



Global Educational Services

Training Solutions Catalog



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General Information

TRAINING SERVICES AND SOLUTIONS

Bird® Technologies Group has provided hardware based solutions to customers for over 60 years; offering training and related services was the next logical step in the evolution of our overall strategy. We view training as successful "knowledge" transfer, not simply offering and holding classes. Our vision is to become the benchmark (preeminent supplier) that all other companies aspire to in the RF Industry Educational Services arena. We offer highly differentiated services that facilitate the most expedient and effective transfer of knowledge, so that our customers are more successful than their competitors. Global Educational Services (GES) develops and delivers educational services across a variety of vehicles, class room training, and custom solutions that increase the knowledge of our customers making them more efficient contributors to their organizations and a greater value to their respective clients.

Global Educational Services (GES) offers training services and solutions related, but not limited to, Bird Electronic and TX RX products, various market specific applications, certifications, radio frequency theory/fundamentals, and complimentary technologies as required to meet the needs of our customers.

Our courses are arranged in two (2) major categories: Certified and Non-Certified. The certification courses require students to pass a written exam and in many cases a laboratory practical exam as well. The non-certified courses do not require students to take a written exam or lab practical exam.

OUR GUARANTEE

If for any reason you are not completely satisfied with a particular course, you may attend another course of your choice for free.

HOW TO ENROLL

Registrations are taken on a first-come, first-serve basis. Enrollment is limited in all courses; therefore, to ensure seat availability, register as early as possible.

REGISTRATION INFORMATION & TRAINING FACILITY LOCATION

Don Huston
Tel: 440.519.2228
Fax: 440.248.3790
Email: dhuston@bird-technologies.com
Website: www.bird-technologies.com

Bird Technologies Group
Training Facility
29100 Aurora Road
Suite 400
Solon, OH 44139

CLASS LOGISTICS

All classes run from 8:00 am to 4:00 pm. Tuition fees include all course manuals. Students are responsible for all travel and living expenses and arrangements.

PRICES

Prices listed are subject to change without notice. Prices for scheduled courses include tuition, all appropriate manuals, and instruction materials. NOT included are student travel and living expenses.

COURSE CANCELLATION

Bird Technologies Group - Global Services reserves the right to cancel a course due to under-enrollment. In the event of a course cancellation, we will notify the students as soon as possible. Students must notify the Training Center of cancellation two (2) weeks prior to the course date for full refund. Students are advised to purchase refundable airline tickets.

COURSE DOCUMENTATION

Course documentation and printed material provided in Bird Technologies Group training courses are copyrighted and may not be reproduced without prior written permission. No audio or visual recording of Bird Technologies Group training courses, or of a Bird Technologies Group personnel teaching such courses, may be taken or reproduced electronically.

ONLINE COURSE INFORMATION

Visit www.bird-electronic.com for course information.



Bird® Technologies Group, consisting of Bird® Electronic Corporation and TX RX Systems Inc.®, is a global, innovative supplier of RF products, systems, services and educational solutions, which enable our customers' success. We specialize in Measurement and Management of RF in your world. Please visit the <http://www.bird-electronic.com> or <http://www.trrx.com> website for information concerning Bird® Electronic Corp. or TX RX Systems Inc.®.

BIRD TECHNOLOGIES GROUP - GLOBAL EDUCATIONAL SERVICES - ENROLL NOW! CALL 440.519.2228

In-Building Coverage Certificate Training

SUMMARY:

TX RX Systems Inc., part of the Bird Technologies Group, through GES, offers specialized training in the assessment, design, installation and commissioning of RF coverage enhancement systems, as well as comprehensive, hands-on training in the operation and optimization of the TX RX Signal Booster product line. TX RX has expanded the number of features available for use in maximizing system uptime. The TX RX Signal Booster II is an easy to operate, user friendly solution for installers and maintenance technicians, and for site operators or owners, even under the most difficult installation conditions. The new Signal Booster II provides unparalleled performance and specifications making it the leader in indoor RF signal distribution products.

From caves and tourist attractions to airports and subways, TX RX Signal Boosters have found their way into critical applications that depend on maximum system uptime and operation under the most demanding of events and situations. Current societal needs for two-way communication in public safety demand 24/7, all the time operation with installations in locations such as courthouses, federal buildings, hotels, and sporting complexes. Airports, rail, subway stations and any other point of public transportation may require additional signal amplification to insure complete coverage to meet communication needs. TX RX Systems Inc. provides Signal Boosters for Private Wireless as well as Public Safety communication applications.

Training Agenda (2 Days): Topics will include basic RF theory, FCC rules and regulations governing Signal Booster systems, typical applications, system design and optimization, equipment set-up and use, and system maintenance. The course is designed to accommodate users across a variety of applications and at various technical levels.

COURSE STRUCTURE:

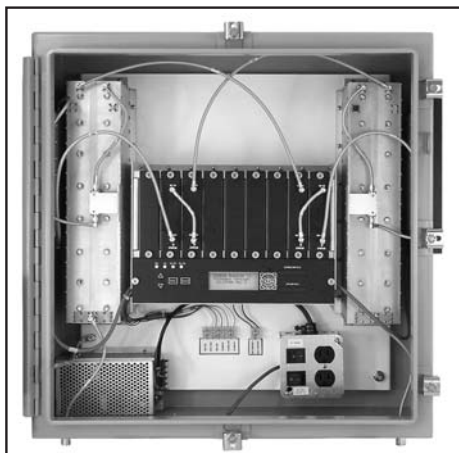
A full class outline and schedule are included, but much of the training centers on the design and installation of Signal Booster systems and covers practical, real-world approaches to typical and highly specialized installations. Class time will include hands-on use of the Signal Booster II product. Troubleshooting techniques and practices will allow the field technician to quickly identify critical system operating parameters for system optimization, and in the unlikely event of a component failure, rapidly identify and remedy those conditions insuring continued system uptime. Training may be customized to fit the needs of those attending.

TARGET AUDIENCE:

- RF Site Manager
- RF Site Technicians
- RF Site Installers
- RF Field Engineers
- RF Systems Engineers

MATERIALS SUPPLIED:

- Course materials (including Signal Booster II operations manual and training manuals).



SIGNAL BOOSTER II CERTIFICATION

Upon completion of training, each participant will receive Signal Booster II certification, issued by the BTG/GES, that shows the participant has acquired the skills and understanding to successfully operate the Signal Booster II under the field conditions covered by the course. Signal Booster II Certification will require attendance at lecture sections and during hands-on practical applications. Testing of knowledge and skill will be part of the certification process.

CERTIFICATION STANDARD

Written Exam
Lab Practical Exam
Photo Certification ID
(Must pass written & Lab practical exam)

DAY I

INTRODUCTION TO THE SIGNAL BOOSTER SYSTEMS

Terminology • Review of FCC Rules and Regulations covering Signal Booster Systems • Applications

SPECIFIC APPLICATIONS

Terminology: Head-end vs. Intermediate Signal Booster, Distribution Systems, Downlink, Uplink, Transmission Line, Antennas • Scenarios for Signal Booster applications • Solutions using a Signal Booster

SYSTEM DESIGN

Design checklists • Site Survey • Design methodology • System block diagrams • System components

DESIGN CRITERIA AND CHECKLIST

Critical paths • Directivity and Isolation

DESIGN PHASES

I through IV • Performance Considerations

THE OLC CIRCUIT

Intermodulation • IM Control • Circuit Operation

CONFIGURATION AND CONTROL

Gain setting • Output power • OLC DataLog • Critical Parameter monitoring

RELIABILITY

REMOTE MONITORING AND CONTROL

IP Connectivity • Web-Browser screens • Remote monitoring and configuration control

DAY 2

TERMINOLOGY

DIAGNOSING AND CORRECTING FAULTS

COMPARISON WITH SIMILAR PRODUCTS

HANDS-ON LAB WITH SIGNAL BOOSTER II

Control panel and menu structure • Use of field equipment and products

TROUBLESHOOTING TECHNIQUES

Q&A SESSION

CERTIFICATION

Written Exam • Lab Practical Exam



Site Analyzer Certificate Training

DAY 1

INTRODUCTION TO THE BIRD® SITE ANALYZER®

Models and features • Applications for specific models

RADIO FREQUENCY BASICS

Cell site use of radio carriers; Transmission lines, Connectors, clamps, and weatherproofing • Losses in cell site systems; Return loss, Insertion loss

LINE SWEEPING IN CELL AND OTHER APPLICATIONS

Related fields • Line sweeping explanation
• Line sweeping techniques
• Installation and periodic maintenance

APPLICATIONS

Buzzwords • Technology

COMPARISON WITH SIMILAR PRODUCTS

HANDS-ON EXPERIENCE USING SA

Button-ology • Use of field equipment and products

TROUBLESHOOTING TECHNIQUES

Distance to Fault techniques • Return Loss and Insertion Loss

DAY 2

INTERPRETING AND SAVING TEST RESULTS/ SWEEPS

DIAGNOSING AND CORRECTING FAULTS

ADDITIONAL HANDS-ON EXPERIENCE

Q&A SESSION

CERTIFICATION

Written Exam, Lab Practical Exam

SUMMARY:

Bird® Electronic Corporation offers specialized training for all of its Site Analyzer (SA) family of products from the new SA-1700 and 1700-P through the SA-4000. Bird® has expanded the number of tools available for use in maximizing system uptime. Bird® Site Analyzers® are an easy to operate, user friendly solution for installers and maintenance technicians, and for troubleshooting even the most complex antenna and feed line systems. The Site Analyzer® provides sweep and match data, showing VSWR, Return Loss, or Cable Loss (Insertion Loss) depending upon the users preference, as well as distance to fault measurement for system repair and maintenance. The SA may be used with the Bird® Digital Power Sensor Model 5010 in-line or the Bird Terminating Power Sensor Model 5011 for RF Power Measurements. When connected to the Bird® Wide Band Power Sensor Model 5012, the SA will provide accurate power measurement in very complex modulation types by making specific measurements such as peak power, burst average power, crest factor and CCDF.

Topics will include basic RF theory, site overview and operation, equipment set-up and use, test and measurement of feed line and antenna system characteristics, and documentation and report analysis. The course is designed to accommodate user's across a variety of applications.

COURSE STRUCTURE:

A full class outline and schedule are included, but much of the training centers on a practical, real-world approach to line sweeping and distance to fault measurement. Class time will include hands-on use of the Site Analyzer® with actual equipment that would be installed on site. Troubleshooting and distance to fault measurement will be used to find faulty and failed equipment. Training may be customized to fit the needs of those attending.

TARGET AUDIENCE

- Cell Site Manager
- Site Technicians
- Field Engineers
- Site Installers
- Cell Carriers
- Construction Companies

MATERIALS SUPPLIED

- Course materials (including the Site Analyzer® operations manuals and training manuals)



SITE ANALYZER® CERTIFICATION

Upon completion of training, each participant will receive Site Analyzer® certification, issued by the Bird® Electronic Corporation, that shows the participant has acquired the skills and understanding to successfully operate the Bird Site Analyzer® under the field conditions covered by the course. Site Analyzer® Certification will require attendance at lecture sections and during hands-on practical applications. Testing of knowledge-edge and skill will be part of the certification process.

CERTIFICATION STANDARD

Written Exam
Lab Practical Exam
Photo Certification ID
(Must pass written & Lab practical exam)

NON-CERTIFICATION CLASS

Non-certification class also available which does not include testing, but does offer familiarization training with the products and processes. Good for those needing an overview or refresher, but not in depth operational training.

Line & Antenna Sweeping Certificate Training

SUMMARY:

Bird® Technologies Global Educational Services offers specialized training for all of its Site Analyzer® (SA) family of products from the new SA-1700, 1700-P, SA-4000, as well as the Anritsu Site Master®. Bird® has expanded the number of tools available for use in maximizing system uptime. For installers and maintenance technicians troubleshooting even the most complex antenna and feed line systems. The Site Analyzer® and Site Master® provide sweep and match data, showing VSWR, Return Loss, or Cable Loss (Insertion Loss) depending upon the users preference, as well as distance to fault measurement for system repair and maintenance.

Topics will include basic RF theory, site overview and operation, equipment set-up and use, test and measurement of feed line and antenna system characteristics, and documentation and report analysis. The course is designed to accommodate user's across a variety of applications.

COURSE STRUCTURE:

A full class outline and schedule are included, but much of the training centers on a practical, real-world approach to line sweeping and distance to fault measurement. Class time will include hands-on use of the Site Analyzer® or Site Master® with actual equipment that would be installed on site. Troubleshooting and distance to fault measurement will be used to find faulty and failed equipment. Training may be customized to fit the needs of those attending.

TARGET AUDIENCE

- Cell Site Manager
- Site Technicians
- Field Engineers
- Site Installers
- Cell Carriers
- Construction Companies

MATERIALS SUPPLIED

- Course materials (including the Site Analyzer®/Anritsu Site Master® operations manuals and training manuals)



INSTRUMENT CERTIFICATION

Upon completion of training, each participant will receive Site Analyzer® or Site Master® certification, issued by Bird® Electronic Corporation, that shows the participant has acquired the skills and understanding to successfully operate the Bird Site Analyzer® or Anritsu Site Master® under the field conditions covered by the course. The Certification will require attendance at lecture sections and participation in hands-on practical applications. Testing of knowledge and skill will be part of the certification process.

CERTIFICATION STANDARD

Written Exam
Lab Practical Exam
Photo Certification ID
(Must pass written & Lab practical exam)

NON-CERTIFICATION CLASS

Non-certification class also available which does not include testing, but does offer familiarization training with the products and processes. Good for those needing an overview or refresher, but not in depth operational training.

DAY 1

INTRODUCTION BIRD® SITE ANALYZER® /ANRITSU SITE MASTER®

Models and features • Applications for specific models

RADIO FREQUENCY BASICS

Cell site use of radio carriers; Transmission lines, Connectors, clamps, and weatherproofing • Losses in cell site systems; Return loss, Insertion loss

LINE SWEEPING IN CELL AND OTHER APPLICATIONS

Related fields • Line sweeping explanation
• Line sweeping techniques
• Installation and periodic maintenance

APPLICATIONS

Buzzwords • Technology

COMPARISON WITH SIMILAR PRODUCTS

HANDS-ON EXPERIENCE USING SA

Button-ology • Use of field equipment and products

TROUBLESHOOTING TECHNIQUES

Distance to Fault techniques • Return Loss and Insertion Loss

DAY 2

INTERPRETING AND SAVING TEST RESULTS/ SWEEPS

DIAGNOSING AND CORRECTING FAULTS

ADDITIONAL HANDS-ON EXPERIENCE

Q&A SESSION

CERTIFICATION

Written Exam, Lab Practical Exam



Enrollment Application

Please Print or Type: (Application can not be processed if all information is not complete.)

1.	<hr/>		
	Name	Title	
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	Course Number	*Date	Price
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CERTIFIED COURSES COURSE NUMBER

In-Building Coverage	CLS-SB-C
Site Analyzer Training	CLS-SA-C
Line & Antenna Sweep	CLS-LAS-C

NON-CERTIFIED COURSES COURSE NUMBER

Site Analyzer Familiarization	CLS-SAF-C
Line & Antenna Sweep Familiarization	CLS-LASF-C

*DATES & LOCATIONS

Please visit our website for up-to-date information
www.bird-technologies.com or call **440.519.2228**

Hotel Information Registration

Room Reservations are the class participant's responsibility

The Hampton Inn (Hilton)

6035 Enterprise Parkway, Solon, Ohio 44139
Tel: 440.542.0400 / 1-800-HAMPTON
Fax: 440.582.0353

The Springhill Suites (Marriott)

30100 Aurora Road, Solon, Ohio 44139
Tel: 440.248.9600 / 1-800-MARRIOTT
Fax: 440.248.9120
(Hotels close to training facility)

Your enrollment application is NOT a guarantee of placement in the class. You will be invoiced for the training class upon receipt of your application. Or, you may charge the total fee to your credit card by completing the credit card information below. Payment in full is required 2 weeks prior to course date. You will be notified of placement confirmation once payment is received in full (or credit card authorization is received and credit card has been charged). Class size is limited and will be filled on a first come basis as availability permits.

How did you hear about us? please circle one Website Representative Distributor Other: _____

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Company Name			
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Address	City	State	Zip
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Contact Name	Office Phone	Fax	
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Payment Information (Please pay before workshop)

Bird Technologies Group accepts either: [] Credit Card [] Check [] P.O.

Credit Card No.	Expiration Date	Amount	[] Master Card [] VISA
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Name as it appears on card	Card Holder's signature		
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Check Number	Amount		
<hr/>			
P.O. Number (Hardcopy Required)			
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Fax Application(s) to: 440.248.3790 - Attention: Don Huston

Or, Mail to: Bird Technologies Group - c/o Don Huston, 29100 Aurora Road, Suite 400, Solon, Ohio 44139

***Training Location**
Bird Technologies Group
29100 Aurora Road
Suite 400
Solon, OH 44139