, and to start with the work concerning symbols for analogue information processing. Mr. van Poeteren, Chairman of the Working Group, had to withdraw completely from standardization work and could not attend the Munich meeting. He wrote a farewell letter to the members of the Working Group. Mr. Eversdyk was elected as Chairman on an interim basis while awaiting his formal appointment by TC 3. The first part of the meeting was devoted to the comments on Document 3A(Secretariat)11. Without introducing many new symbols, a number of amendments were given to improve the document and to make it more consistent. Much attention was paid to dependency notation and memories. The field of Analogue Information Processing was divided into two parts, the Process Control field and the Computation field. In the last field there was already a number of symbols in use. As these symbols were based on distinct shape, the Working Group was not in favour of the use of these symbols in both fields. At last a solution was found in developing a set of qualifying symbols for functions needed in both fields. In process control these qualifying symbols can be used with rectangles and in computation with the shapes already existing. The Working Group hopes that in the future the distinct shape symbols will gradually disappear. This philosophy and also a number of symbols will be presented in a document to obtain comments from the National Committees. The next meeting of the Working Group will be from 19th to 23rd October 1971 at Scheveningen (Holland).

APPENDIX D

Report to TC 3 from the acting Chairman (for the meetings in Helsinki) of Sub-Committee 3B: Preparation of diagrams, charts and tables. Item designation

SC 3B and SC 3B/WG 1 have not met since the meeting in Zurich, November 1970.

Document 3B(Secretariat)3: Draft - Guiding principles for the preparation of circuit diagrams, has been circulated to National Committees for comments. At the meeting in Helsinki all these comments were studied. As a result of this study, amendments and additions were agreed. In view of the many alterations and additions to the document the Sub-Committee agreed to recommend that a new edition be circulated to the National Committees as a Secretariat document.

APPENDIX E

Report from the Chairman of Sub-Committee 3C to TC 3:
Graphical symbols for use on equipment

Work carried out since the Zurich meeting

Since the meeting of SC 3C held at Zurich on 18th November 1970, the following activities can be reported:

1. A letter has been circulated by the Central Office to all IEC Technical Committees, Sub-Committees and National Committees on the matter of co-operation with SC 3C.
2. An advisory report has been received from the CCI/IEC - Joint Working Group on the symbols contained in Document 3C(Secretariat)3A.

Proper follow-up will be given by the Secretariat in time for the next meeting of SC 3C.

3. The consultative group consisting of Messrs. Auerbach, Oostdan, Pouzols and Polis met on 17th December 1970. This group dealt with Documents 12(Central Office)210 to 218.

As a result of this discussion, the following documents were prepared by the Secretariat and circulated by the Central Office:

- | | |
|-----------------------|--|
| 3C(Secretariat)7: | Draft - Graphical symbols for switches. |
| 3C(Secretariat)8: | Draft - Symbols for automatic frequency control (AFC). |
| 3C(Central Office)4: | Draft - Scope and general principles. |
| 3C(Central Office)5: | Draft - Symbol for dangerous voltage. |
| 3C(Central Office)6: | Draft - Symbol for signal lamp. |
| 3C(Central Office)7: | Draft - Symbols for polarity, kinds of current, input, output. |
| 3C(Central Office)8: | Draft - Symbols for television equipment. |
| 3C(Central Office)9: | Draft - Symbols for electro-acoustic equipment. |
| 3C(Central Office)10: | Draft - Symbols for general use. |
| 3C(Central Office)11: | Draft - Symbols for earth and chassis connections. |
| 3C(Central Office)12: | Draft - Symbols for radio equipment. |
| 3C(Central Office)13: | Draft - Symbols for recording and reproducing equipment. |
| 3C(Secretariat) ... | Draft - Symbol for fan. |

4. The Secretariat further prepared the following documents, circulated by the Central Office:

- | | |
|---------------------|---|
| 3C(Secretariat)6: | Draft - Symbol for zero-volt connection. |
| 3C(Secretariat)9: | Draft - Symbols for trimming. |
| 3C(Secretariat)10: | Draft - Stereophonic connection for loudspeakers and microphones. |
| 3C(Secretariat)11: | Draft - Symbols for radar equipment. |
| 3C(Secretariat)12: | Draft - Alpha-numerical indexes and survey of symbols. |
| 3C(Secretariat) ... | Draft - Symbol for pick-up for video disk records. |

Results obtained at the Helsinki meeting

The following documents were discussed:

3C(Secretariat)7: Draft - Graphical symbols for switches

Because of the fact that three sets of symbols existed for the concepts ON, OFF and ON/OFF, SC 3C circulated this document requesting the National Committees to state their preference.

SC 3C succeeded in ending up with only one set of symbols, being those published in ISO Recommendation R 369.

3C(Secretariat)6: Draft - Graphical symbol for zero-volt connection

An amended document will be recirculated as a Secretariat document.

3C(Secretariat)8: Draft - Symbol for AFC

An amended Secretariat document will be circulated.

3C(Secretariat)9: Draft - Symbols for trimming

This document will be circulated for approval under the Six Months' Rule.

3C(Secretariat)10: Draft - Stereophonic connections for loudspeakers and microphones

The meeting decided that this document should be reconsidered by the Secretariat.

3C(Secretariat)11: Draft - Symbols for radar equipment

This document will be reconsidered by a Secretariat Advisory Group of specialists in the field of radar equipment, and in close cooperation with IMCO, for which the support of the Central Office is sought.

The meeting has given a mandate to the Central Office to start negotiation with the IMCO, before its meeting in November 1971, in order to find the best possible way for cooperation between IMCO and SC 3C.

Date of next meeting

It was agreed that SC 3C should meet during the next IEC General Meeting in November 1972.

It was considered that two meeting days (four sessions) will be sufficient.

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