

# ELECTRICAL COMMUNICATION INDEX, VOLUME 57 (1982)

## Subject Index

	Number	Page
Adaptive Beam Forming for Radar, P. Barton and P. K. Blair .....	1	62
Cables, Development of Flame Retardant, Low Aggressivity, J. R. Bury, B. A. Cranfield, and W. E. Simpson .....	2	83
CHILL, Programming Environment for the ITT 1240, T. Haque .....	4	326
Chipstrate Interconnection Substrates for Advanced Electronic Systems, M. El Refaie .....	2	142
Coaxial Cable System, 18 MHz, C. Gonzalez Madroño and K. Kocher .....	3	236
Coaxial Line Equipment for 34 to 565 Mbit s <sup>-1</sup> , A. Hemsworth, A. Jessop, W. Kolb, P. Norman, A. Norz, and G. Windus .....	3	243
Communication Support for Program Development, ITT/NET, S. R. Kimbleton and P. S.-C. Wang .....	4	320
Computerized Vision in Manufacturing Industry, I. H. Smith .....	2	116
Computer Programs, Quality Assurance for, R. H. Dunn and R. S. Ullman .....	4	301
Coordination System Technology as the Base for a Programming Environment, A. W. Holt, H. R. Ramsey, and J. D. Grimes .....	4	307
Data Modem Evolution, H. Nyman, F. Salcedo, J. T. L. Sharpe, and C. W. Tarry .....	3	187
Design of Optical Fiber Cables, M. M. Ramsay, J. N. Russell, and J. G. Titchmarsh .....	2	96
Development of Flame Retardant, Low Aggressivity Cables, J. R. Bury, B. A. Cranfield, and W. E. Simpson .....	2	83
Developments in Crosslinked Polyethylene Insulation for Power Cables, L. A. Dissado, J. C. Fothergill, and S. V. Wolfe .....	2	87
Dielectrics for Submarine Cables, D. L. Walters .....	2	91
Digital Multiplexers for Rates from 2 to 565 Mbit s <sup>-1</sup> , A. Barbetta and M. Natens .....	3	251
Digital Radio Relay System for Transmission at 140 Mbit s <sup>-1</sup> , A. Berndt and H.-G. Gerst .....	3	222
Digital Radio Relay System for Regional Networks, H. D. Brudy and K. D. Hopf .....	3	265
Digital Radio Relay System for Transmission at 34 Mbit s <sup>-1</sup> , F. Frey .....	3	215
Digital Signal Processing in Transmission Terminals, P. J. Elce and L. D. Humphrey .....	3	195
Display Terminals, Human Factors and the Design of, D. J. Wheatley .....	1	11
Dry Removal of Plastic Encapsulants by Plasma Ashing, M. E. Holycross and E. J. Saccocio .....	2	157
Dynamic Program Modification, J. A. De Man and M. A. E. van Rumste .....	4	339
Education, Interactive Learning Environment for Programming, H. F. Moody and F. Wilson .....	4	315
Electro-Optical Applications, Transparent Ceramics for, A. Gutu-Nelle, H. Schichl, and J. Springer .....	2	171
Fiber Optic Sensors, G. D. Pitt .....	2	102
Hall Effect Devices for Relay and Other Applications, A. H. Marchant and G. D. Pitt .....	2	107
Human Factors and Intelligent Products, I. Cole, B. Drake, and J. Harvey .....	1	18
Human Factors and the Design of Display Terminals, D. J. Wheatley .....	1	11
Hybrid Circuits, Non-Noble Metal Inks for Thick Film, M. Hinoul, W. Vermeirsch, and R. Vlaeminck .....	2	137
<b>Industrial Design and Human Factors</b>		
Human Factors and Intelligent Products, I. Cole, B. Drake, and J. Harvey .....	1	18
Human Factors and the Design of Display Terminals, D. J. Wheatley .....	1	11
Overview .....	1	2
The Role of Industrial Design, P. J. Leslie .....	1	3
Intelligent Products, Human Factors and, I. Cole, B. Drake, and J. Harvey .....	1	18
Interactive Learning Environment for Programming Education, H. F. Moody and F. Wilson .....	4	315
Isolation Techniques for Very Large Scale Integration, D. Beernaert, G. Schols, and P. Van Iseghem .....	2	161
ITT/NET Communication Support for Program Development, S. R. Kimbleton and P. S.-C. Wang .....	4	320
ITT 1240 Programming Planning for Multilocation Development, D. A. Lawson .....	4	284
ITT1240, CHILL Programming Environment for the, T. Haque .....	4	326
Library, Project, R. Raible .....	4	334
Liquid Crystal Displays, P. W. Ross .....	2	121
Low Temperature Soldering, S. Smernos and R. Strauss .....	2	148
LSI and VLSI Fractured Cross Sections, Scanning Electron Microscope Examination of, J. Knecht and M. Macari .....	2	167
<b>Materials Technology</b>		
Chipstrate Interconnection Substrates for Advanced Electronic Systems, M. El Refaie .....	2	142
Computerized Vision in Manufacturing Industry, I. H. Smith .....	2	116
Design of Optical Fiber Cables, M. M. Ramsay, J. N. Russell, and J. G. Titchmarsh .....	2	96
Development of Flame Retardant, Low Aggressivity Cables, J. R. Bury, B. A. Cranfield, and W. E. Simpson .....	2	83
Developments in Crosslinked Polyethylene Insulation for Power Cables, L. A. Dissado, J. C. Fothergill, and S. V. Wolfe .....	2	87
Dielectrics for Submarine Cables, D. L. Walters .....	2	91

	Number	Page
Dry Removal of Plastic Encapsulants by Plasma Ashing, M. E. Holycross and E. J. Saccocio	2	157
Fiber Optic Sensors, G. D. Pitt	2	102
Hall Effect Devices for Relay and Other Applications, A. H. Marchant and G. D. Pitt	2	107
Isolation Techniques for Very Large Scale Integration, D. Beernaert, G. Schols, and P. Van Iseghem	2	161
Liquid Crystal Displays, P. W. Ross	2	121
Low Temperature Soldering, S. Smemos and R. Strauss	2	148
Non-Noble Metal Inks for Thick Film Hybrid Circuits, M. Hinoul, W. Vermeirsch, and R. Vlaeminck	2	137
Overview	2	82
Plastic-Encapsulated Semiconductor Components for Telecommunication Systems, D. Stroehle	2	152
Polymer Conductors: Materials and Process Applications, G. L. Ashcroft	2	132
Scanning Electron Microscope Examination of LSI and VLSI Fractured Cross Sections, J. Knecht and M. Macari	2	167
Stress Relaxation Tests on Conductor and Spring Materials, W. R. George	2	112
Thick Film Materials and Reliability, P. W. Graves	2	127
Transparent Ceramics for Electro-Optical Applications, A. Gutu-Nelle, H. Schichl, and J. Springer	2	171
Medium-Capacity Digital Radio Relay System, P. G. Debois	3	208
Millimeter-Wave Radar Technology, D. zur Heiden	1	70
Multilocation Development, ITT 1240 Programming Planning for, D. A. Lawson	4	284
<b>New Radar Techniques for Tracking Targets at Low Elevations, P. Barton and W. D. Waddoup</b>	<b>1</b>	<b>44</b>
Non-Noble Metal Inks for Thick Film Hybrid Circuits, M. Hinoul, W. Vermeirsch, and R. Vlaeminck	2	137
<b>Optical System, 140 Mbit s<sup>-1</sup> Multimode, D. S. Thomas</b>	<b>3</b>	<b>201</b>
Overview (Industrial Design and Human Factors and Radar)	1	2
Overview (Materials Technology)	2	82
Overview (Programming Technology)	4	274
Overview (Transmission)	3	178
<b>Planning and Implementation of PCM Systems on Symmetric Pair Cables, R. J. Catchpole, P. J. Dyke, and E. S. Usher</b>	<b>3</b>	<b>180</b>
Plasma Ashing, Dry Removal of Plastic Encapsulants by, M. E. Holycross and E. J. Saccocio	2	157
Plastic-Encapsulated Semiconductor Components for Telecommunication Systems, D. Stroehle	2	152
Polymer Conductors: Materials and Process Applications, G. L. Ashcroft	2	132
Power Cables, Developments in Crosslinked Polyethylene Insulation for, L. A. Dissado, J. C. Fothergill, and S. V. Wolfe	2	87
<b>Programming</b>		
CHILL Programming Environment for the ITT 1240, T. Haque	4	326
Coordination System Technology as the Base for a Programming Environment, A. W. Holt, H. R. Ramsey, and J. D. Grimes	4	307
Dynamic Program Modification, J. A. De Man and M. E. van Rumste	4	339
Interactive Learning Environment for Programming Education, H. F. Moody and F. Wilson	4	315
ITT/NET Communication Support for Program Development, S. R. Kimbleton and P. S.-C. Wang	4	320
ITT 1240 Programming Planning for Multilocation Development, D. A. Lawson	4	284
Overview	4	274
Prevention and Removal of Programming Defects, T. C. Jones	4	295
Programming Support: Tools of the Trade, M. P. Saward	4	289
Programming in ITT, E. R. Kidd	4	276
Project Library, R. Raible	4	334
Quality Assurance for Computer Programs, R. H. Dunn and R. S. Ullman	4	301
Prevention and Removal of Programming Defects, T. C. Jones	4	295
Programming Environment, Coordination System Technology as the Base for a, A. W. Holt, H. R. Ramsey, and J. D. Grimes	4	307
Programming Support: Tools of the Trade, M. P. Saward	4	289
Programming in ITT, E. R. Kidd	4	276
Project Library, R. Raible	4	334
Pulse Code Modulation System, 10-Channel, T. Henriksen, O. Kvingedal, and B. Solberg	3	259
<b>Quality Assurance for Computer Programs, R. H. Dunn and R. S. Ullman</b>	<b>4</b>	<b>301</b>
<b>Radar</b>		
Adaptive Beam Forming for Radar, P. Barton and P. K. Blair	1	62
Millimeter-Wave Radar Technology, D. zur Heiden	1	70
New Radar Techniques for Tracking Targets at Low Elevations, P. Barton and W. D. Waddoup	1	44
Overview	1	2
Radar Technology in ITT, R. Palmer	1	26
Stentor Long Range Ground Surveillance Radar, P. Stoll	1	32
Tactical Three-Dimensional Air Surveillance Radar, G. Pfister	1	51
Technology for Future Mobile Ground Surveillance Radars, G. Tessmar	1	37

	Number	Page
Radar Technology in ITT, R. Palmer .....	1	26
<b>Radio Relay Systems</b>		
Digital Radio Relay System for Regional Networks H. D. Brudy and K. D. Hopf .....	3	265
Digital Radio Relay Systems for Transmission at 34 Mbit s <sup>-1</sup> , F. Frey .....	3	215
Digital Radio Relay System for Transmission at 140 Mbit s <sup>-1</sup> , A. Berndt and H.-G. Gerst .....	3	222
Medium-Capacity Digital Radio Relay System, P. G. Debois .....	3	208
<b>Scanning Electron Microscope Examination of LSI and VLSI Fractured Cross Sections,</b>		
J. Knecht and M. Macari .....	2	167
Sensors, Fiber Optic, G. D. Pitt .....	2	102
Signal Processing in Transmission Terminals, Digital, P. J. Elce and L. D. Humphrey .....	3	195
Soldering, Low Temperature, S. Smernos and R. Strauss .....	2	148
Statistical Time Division Multiplexer for Data Networks, A. Barbetta and S. R. Treves .....	3	228
Stentor Long Range Ground Surveillance Radar, P. Stoll .....	1	32
Stress Relaxation Tests on Conductor and Spring Materials, W. R. George .....	2	112
Submarine Cables, Dielectrics for, D. L. Walters .....	2	91
<b>Tactical Three-Dimensional Air Surveillance Radar, G. Pfister .....</b>		
Technology for Future Mobile Ground Surveillance Radars, G. Tessmar .....	1	37
The Role of Industrial Design, P. J. Leslie .....	1	3
Thick Film Materials and Reliability, P. W. Graves .....	2	127
Time Division Multiplexer, Statistical, A. Barbetta and S. R. Treves .....	3	228
<b>Transmission</b>		
Coaxial Line Equipment for 34 to 565 Mbit s <sup>-1</sup> ,		
A. Henswoth, A. Jessop, W. Kolb, P. Norman, A. Norz, and G. Windus .....	3	243
Data Modem Evolution, H. Nyman, F. Salcedo, J. T. L. Sharpe, and C. W. Tarry .....	3	187
Digital Multiplexers for Rates from 2 to 565 Mbit s <sup>-1</sup> , A. Barbetta and M. Natens .....	3	251
Digital Radio Relay Systems for Transmission at 34 Mbit s <sup>-1</sup> , F. Frey .....	3	215
Digital Radio Relay System for Transmission at 140 Mbit s <sup>-1</sup> , A. Berndt and H.-G. Gerst .....	3	222
Digital Radio Relay System for Regional Networks, H. D. Brudy and K. D. Hopf .....	3	265
Digital Signal Processing in Transmission Terminals, P. J. Elce and L. D. Humphrey .....	3	195
Medium-Capacity Digital Radio Relay System, P. G. Debois .....	3	208
Overview .....	3	178
Planning and Implementation of PCM Systems on Symmetric Pair Cables,		
R. J. Catchpole, P. J. Dyke, and E. S. Usher .....	3	180
Statistical Time Division Multiplexer, A. Barbetta and S. R. Treves .....	3	228
10-Channel Pulse Code Modulation System, T. Henriksen, O. Kvingedal, and B. Solberg .....	3	259
140 Mbit s <sup>-1</sup> Multimode Optical System, D. S. Thomas .....	3	201
18 MHz Coaxial Cable System, C. Gonzalez Madroño and K. Kocher .....	3	236
Transparent Ceramics for Electro-Optical Applications, A. Gutu-Nelle, H. Schichl, and J. Springer .....	2	171
<b>Very Large Scale Integration, Isolation Techniques for, D. Beernaert, G. Schols, and P. Van Iseghem ...</b>		
Vision in Manufacturing Industry, Computerized, I. H. Smith .....	2	116
10-Channel Pulse Code Modulation System, T. Henriksen, O. Kvingedal, and B. Solberg .....	3	259
140 Mbit s <sup>-1</sup> Multimode Optical System, D. S. Thomas .....	3	201
18 MHz Coaxial Cable System, C. Gonzalez Madroño and K. Kocher .....	3	236

# ELECTRICAL COMMUNICATION INDEX, VOLUME 57 (1982)

## Author Index

	Number	Page
Ashcroft, G. L., Polymer Conductors: Materials and Process Applications .....	2	132
Barbetta, A., and Natens, M., Digital Multiplexers for Rates from 2 to 565 Mbit s <sup>-1</sup> .....	3	251
Barbetta, A., and Treves, S. R., Statistical Time Division Multiplexer .....	3	228
Barton, P., and Blair, P. K., Adaptive Beam Forming for Radar .....	1	62
Barton, P., and Waddoup, W. D., New Radar Techniques for Tracking Targets at Low Elevations .....	1	44
Beernaert, D., Schols, G., and Van Iseghem, P., Isolation Techniques for Very Large Scale Integration ..	2	161
Berndt, A., and Gerst, H.-G., Digital Radio Relay System for Transmission at 140 Mbit s <sup>-1</sup> .....	3	222
Blair, P. K., <i>see</i> Barton, P.		
Brudy, H. D., and Hopf, K. D., Digital Radio Relay System for Regional Networks .....	3	265
Bury, J. R., Cranfield B. A., and Simpson, W. E., Development of Flame Retardant, Low Aggressivity Cables	2	83
Catchpole, R. J., Dyke, P. J., and Usher, E. S., Planning and Implementation of PCM Systems on Symmetric Pair Cables .....	3	180
Cole, I., Drake, B., and Harvey, J., Human Factors and Intelligent Products .....	1	18
Cranfield, B. A., <i>see</i> Bury, J. R.		
Debols, P. G., Medium-Capacity Digital Radio Relay System .....	3	208
De Man, J. A., Dynamic Program Modification .....	4	339
Dissado, L. A., Fothergill, J. C., and Wolfe, S. V., Developments in Crosslinked Polyethylene Insulation for Power Cables .....	2	87
Drake, B., <i>see</i> Cole, I.		
Dunn, R. H., and Ullman, R. S., Quality Assurance for Computer Programs .....	4	301
Dyke, P. J., <i>see</i> Catchpole, R. J.		
El Refaie, M., Chipstrate Interconnection Substrates for Advanced Electronic Systems .....	2	142
Elce, P. J., and Humphrey, L. D., Digital Signal Processing in Transmission Terminals .....	3	195
Fothergill, J. C., <i>see</i> Dissado, L. A.		
Frey, F., Digital Radio Relay Systems for Transmission at 34 Mbit s <sup>-1</sup> .....	3	215
George, W. R., Stress Relaxation Tests on Conductor and Spring Materials .....	2	112
Gerst, H.-G., <i>see</i> Berndt, A.		
Gonzalez Madroño, C., and Kocher, K., 18 MHz Coaxial Cable System .....	3	236
Graves P. W., Thick Film Materials and Reliability .....	2	127
Grimes, J. D., Holt, A. W., and Ramsey, H. R., Coordination System Technology as the Base for a Programming Environment .....	4	307
Gutu-Nelle, A., Schichl, H., and Springer, J., Transparent Ceramics for Electro-Optical Applications .....	2	171
Haque, T., CHILL Programming Environment for the ITT1240 .....	4	326
Harvey, J., <i>see</i> Cole, I.		
Hemsworth, A., Jessop, A., Kolb, W., Norman, P., Norz, A., and Windus, G., Coaxial Line Equipment for 34 to 565 Mbit s <sup>-1</sup> .....	3	243
Henriksen, T., Kvingedal, O., and Solberg, B., 10-Channel Pulse Code Modulation System .....	3	259
Hinoul, M., Vermeirsch, W., and Vlaeminck, R., Non-Noble Metal Inks for Thick Film Hybrid Circuits .....	2	137
Holt, A. W., <i>see</i> Grimes, J. D.		
Holycross, M. E., and Saccocio, E. J., Dry Removal of Plastic Encapsulants by Plasma Ashing .....	2	157
Hopf, K. D., <i>see</i> Brudy, H. D.		
Humphrey, L. D., <i>see</i> Elce, P. J.		
Jessop, A., <i>see</i> Hemsworth, A.		
Jones, T. C., Prevention and Removal of Programming Defects .....	4	295
Kidd, E. R., Programming in ITT .....	4	278
Kimbleton, S. R., and Wang, P. S.-C., ITT/NET Communication Support for Program Development .....	4	320
Knecht, J., and Macari, M., Scanning Electron Microscope Examination of LSI and VLSI Fractured Cross Sections .....	2	167
Kocher, K., <i>see</i> Gonzalez Madroño, C.		
Kolb, W., <i>see</i> Hemsworth, A.		
Kvingedal, O., <i>see</i> Henriksen, T.		
Lawson, D. A., ITT 1240 Programming Planning for Multilocation Development .....	4	284
Leslie, P. J., The Role of Industrial Design .....	1	3
Macari, M., <i>see</i> Knecht, J.		
Marchant, A. H., and Pitt, G. D., Hall Effect Devices for Relay and Other Applications .....	2	107
Moody, H. F., and Wilson, F., Interactive Learning Environment for Programming Education .....	4	315
Natens, M., <i>see</i> Barbetta, A.		
Norman, P., <i>see</i> Hemsworth, A.		
Norz, A., <i>see</i> Hemsworth, A.		
Nyman, H., Salcedo, F., Sharpe, J. T. L., and Tarry, C. W., Data Modem Evolution .....	3	187
Palmer, R., Radar Technology in ITT .....	1	26
Pfister, G., Tactical Three-Dimensional Air Surveillance Radar .....	1	51
Pitt, G. D., Fiber Optic Sensors .....	2	102
Pitt, G. D., <i>see</i> Marchant, A. H.		
Raible, R., Project Library .....	4	334
Ramsay, M. M., Russell, J. N., and Titchmarsh, J. G., Design of Optical Fiber Cables .....	2	96
Ramsey, H. R., <i>see</i> Grimes, J. D.		
Ross, P. W., Liquid Crystal Displays .....	2	121

Russell, J. N., *see* Ramsay, M. M.  
 Saccocio, E. J., *see* Holycross, M. E.  
 Salcedo, F., *see* Nyman, H.  
 Saward, M. P., Programming Support: Tools of the Trade ..... 4 289  
 Schichl, H., *see* Gutu-Nelle, A.  
 Schols, G., *see* Beernaert, D.  
 Sharpe, J. T. L., *see* Nyman, H.  
 Simpson, W. E., *see* Bury, J. R.  
 Smernos, S., and Strauss, R., Low Temperature Soldering ..... 2 148  
 Smith, I. H., Computerized Vision in Manufacturing Industry ..... 2 116  
 Solberg, B., *see* Henriksen, T.  
 Springer, J., *see* Gutu-Nelle, A.  
 Stoll, P., Stentor Long Range Ground Surveillance Radar ..... 1 32  
 Strauss, R., *see* Smernos, S.  
 Stroehle, D., Plastic-Encapsulated Semiconductor Components for Telecommunication Systems ..... 2 152  
 Tarry, C. W., *see* Nyman, H.  
 Tessmar, G., Technology for Future Mobile Ground Surveillance Radars ..... 1 37  
 Thomas, D. S., 140 Mbit s<sup>-1</sup> Multimode Optical System ..... 3 201  
 Titchmarsh, J. G., *see* Ramsay, M. M.  
 Treves, S. R., *see* Barbetta, A.  
 Ullman, R. S., *see* Dunn, R. H.  
 Usher, E. S., *see* Catchpole, R. J.  
 Van Iseghem, P., *see* Beernaert, D.  
 van Rumste, M. A. E., *see* De Man, J. A.  
 Vermeirsch, W., *see* Hinoul, M.  
 Vlaeminck, R., *see* Hinoul, M.  
 Waddoup W. D., *see* Barton, P.  
 Walters, D. L., Dielectrics for Submarine Cables ..... 2 91  
 Wang, P. S.-C., *see* Kimbleton, S. R.  
 Wheatley, D. J., Human Factors and the Design of Display Terminals ..... 1 11  
 Wilson, F., *see* Moody, H. F.  
 Windus, G., *see* Hemsworth, A.  
 Wolfe, S. V., *see* Dissado, L. A.  
 zur Heiden, D., Millimeter-Wave Radar Technology ..... 1 70