## TABLE OF CONTENTS

AM IMPROVEMENT I	DESIGNING AND MODELING HIGH POWER FM BOOSTERS
THE AM SPLATTER MONITOR Thomas G. Wright	Bert Goldman and D. Gooch 64
Thomas d. Wilgittinian in the second of the	RADIO ENGINEERING
AM IMPROVEMENT II	GROUNDED-GUY ANTENNA REDUCES STATIC ARCING AND
A NEW LOW PROFILE ANTI-SKYWAVE ANTENNA FOR AM BROADCASTING Basil F. Pinzone, James F. Corum, Ph.D.	IMPROVES BANDWIDTH Grant W. Bingeman, P.E
and Kenneth L. Corum	USING FM VERTICAL DIVERSITY TRANSMISSION TO OVERCOME
BROADBAND TRANSFORMERS FOR AM DIRECTIONAL ARRAYS	TEMPERATURE INVERSIONS Bert Goldman and M. Hudman 78
Kurt R. Gorman	ANALYSIS OF AM DIRECTIONAL
A LOW-COST, HIGH PERFORMANCE AM NOISE BLANKER	ARRAYS USING METHOD OF MOMENTS  James B. Hatfield
Oliver L. Richards	A REALISTIC ASSESSMENT OF AM PATTERN STABILITY
RADIO NEW TECHNOLOGY	Karl D. Lahm, P.E
	OPTIMUM USE OF TALL FM TOWERS
ADVANCED MEANS TO MEASURE AND MINIMIZE FM MULTIPATH Lloyd O. Berg	FOR AM Ogden Prestholdt 94
DESIGN CONSIDERATIONS FOR MULTI-STATION FM ANTENNAS	DIGITAL AUDIO STUDIO
Dean W. Sargent	ADVANCED EDITING FEATURES FROM DIRECT ACCESS MEDIA
TECHNIQUES FOR MEASURING SYNCHRONOUS AM NOISE IN FM TRANSMITTERS	Guy W. McNally, P. Jeffrey Bloom, and Nicholas J. Rose
Geoffrey N. Mendenhall, P.E	APPLICATIONS OF THE TAPELESS STUDIO IN BROADCAST
SMART AUDIO SWITCHER SOLVES PROGRAMMING AND ROUTING	Eric A. Gray111
PROBLEMS Charles W. Kelly, Jr	THE DIGITAL AUDIO CARTRIDGE DISK RECORDER, REPRODUCER AND EDITOR FOR BROADCAST USE
A STATE-OF-THE-ART MICROPROCESSOR CONTROLLED,	David M. Schwartz117
ANALOG AUDIO ROUTING SWITCHER WITH ADVANCED FEATURES Guenther E. Urbanek	DIGITAL STORAGE AND RANDOM ACCESS OF BROADCAST AUDIO Paul C. Schafer

RADIO PRODUCTION AND AUDIO PROCESSING	SURGE PROTECTION AND GROUNDING METHODS FOR AM BROADCAST
COMPARING FM TRANSMISSION SYSTEM PERFORMANCE AND	TRANSMITTER SITES John F. Schneider
RECEIVER CAPABILITIES: HOW GOOD MUST YOUR STATION BE?	UNINTERRUPTABLE POWER SUPPLIES FOR BROADCASTERS
Jerry Whitaker	Wyatt E. McDaniel213
A DIFFERENT APPROACH TO THE OLD PROBLEM OF AUDIO LEVEL METERING Richard W. Burden and Michael L. Dorrough . 147	TV AUTOMATION SYSTEMS
RADIO WITH PICTURES Ralph Beaver	ROBOTIC CAMERAS: THE NEWS OF THE FUTURE  B.J. Goldsmith and Michael Wolfe219
A MOBILE RADIO PRODUCTION FACILITY FOR THE SPACE AGE William Ryan	NEWSROOM AUTOMATION OPPORTUNITIES L. Sanders Smith
A MICROPROCESSOR PERFORMANCE OPTIMIZER FOR ALL TAPE FORMULATIONS	TELEVISION AUDIO AND STEREO
James R. (Rick) Carpenter	IMPLEMENTATION OF SURROUND SOUND FOR TELEVISION Randall Hoffner
AM-FM ALLOCATIONS	EQUIPMENT SET-UP FOR STEREO BROADCAST ORIGINATIONS
AN ANALYSIS OF THE FCC'S FM STATION SEPARATION METHODS	Rick Shaw237
IN VIEW OF DOCKET 87-121 John C. Kean	TIME DELAY ERROR IN VIDEO AND FILM AUDIO William Laletin
MEDIUM FREQUENCY SKYWAVE PROPAGATION AT HIGH LATITUDES: RESULTS OF AN FCC SPONSORED STUDY Robert D. Hunsucker, Brett S. Delana, and John C.H. Wang	RECORDING FIELD AUDIO ON PCM PORTABLE VHS RECORDER PROVIDES AUDIO AND TIME CODE Neal Kesler and Jim Swick
ALTERNATE DOWNER AND	A LONG-TERM MTS SYSTEM DESIGN FOR THE BROADCAST STUDIO FACILITY
ALTERNATE POWER AND GROUNDING SYSTEMS	Rick Craig256
AMERICA'S FIRST SOLAR POWERED FM RADIO STATION	GRAPHICS AND ANIMATION
Sanford Cohen	WEATHER & NEWS GRAPHICS SURVEY RESULTS & INTERPRETATIONS
APPLICATION AND PERFORMANCE OF ROTARY PHASE CONVERTERS AS AN ALTERNATIVE TO UTILITY SUPPLIED	Joel N. Myers
THREE-PHASE POWER Larry H. Katz	ELECTION COMPUTER SYSTEMS FOR LOCAL BROADCASTERS Steven M. Davis

GRAPHIC PREPARATIONS FOR THE OLYMPICS Rolf Drucker	TELEVISION PRESENTATIONS ORIGINATING ON FILM Michael A. Lowe
COMPUTER ANIMATION IN BROADCASTING—NEW DIRECTIONS FOR THE BROADCAST INDUSTRY	TELEVISION ENGINEERING
TV STUDIO PRODUCTION AND	FACTORS AFFECTING ON-AIR RELIABILITY OF SOLID STATE TRANSMITTERS
FACILITIES	Frank A. Svet351
OPTICS PLUS COMPUTERS: THE GIANT LEAP FOR ZOOM LENSES Bernard Angenieux and Gerard Corbasson281	SECOND GENERATION ANALOG COMPONENT VTR'S—A USER'S PERSPECTIVE Karl Renwanz
THE ADVANTAGES OF USING VERTICAL INTERVAL TIME CODE OVER LONGITUDINAL TIME CODE John W. Fullwood	TELETEXT: A UNIQUE APPLICATION FOR ELECTION NIGHT RESULTS J. Talmage Ball
TELEVISION NEW TECHNOLOGY	DESIGNING BROADCAST FACILITIES FOR COMPOSITE AND COMPONENT DIGITAL VIDEO TECHNOLOGIES
A NOISE REDUCTION SYSTEM FOR NTSC COLOR TELEVISION LINKS John P. Rossi and Renville H. McMann 299	Curtis J. Chan
A DIGITAL AMPLITUDE MODULATOR-TRANSMITTER Timothy P. Hulick, PhD	Peter S. Hayes and Robert A. Surette 380  SECOND GENERATION ENG CAMCORDER L. Thorpe, E. Tamura, S. Morikawa, T.
DEVELOPMENT OF AN ALL SOLID STATE VIDEO RECORDER Richard Dienhart	A STUDY OF MAINTENANCE REQUIREMENTS FOR COMPONENT
DIGITAL INTELLIGENCE IN PROFESSIONAL BROADCAST VIDEO MONITORS	LEVEL DIAGNOSTICS IN DIGITAL EQUIPMENT Tom Cavanagh and Keith Field
Dan Desmet	
VIDEO MEASUREMENTS—A COMPREHENSIVE SOLUTION John Lewis	ADVANCED TELEVISION TRANSMISSION SYSTEMS
NEW HIGH RESOLUTION CCD IMAGER L. Thorpe, T. Iwasaki, E. Tamura, M. Homasaki and T. Asaida	SIGNAL PROPAGATION AND INTERFERENCE STUDIES FOR A COMPATIBLE HDTV TRANSMISSION SYSTEM William E. Glenn and Karen G. Glenn
TELEVISION POST PRODUCTION	BANDWIDTH-EFFICIENT ADVANCED TELEVISION SYSTEMS
A NEW APPROACH TO EDITING EPISODIC AND MOVIE-OF-THE-WEEK	William F. Schreiber and Andrew B. Lippman409

SYSTEMS	BROADCAST AUXILIARY
FINAL REPORT: THE MULTI DEPRESSED COLLECTOR KLYSTRON PROJECT Earl McCune	AN INTRODUCTION TO WIRELESS MICROPHONE MULTIPLE SYSTEM FREQUENCY COMPATIBILITY Ken Fasen
UPDATING OLDER GENERATION UHF TELEVISION TRANSMITTERS TO CURRENT PERFORMANCE STANDARDS Harvey Arnold	FURTHER CONSIDERATIONS—ENG MICROWAVE ANTENNA POLARIZATIONS Vincent E. Rocco
KLYSTRODE TECHNOLOGY UPDATE Merrald B. Shrader432	NEW GENERATION RPU ENHANCES PERFORMANCE Kevinn Tam and Charlie Hu494
A 120 KW KLYSTRODE TRANSMITTER FOR FULL BROADCAST SERVICE N.S. Ostroff, A.H. Whiteside, A. See and R.C. Kiesel	ENVIRONMENTAL CONCERNS OF BROADCASTERS
CIRCULARLY AND ELLIPTICALLY POLARIZED UHF TELEVISION TRANSMITTING ANTENNA DESIGN	RF RADIATION REGULATION COMPLIANT AMMETER SYSTEM Thomas G. Wright499
Geza Dienes	ASSESSING PERSONNEL EXPOSURE TO MAGNETIC FIELDS ASSOCIATED WITH AM RADIO BROADCAST TOWER MATCHING NETWORKS Richard A. Tell, Francisco Kole, and Gilbert G. Gildore
HDTV PRODUCTION I	TAMING LIGHTNING AROUND BROADCAST TOWERS Roy B. Carpenter, Jr
PLUMBICON TUBE FOR HIGH- DEFINITION TELEVISION Ad Franken	ORGANIZING LOCAL PCB CLEANUP H. Carr Stalnaker516
STUDIO CONSTRUCTION AND ACOUSTICS	RADIO & TELEVISION SATELLITE SYSTEMS
PROJECT MANAGEMENT IN BROADCASTING Marvin C. Born	ENGINEERING AND OPERATIONAL CONSIDERATIONS FOR MOBILE SATELLITE COMMUNICATIONS Jack M. Moore
PROPOSED CAD DRAWING STANDARDS FOR RADIO AND TELEVISION ENGINEERING Dr. Walter Black	PRACTICAL DESIGN CONSIDERATIONS FOR DESIGNING KU-BAND VIDEO DOWNLINKS FOR BROADCAST TV STATIONS Ray Conover
CONSIDERATIONS IN DESIGNING AND CONSTRUCTING AN AM/FM BROADCAST FACILITY Norman Philips	FIELD TESTING AN EARTH STATION FOR TWO DEGREE COMPLIANCE Michael A. Morgan and Dennis Burt

CUSTOM DESIGNING A SATELLITE NEWS VEHICLE TO MEET STATION REQUIREMENTS Gene P. Gildow and Fred Heineman	536
FURTHER IMPROVEMENTS IN SATELLITE NEWS GATHERING Makoto Kaijima	539
A NOVEL METHOD OF MEASURING THE DEVIATION OF VIDEO FM MODULATORS	
A. G. Uyttendaele	549
FIBER OPTICS AND DIGITAL TRANSMISSION	549
FIBER OPTICS AND DIGITAL	