APPLIED INSTRUMENTS, INC.

RF TEST AND MEASUREMENT

XR-3
Modular Test Instrument
Base Unit
Operation Manual

Revision	1.00
Date	04/02/2015

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This manual covers basic operations and functions of the XR-3. For more detailed instructions on how to use the instrument for different applications, see the Application Notes available on our website, http://www.appliedin.com

1. Introduction to XR-3 Modular Test Instrument

The XR-3 is a revolutionary test instrument platform. The base unit is a rugged chassis, display, and portable power supply that accepts easily swappable modules for testing a variety of signals used in the telecommunications industry.

The XR-3 is economically efficient because it allows you to choose only the test modules that your application requires. In the future as your testing needs change, you'll need only a new module, not an entire instrument.

Test modules that "slide and click" into the XR-3 available now include satellite (offerings for North American DBS and VSAT and non-North American DTH applications), cable TV (analog and digital QAM), and Off-Air broadcast (digital 8VSB and analog). Additional modules will follow.

The XR-3 platform is ideal for installers and private cable operators that demand fast, easy signal measurements today and in the future.

GENERAL FEATURES

- Durable case with rubber shock guards
- Color graphic LCD screen, sunlight readable
- Glow-in-the-dark numeric keypad front panel
- Rechargeable / Easily Replaceable Li-Ion battery
- USB computer interface for firmware updates
- Operates while charging via AC
- Quick charge battery with universal AC or vehicle 12 VDC
- Modular design for longer life and more flexibility
- Accepts easily-swappable modules for several types of signal test applications

Standard Accessories

Accessories included with your XR-3:

- Quick Start Guide
- AC adapter and related line cord
- DC vehicle charge cord
- USB data transfer cable
- Cordura Protective Flap
- Shoulder Strap
- Signal splitter / combiner
- Desktop kickstand that props up meter for bench height use

Optional Accessories

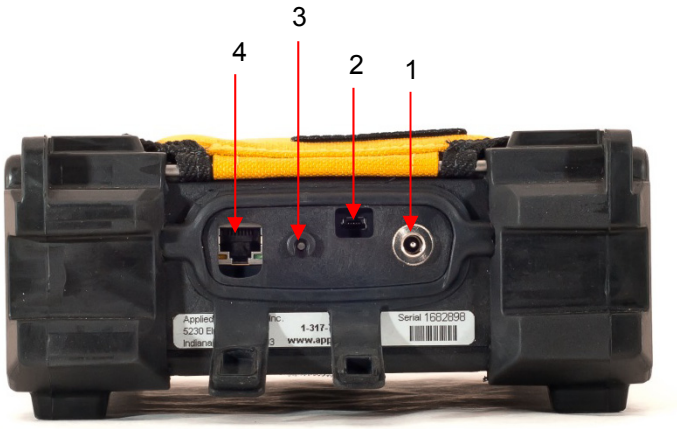
Optional Accessories for the XR-3 include:

- Various snap-in modules for test signal applications
- Hard shell protective carrying case with foam padding molded for base instrument, modules, and accessories
- Model NS-1 handheld broadband noise test signal generator (5 to 2150 MHz)
- Model PC-1 handheld CW single carrier test signal generator (one carrier from 5 to 180 MHz)
- Model PC-2 handheld CW dual carrier test signal generator (two carriers from 5 to 180 MHz)
- Model 5112 field portable CW multi-carrier test signal generator (up to six carriers from 5 MHz to 1 GHz).

Connections

FRONT

BACK



BOTTOM

1) Charge cord port for battery charger
   AC charging via wall outlet (100-240VAC, 50-60 Hz Input and 15VDC output)
   DC charging from 12VDC (at least 1 amp) vehicle outlet (cigarette adapter)
2) PC port - USB connection to PC for updating software and transferring files
3) Audible tone (speaker) port
4) Ethernet (option to be offered in future) port
5) Base-to-module connection port

DC Charge Port

The XR-3 connects to its external AC to DC switching power supply for charging its internal battery from an AC outlet. The XR-3 can be used while connected to the AC/DC charger. The XR-3 also connects to a 12VDC adapter in a vehicle only for battery charging.

PC Connection

The XR-3 connects to a USB port of a PC via the supplied cable. PC software is available for download from our website (www.appliedin.com). The FlashUpdate program is used for updating the instrument with the latest firmware and the MeterMaid program is used for transferring saved scan files from the XR-3 to the PC.

Audible Tone Port

The XR-3 emits audible tones when:

- Instrument is powered on
- Buttons are pressed
- Scans are complete
- Digital signal locks are obtained

The audible tone feature can be turned OFF in the Options menu, if so desired.

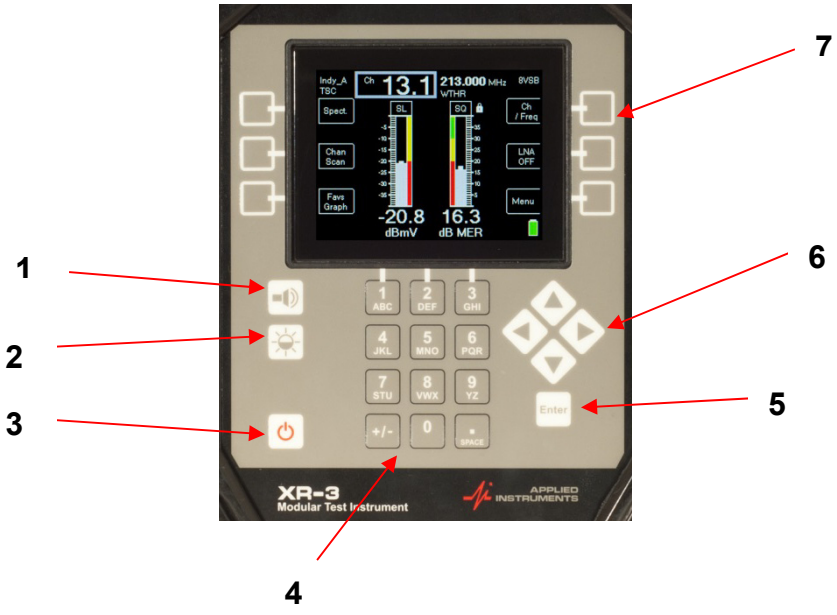
Base-to-Module Connection Port

The module connector has two functions:

- Supplies voltage to power the module
- Sends control signals and data between the module and base unit

Front Panel Buttons

1) Audible Tone
2) Screen Brightness
3) ON / OFF Power
4) Alphanumeric Keypad
5) Enter button
6) Arrow keys
7) Soft-keys (six)



XR-3 Construction

Parts of the XR-3:

1) Cordura protective flap
2) Flap axle
3) XR-3 instrument base
4) Module (swappable)
5) Thumb screw (tuner lock down screw) to secure module (x2)
6) Threaded cross dowel pin to secure module (x2)
7) Rubber shock guard (x2)

Battery Replacement

The XR-3 includes a replaceable Li-Ion rechargeable battery. When the battery wears out in the future, battery replacement is simple.

Required Tools:
1x #2 Phillips screwdriver
1x Safety glasses

Estimated completion time: 5 +/- minutes, depending on mechanical aptitude and proficiency

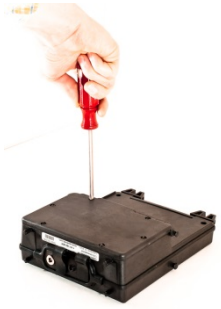
Battery replacement procedure:

1) Wear safety glasses
2) Stand instrument upright on solid stable surface
3) Unfasten flap's Velcro from rear of module body and fold flap downwards
4) Loosen (2) thumb screws until they fall out of the (2) threaded dowel pins on top of instrument
5) Remove (2) threaded dowel pins by pushing them gently from the middle of the unit outwards
6) Remove module by grasping the top, first pulling outwards and then upwards

7) Remove each rubber shock guard by gently pulling the top of each outwards. You will notice that the plugs in the middle of each rubber shock guard will pop out of place as you pull. Pull shock guards downward, taking care to slowly remove both rubber shock guards from base unit while keeping the flap axle attached between them. Use caution so that the flap axle doesn't pop out and cause injury to an eye or other body part.

8) Place unit front panel down on a solid stable surface. It's a good idea to place a towel or other soft fabric under the unit to protect the display from getting scratched.

9) Use Phillips screwdriver to remove (6) screws from battery compartment lid



10) Pick lid upwards to remove it, taking care not to damage the gasket underneath

11) Pull up on foil tab of battery to lift battery out of compartment

12) Install new battery in compartment, taking care to properly align battery contacts and leave the tab sticking up to aid in future battery replacement
13) Complete steps 1 to 12 in reverse order to close battery compartment and reassemble instrument
14) After replacing the battery, you'll need to enter the Date and Time in the Option menu. Your Options menu settings will return to the Pre-Set / default settings (i.e. for Level value, Sounder, Shutdown, Key Beep, Sort Order, Display Theme), so you'll need to re-customize those settings. You'll then need to select your Limits file and Channel Plan. When saving scan files, you'll also need to re-enter the Technician and Location. This applies to both the satellite and cable/off-air modules. If you had saved Favorites and Tilts to a base channel plan, you'll also need to re-select those.

Modules

Swapping Modules

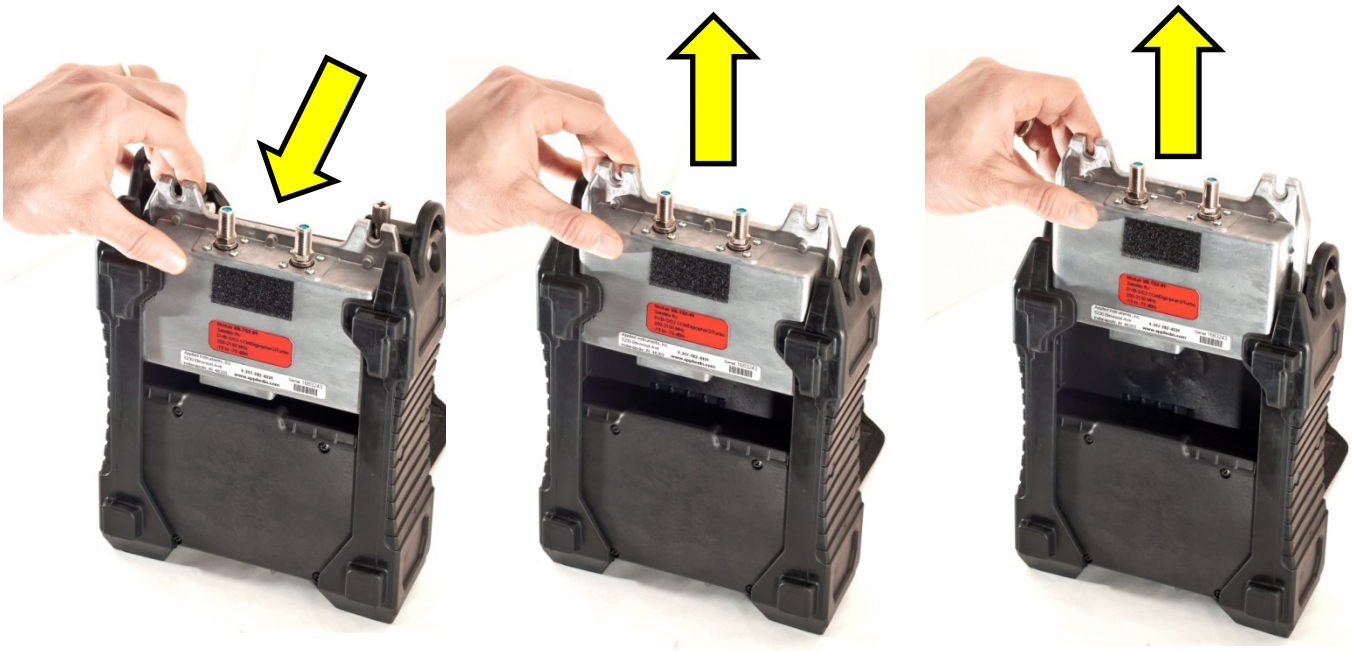
Installing a module is as easy as sliding the module down until it clicks into place.

How to insert module:

1) With your fingers, loosen thumb screws on top of XR-3 base and rotate them upwards.
2) Guide module down between rubber shock guards on top rear area of unit, pulling module towards the rear as you push it down gently.
3) Push module down firmly until you hear a click when the lip of the module falls into the slot of the XR-3 base.
4) Rotate thumb screws downwards and then finger-tighten them to secure the module to the XR-3 base unit.

How to remove module:

1) Complete module insertion steps 1 to 4 in reverse order. See pictures below. The trick is to pull module up out of slot when removing.



Module Availability

XR-3 modules available now include DBS Satellite, VSAT Satellite, and Cable TV / Off-Air broadcast. Other modules will follow.

Module Part Number	Description	Application
XR-TS2-01	Satellite Meter North American DBS / Broadcast TVRO 250-2150 MHz	DISH, DIRECTV, Bell TV, Shaw Direct, and more
XR-S2ACM-01	Satellite Meter VSAT, Broadcast TVRO, International DTH 900-2150 MHz	iDirect, Hughes, and more
XR-CA-01	Signal Meter - Cable & Off-Air (J.83B) / VHF / UHF 5-1000 MHz	UHF Off-Air, CATV, SMATV (i.e. DISH Smartbox, Blonder Tongue headends)

2. Software Updates

Updates to the Field Guide and to the instrument firmware are available from the Applied Instruments website.

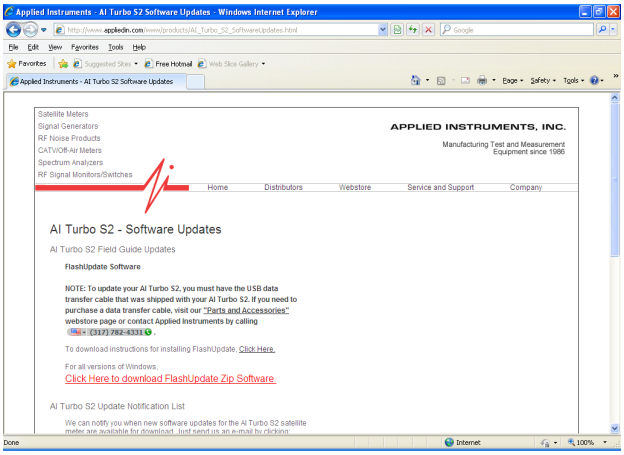
Requirements

1) A PC running Microsoft Windows 95, 98, 2000, NT, XP, Vista, Windows 7, or Windows 8
2) An open USB connection port on your PC
3) An internet connection
4) The USB data transfer cable provided with the instrument

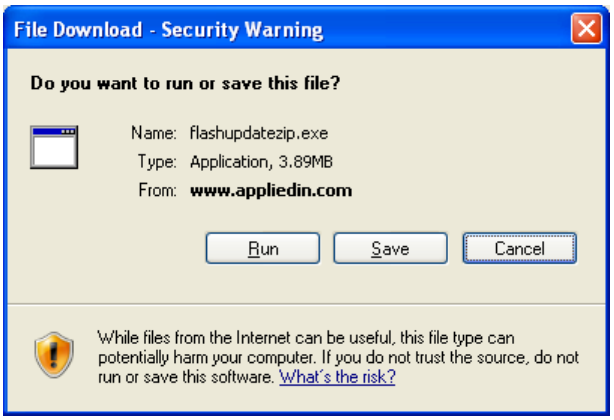
Installation

Before you can update your instrument, you must obtain and install the FlashUpdate software application onto your PC:

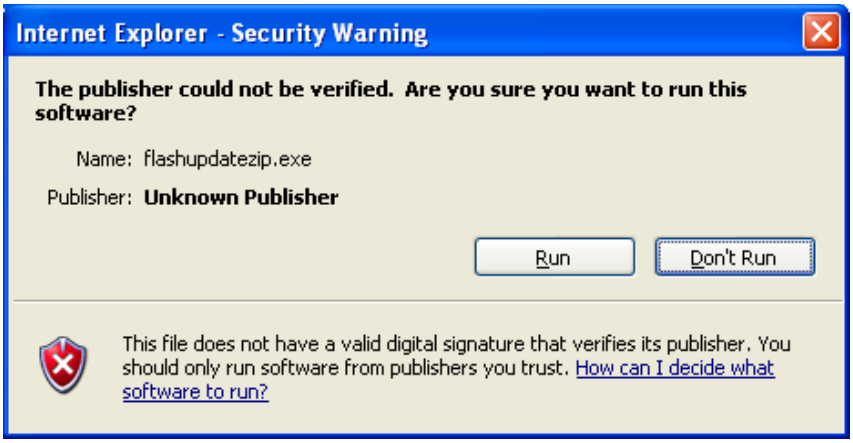
1) Ensure that you are signed on as Administrator or have Administrator rights for Microsoft Windows.
2) Temporarily disable your computer's anti-virus software and firewall so it doesn't interfere with the installation of the FlashUpdate and MeterMaid programs and the related USB drivers. If you have a hardware firewall, either stand-alone, or in a router, you may have to either modify the settings of the device to permit access to our program or entirely by-pass the router or other inhibiting hardware device.
3) Go to the Applied Instruments website www.appliedin.com. With your mouse, move your cursor over Service and Support and click on it, then click Software Updates, then click on 'XR-3 Modular Test Instrument'. Then click on "Click Here to Download FlashUpdate Zip Software" or use the following link directly:
   www.appliedin.com/downloads/flashupdatezip.exe

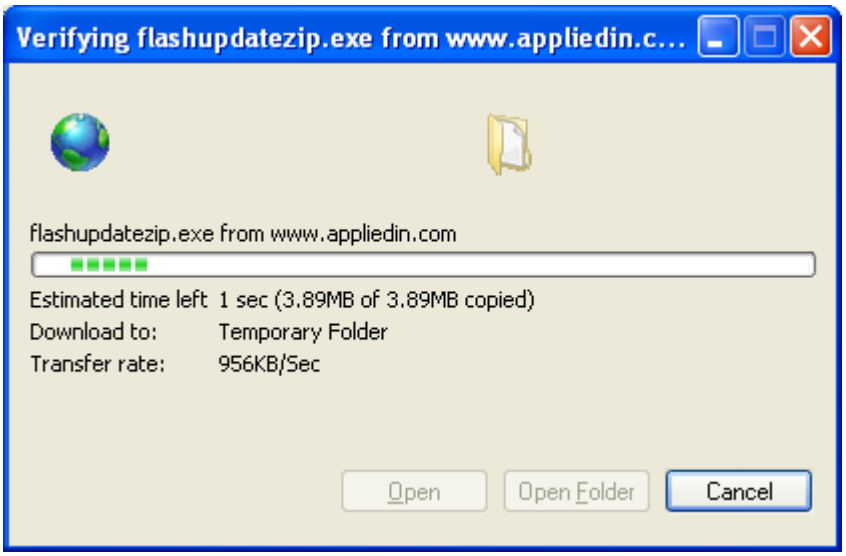


4) This is a self-extracting archive file. You may choose to open or run the file directly from the website or may save it to your disk and then open or run it. It is recommended that you run the file. The instructions below assume that you have chosen to run the file.

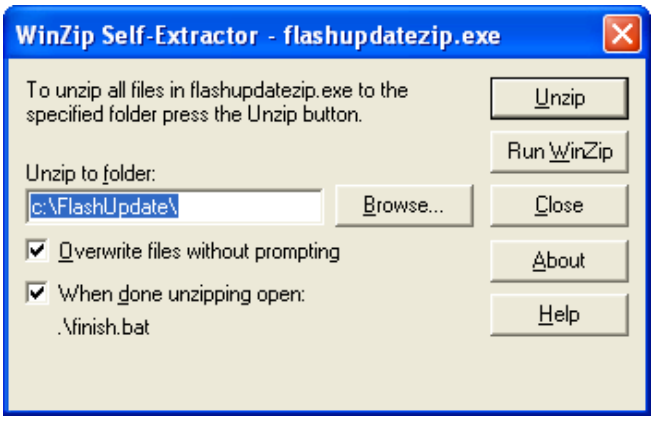


You may receive a warning message. Press Run to continue to open the file.

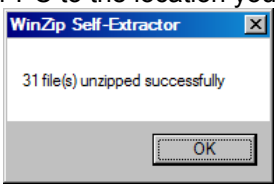




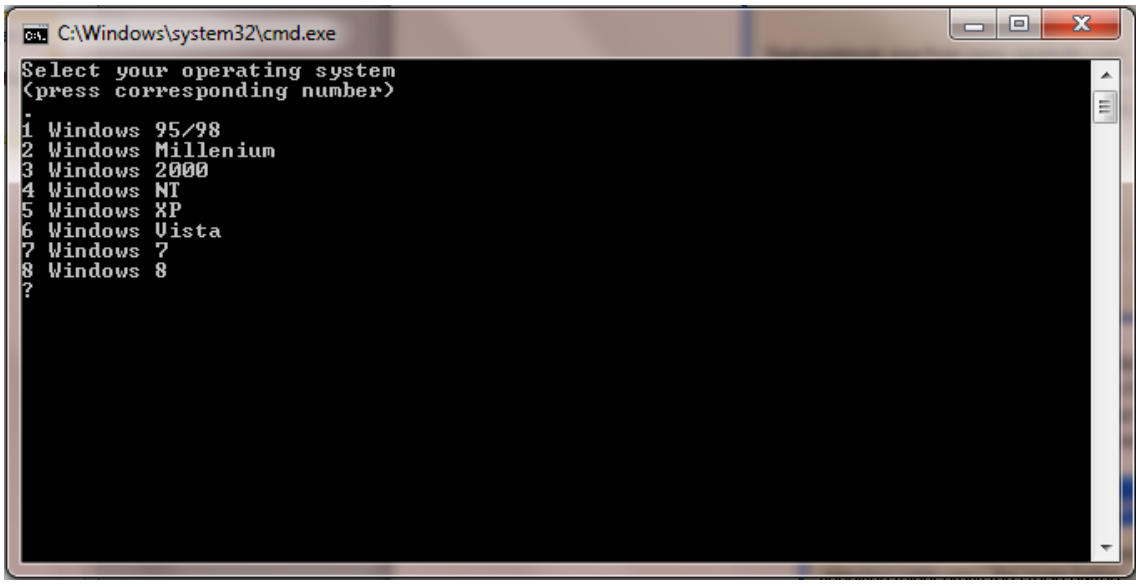
5) When you open this self-extracting archive file, the WinZip Self-Extractor program will appear. It is recommended that you press the Unzip button to unzip the files to the default location (c:\FlashUpdate\). If you wish to unzip the files to another location, type that desired destination folder into the field titled 'Unzip to folder' or press the Browse button and then navigate the network to select the desired destination folder.

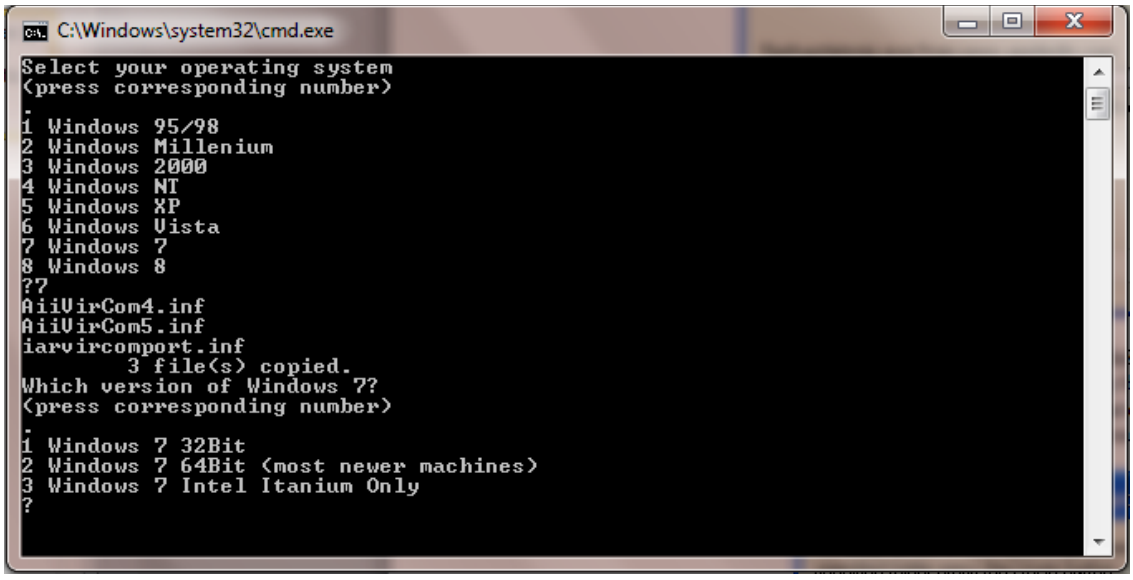


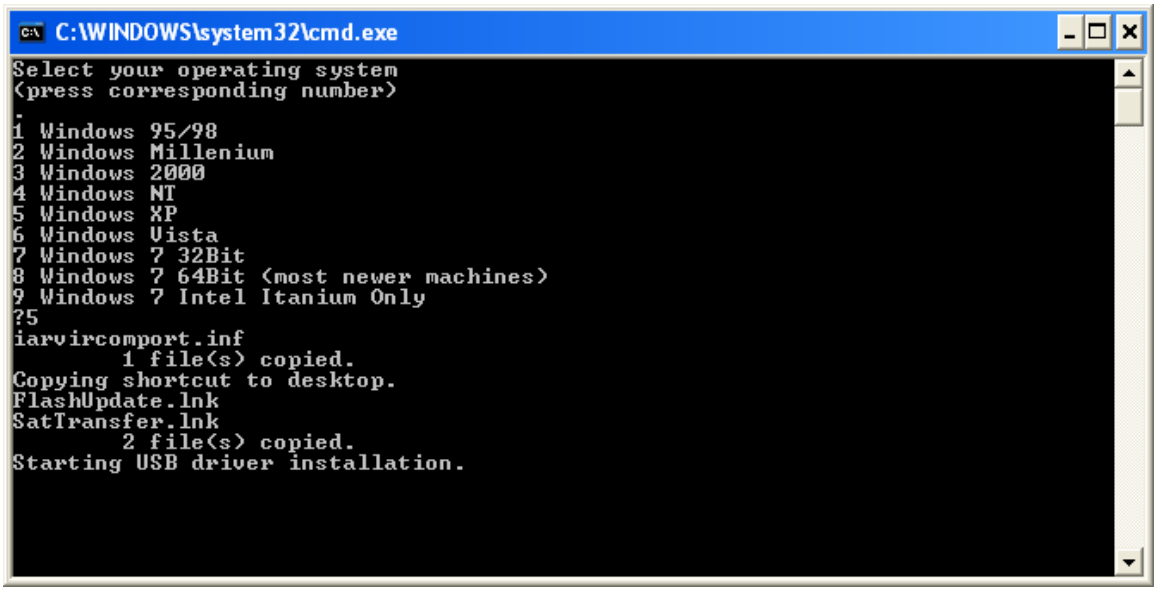
6) It will unzip several files onto your PC to the location you indicated. Press OK.



7) A Command Prompt screen will appear. Using your computer's keyboard, type the number that corresponds to your computer's operating system. If you aren't sure of which Operating System you are running, please proceed to Step 8. If you already know your Operating System, please proceed to Step 9.







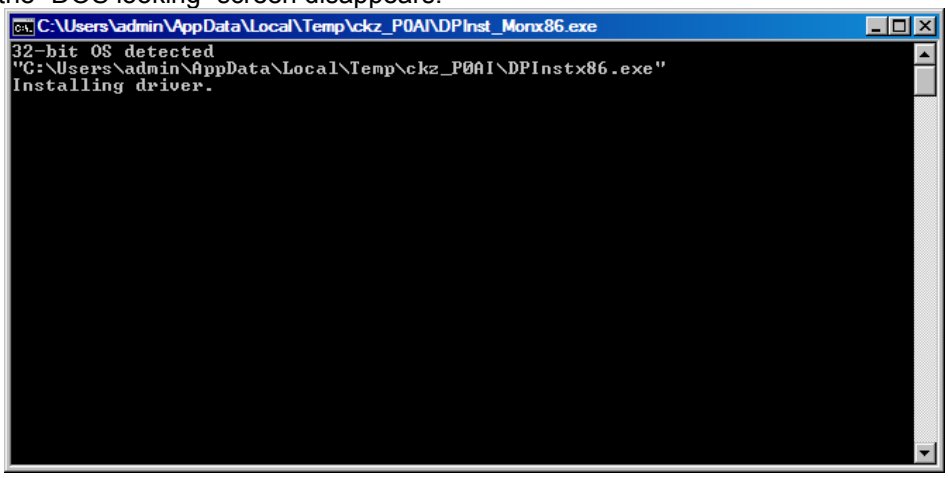
If your PC is running Windows 8:
Click on this link to obtain Windows 8 driver signature instructions:
http://www.appliedin.com/www/assets/products/Force_Driver_W8/Force_Driver_W8.pdf

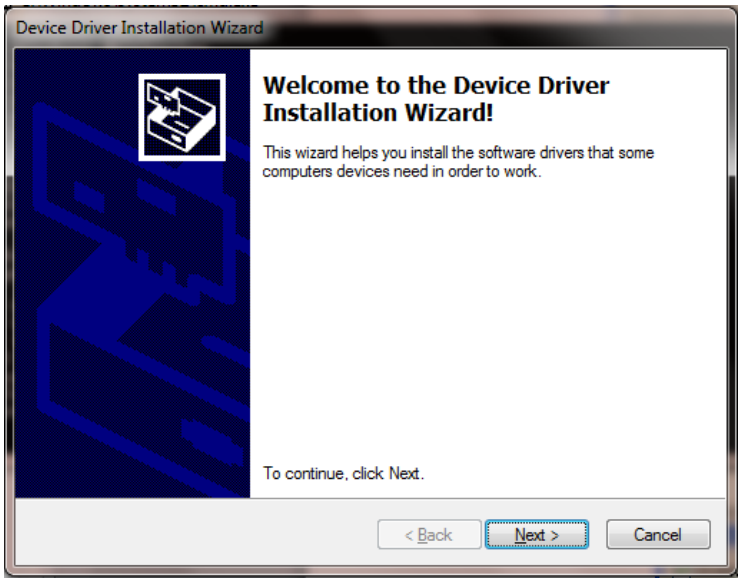
Click on this link to obtain Windows 8.1 driver signature instructions:
http://www.appliedin.com/www/assets/products/Force_Driver_W8/Force_Driver_W81.pdf

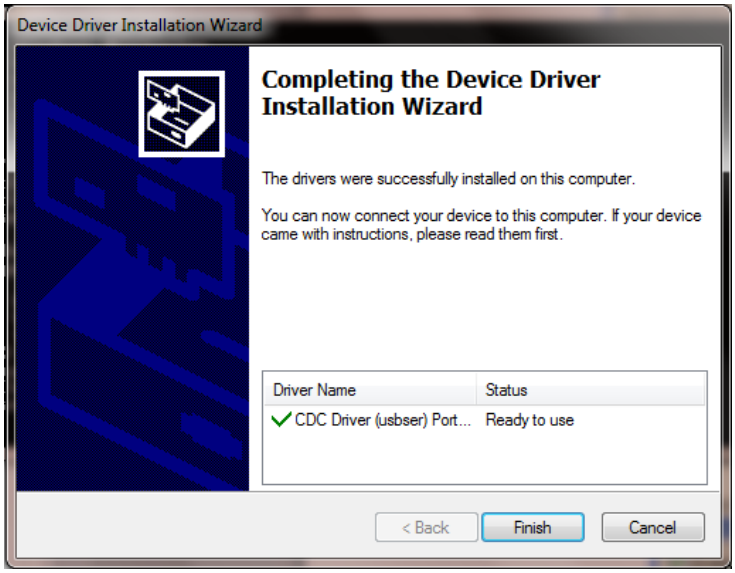
8) To find out which Operating System you're running on your PC, using your mouse, right click on the My Computer icon. Scroll to Properties and left click on it. On the General tab, underneath System, it will tell you which Operating System is installed on your PC (i.e. Microsoft Windows XP).

   Another method to find out which Operating System you're running is by using Windows Explorer.
   Path: Windows Explorer → Help → About.

9) Another Command Prompt screen appears to let you know that USB drivers are being installed. After the USB driver installation is complete, you will receive a message advising you to press Enter. Pressing Enter will complete the software application installation process and the “DOS looking” screen disappears.







10) Close your internet browser window if you still have it open and view your desktop screen.

11) You will notice that two new shortcut icons have been installed on your desktop. If the icons do not appear on your desktop, you can use “My Computer” or Windows Explorer to navigate to the C:\FlashUpdate\ folder and open FlashUpdate.exe from there and you can also copy and paste shortcut icons from the folder to your Desktop. If you're running Windows Vista or Windows 7 and the shortcut icons do not appear on the desktop after downloading, please right click with your mouse on the Desktop and select Refresh and then the shortcuts should appear. If you choose an installation location other than the default folder, then the shortcuts won’t work.

    FlashUpdate is the program used to download the latest firmware updates to the XR-3 instrument. Application filename: FlashUpdate.exe

FlashUpdate

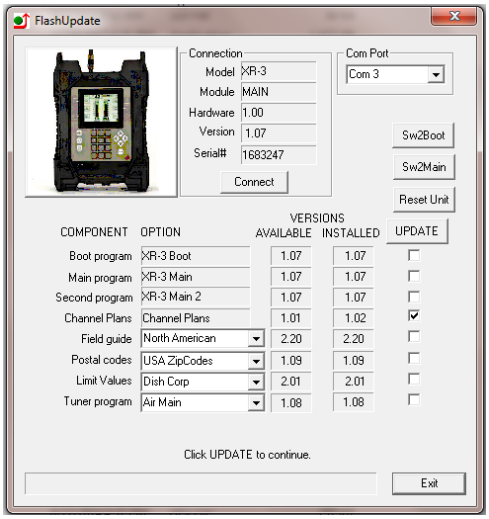
    MeterMaid is the program used to upload stored Channel Scans, Favorites, Spectrum Scans, Constellation Scans, Limits files, Channel Plans, Proof of Performance Scans, and Limit Scans from your XR-3 instrument to the PC. Application filename: MeterMaid.exe

MeterMaid

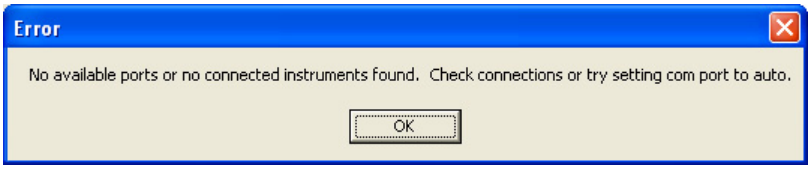
Updating

1) Ensure you have an active internet connection.
2) Plug your XR-3 into an AC outlet to prevent any potential problems due to a low battery.
3) Connect the XR-3 to your PC using the supplied USB data transfer cable and turn the instrument on.
4) Double click the FlashUpdate shortcut icon or start the application from wherever you saved it (i.e. your C drive).

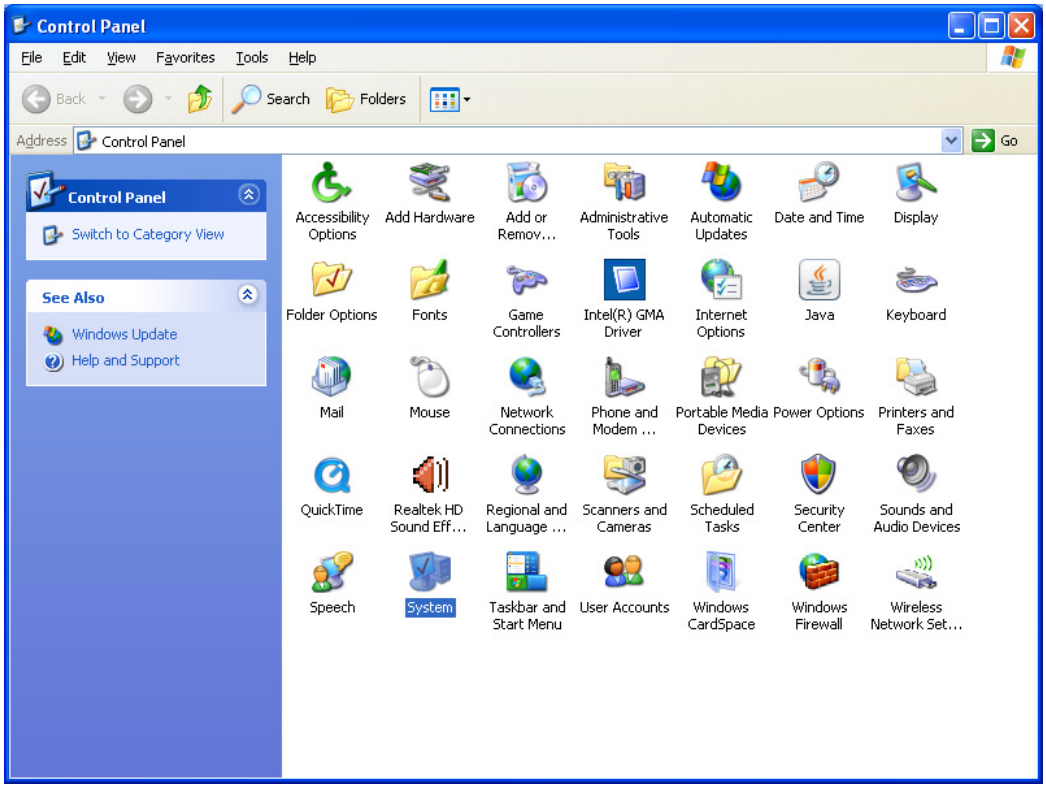
5) If connection is established, a picture of the XR-3 will appear in the top left corner of the FlashUpdate program and the top center portion of the program will be filled in with data obtained from the instrument (i.e. serial number, loaded software version, etc.). If the connection is working, proceed to Step 7. If connection is not established, proceed to Step 6.

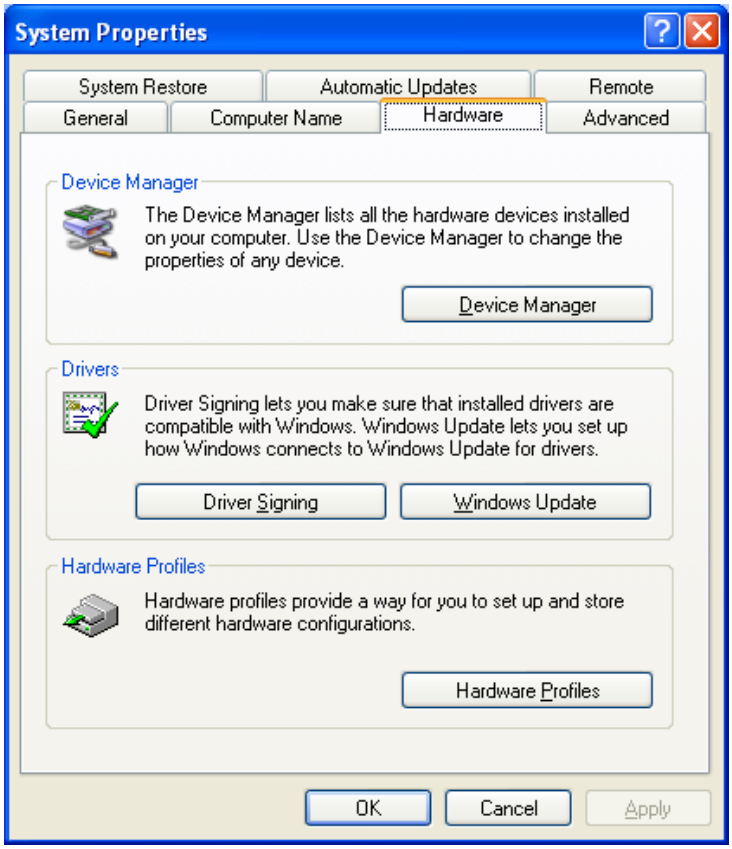


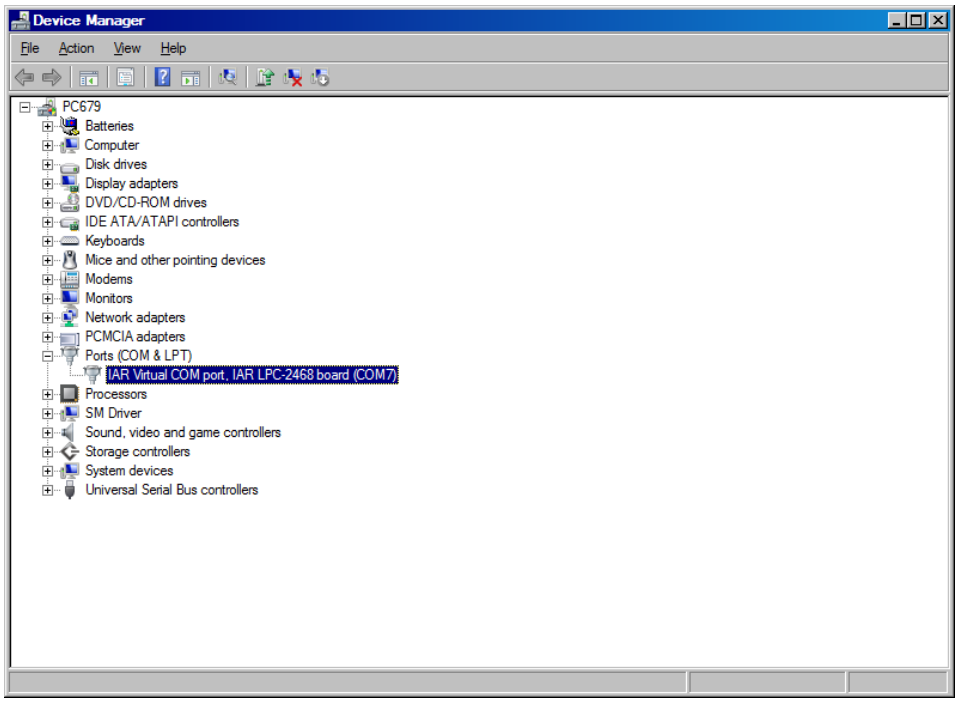
6) If the connection is not working, you will get an error message after a delay.



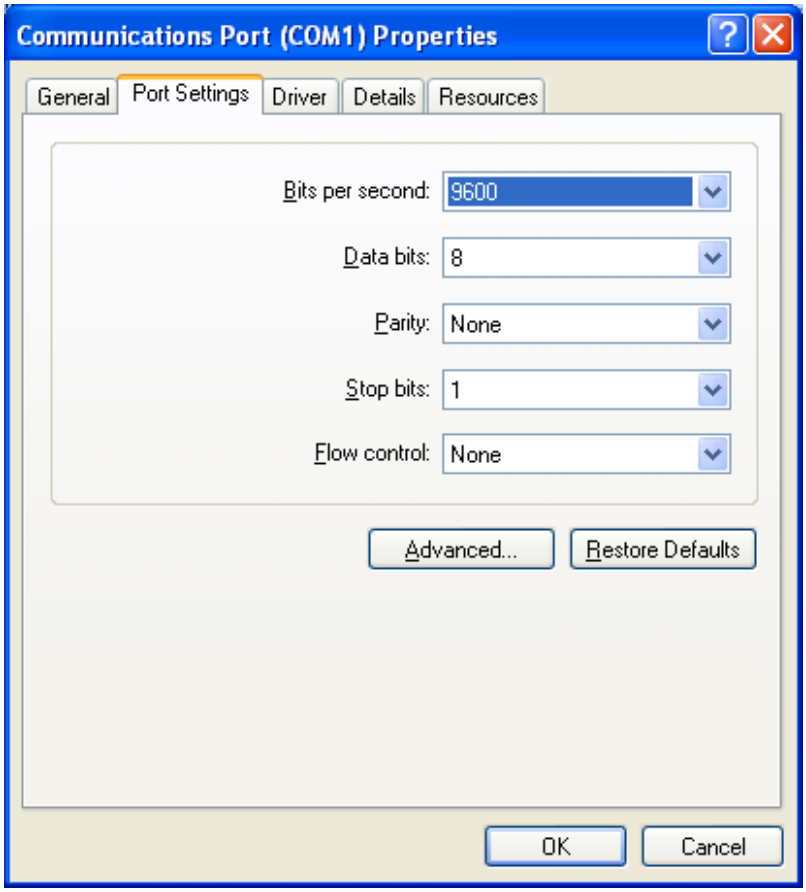
In this case, check to be sure the instrument is on and the USB data transfer cable is fully seated. Click “Connect” to retry the connection. With the USB connection, the computer should automatically establish connection with the meter. If you don’t know the com port number, you can choose Auto or try all available ports or you can check your COM port assignments in the Device Manager section of the Windows Control Panel.
Path: Control Panel-->System-->Hardware Tab-->Device Manager button-->Ports (COM & LPT)

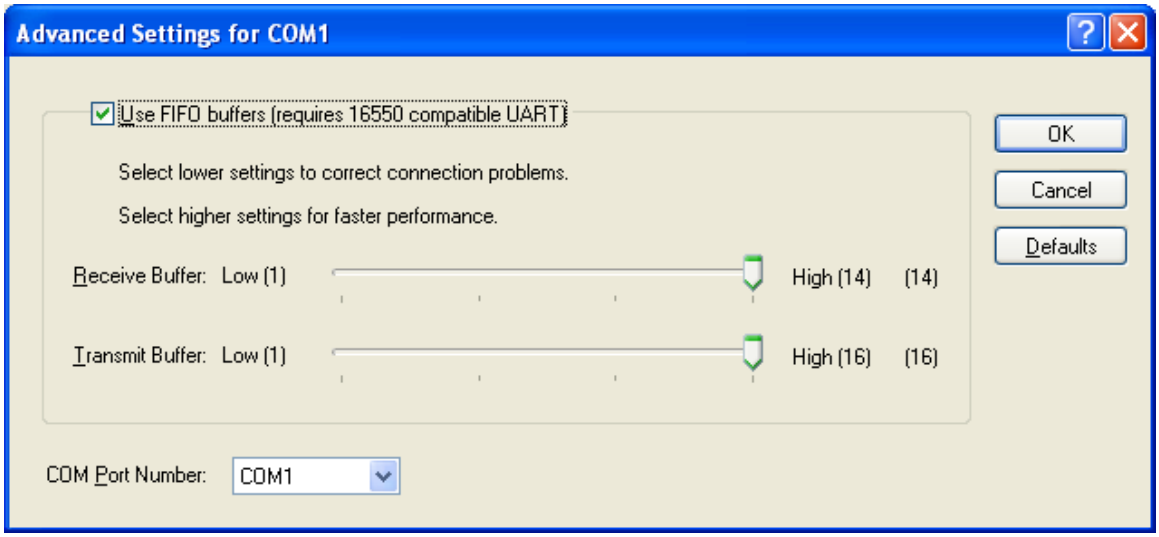

Control Panel
File Edit View Favorites Tools Help
Back Search Folders
Address Control Panel
Go
Control Panel
Switch to Category View
See Also
Windows Update
Help and Support
Accessibility Options
Add Hardware
Add or Remov...
Administrative Tools
Automatic Updates
Date and Time
Display
Folder Options
Fonts
Game Controllers
Intel(R) GMA Driver
Internet Options
Java
Keyboard
Mail
Mouse
Network Connections
Phone and Modem ...
Portable Media Devices
Power Options
Printers and Faxes
QuickTime
Realtek HD Sound Eff...
Regional and Language ...
Scanners and Cameras
Scheduled Tasks
Security Center
Sounds and Audio Devices
Speech
System
Taskbar and Start Menu
User Accounts
Windows CardSpace
Windows Firewall
Wireless Network Set...


System Properties
System Restore
Automatic Updates
Remote
General
Computer Name
Hardware
Advanced
Device Manager
The Device Manager lists all the hardware devices installed on your computer. Use the Device Manager to change the properties of any device.
Device Manager
Drivers
Driver Signing lets you make sure that installed drivers are compatible with Windows. Windows Update lets you set up how Windows connects to Windows Update for drivers.
Driver Signing
Windows Update
Hardware Profiles
Hardware profiles provide a way for you to set up and store different hardware configurations.
Hardware Profiles
OK
Cancel
Apply

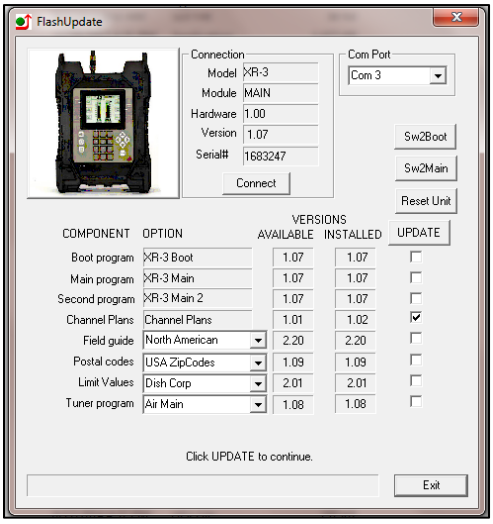


If you see that your Communications Port is set to something other than COM ports 1 through 12, you will need to reassign the COM port. To reassign the COM port, right click with your mouse on the desired COM port and select Properties. Then click on the Port Settings tab. Then click on the Advanced button. Using the drop down menu at the bottom of the Advanced Settings screen, reassign the COM port to an open (unused) port to any COM port from COM1 to COM12. Then press OK twice and exit out of the Device Manager and exit out of the Control Panel.





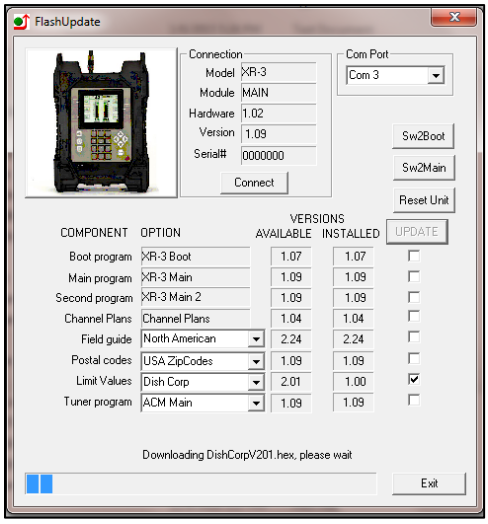
7) As soon as the connection is established, the application will access the website and obtain the latest available versions for the various software components. These will be compared with the versions installed on your instrument. Any component with a newer version available will be checked. Normally, there is no need to check anything that isn't already checked and we don't recommend manually check marking the boxes.



8) For satellite module applications, select your desired Limit Values file: Dish Corp, Dish RSP, or No Limits. See Limit Values section below for more details.
9) For satellite module applications, select your postal code region: USA ZipCodes, Canadian Postal, or No Postal Code (if located outside of North America).

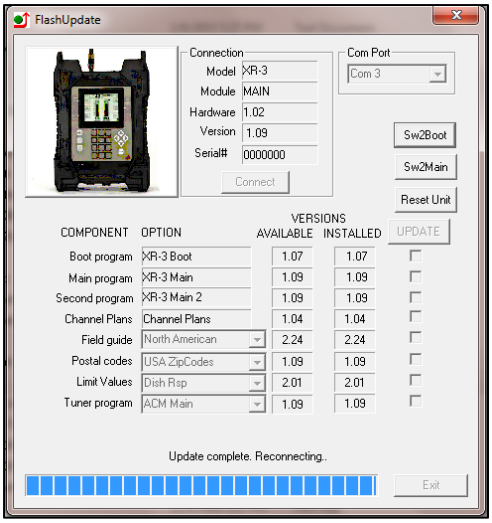
Click “UPDATE” to start updating the instrument. The progress bar at the bottom will show the installation progress of each component. In the screenshot from the example shown below, the program has detected that one component needs to be updated (it automatically placed one check mark next to the item that needs updated). The blue status bar at the bottom of the program will reset itself after each component is downloaded.

The download process can take up to approximately 5 minutes to complete, depending on the number of components that need to be updated.



The word “REMOTE” should appear on the LCD screen of the XR-3 to indicate that the instrument is being programmed and controlled remotely. Standby while the instrument is updated. Do NOT press any buttons on the XR-3 meter while the update is in progress. Do NOT bump or unplug the USB data transfer cable from the meter while the update is in progress.

10) When finished, the program will display “Update Complete. Reconnecting”, click “Exit”. You may now disconnect the XR-3 instrument from the computer and it is ready to use.



Channel Plans (applies to CATV / Off-Air module only)

Standard Channel Plans for the CATV / Off-Air module are available. These may be revised or added to in the future. The standard channel plans include:

Standard Cable plans:
EIASTD
HRC
IRC
PAL BG
PAL I
SECAM

Standard Off-Air plans:
NTSC ATSC
FM N. Am

Field Guides (applies to satellite modules only)

There are several global Field Guides (satellite transponder databases) available now and more may be added in the future. You can select the Field Guide you need using the pull down list. The different Field Guides cover different regions of the world:
North American Field Guide
South American Field Guide
European Field Guide
African Field Guide
Middle East Field Guide
Asian Field Guide
South Pacific Field Guide
NE Pacific Field Guide

If you simply want to change Field Guides even though no new versions are available, you may need to also put a check in the box before clicking “UPDATE”. Only components that are checked will be updated.

Limit Values (currently applies to satellite modules only)

For technicians that will be using the meter for Dish Network related work, there are two Limit Value databases available, 'Dish Corp' and 'Dish RSP'. If you work in an area that is served by Dish Corporate, select 'Dish Corp'. If you work in an area that is served by a Dish RSP, select 'Dish RSP'. If you won't be using the XR-3 for Dish Network applications, select 'No Limits'. You can select the Limit Values you need using the pull down list.

If you simply want to change Limit Values even though no new versions are available, you may need to also put a check in the box before clicking "UPDATE". Only components that are checked will be updated.

Postal Codes (applies to satellite modules only)

Postal Code files provide look-up of latitude and longitude based on the postal code. Postal code files for the United States and Canada are available now and more may be added in the future. You can select the Postal Code file you need using the pull down list.

If you simply want to change your Postal Code file, even though no new versions are available, you may need to also put a check in the box before clicking "UPDATE". Only components that are checked will be updated.

If you are using the meter outside of the United States and Canada, then choose "No Postal Codes." This allows you to type in and save your latitude and longitude coordinates for your location. Based on the lat/long coordinates provided, the meter can still calculate the azimuth, elevation, and skew settings of the dish antenna as it relates to each satellite.

Future Updates

You may check for an update by connecting your XR-3 to your computer and performing steps 1 through 7 in the Updating section. Make sure your Internet connection is active (if you have a dial-up connection to the Internet.) It is recommended you check for updates regularly (i.e. monthly), for satellite work anyway.

If you have any problems or questions about the FlashUpdate program, call Applied Instruments' Tech Support team at +1 (317) 782-4331 from Monday through Friday, 8AM to 6PM USA Eastern Time Zone (UTC-5).

3. Power

Battery Charge

1) Charging: Use either the AC adapter or the 12VDC vehicle charger. To fully charge a dead battery, it should require approximately 3 hours. It is okay to leave the meter charging all night since the meter will go into trickle charge mode when the battery is almost fully charged. During cold weather keep the XR-3 indoors in a warm environment while charging. The battery charge temperature range is 41°F to 100°F (5°C to 38°C).

2) Discharge / Charge: Before initial use of the meter you should fully discharge the battery and then recharge overnight. To discharge the battery, disable the automatic shut-off in the Options menu and then leave XR-3 powered on until it shuts off.

3) Battery Charge Symbol: The battery symbol indicating remaining battery life in the lower right corner of the LCD display can be misleading. It is normal for the battery symbol of a fully charged battery to quickly drop by ¼. The symbol should remain in the middle two

segments for the longest time period, and will again drop faster when the last battery symbol segment is displayed. In summary the symbol drops by 25% quickly, remains in the middle 50% the longest, and then the last 25% drops quickly.

The symbol's (and the battery's discharge) behavior is not exactly linear. The battery charge indicator is based on the internal battery voltage, which changes slowly during the normal period of operation but quickly when the battery is either fully charged or nearly discharged. Therefore, the battery indicator will only appear full or empty for a short time. Most of the time, it will appear ½ or ¾ full. When the charge indicator shows ¼ charge, you will need to charge it soon. It will shut off very soon after the indicator goes to empty.

4) Automatic Shutoff: If desired you can activate the automatic shutoff feature. To activate it, press MENU → OPTIONS and then scroll to the Shutdown field with your Up/Down arrows and use the Left/Right arrows to choose the desired auto shut-down time (5 min, 10 min, 15 min, NONE). The auto shutdown feature is turned off (set to NONE) in its default state.

5) LNA/LNB Power Awareness: Only turn on LNA/LNB power (to power a LNA, pre-amp, or LNB) while taking measurements. To extend battery run time, avoid powering an LNA/LNB while not actually taking measurements.

6) Attempting to turn on a unit when the battery contains insufficient charge may result in beeps and/or a flash on the LCD but will not harm the unit.

AC Power

When 110VAC or 220VAC power is applied to the external AC to DC switching power supply, it supplies 15VDC power to charge the battery, run the meter, and power the LNA, pre-amp, or LNB. In this case, the power available to the LNA or LNB is limited to 750 mAmps to avoid overdriving the power circuit and the battery charging circuit.

DC Power

When external 12VDC power is provided from a vehicle, it supplies enough power only to charge the battery, but not enough power to run the instrument while the battery is being charged.

4. Troubleshooting / FAQs

a) My XR-3 instrument is displaying a message on the screen that says "ERROR Module not found". Why is this message displayed?
   i) It means the XR-3 base instrument isn't detecting the presence of the module. If you encounter this message, power the unit off, remove the module, reinsert the module, and power the unit back on again.

b) My serial number is missing off the back of my XR-3 instrument. How can I obtain my serial number to check with the factory if it's still under warranty?
   i) Connect your XR-3 meter to the PC, power it on, and open the FlashUpdate or MeterMaid program. The serial number of the connected unit will be displayed in FlashUpdate and MeterMaid if proper connection is established.
   ii) Turn the XR-3 on. Then go to MENU, Versions, to see the base unit's serial number and the module's serial number, along with the loaded software versions.

c) While attempting to download or install the FlashUpdate application, the download just seems to stall out and not make any progress. What could be the cause of this?
   i) This issue is most likely caused by your anti-virus software or firewall blocking our program. Please temporarily disable your computer's anti-virus software and firewall

so it doesn't interfere with the installation of the FlashUpdate and MeterMaid programs and the related USB drivers. If you have a hardware firewall, either stand-alone, or in a router, you must either modify the settings of the device to permit access to our program or you will have to entirely by-pass the router or other inhibiting hardware device. Also ensure that you are signed on as Administrator or have Administrator rights for Microsoft Windows.

If your company has a strict policy and the firewall blocks any executable files, then please contact your IT department and ask for assistance. Applied Instruments is more than happy to speak to the IT department about a work-around solution.

5. Replacement Parts & Accessories

Standard Accessories

Item Description	Part Number
Padded Cordura Flap for model XR-3	978-09390
Axle for Cordura Flap for model XR-3	976-09400
Threaded Cross Dowel Pin to secure module (qty 1)	940-89900
Thumb Screw (Tuner Lock-Down Screw) to secure module (qty 1)	940-89901
Battery door gasket for model XR-3	975-09340
Shoulder Strap	978-01843
Replacement Battery for model XR-3	742-00016
120-240VAC/15VDC AC Adapter and related line cord for model XR-3	990-08520
12VDC Vehicle Battery Charge Cord	967-20003
USB Data Transfer Cable	983-00002
Desktop kickstand for model XR-3	976-08430
Replacement Double Female F-Connector Barrel	715-01026
Signal splitter / Combiner (5-2150 MHz, single side power passing)	340-00012
Operation Manual for model XR-3 base instrument	078-00380
Operation Manual for model XR-3 Cable Air meter module	078-00400
Operation Manual for model XR-3 TS2 DBS satellite meter module	078-00390
Operation Manual for model XR-3 S2ACM VSAT sat meter module	078-00410

Optional Accessories

Item Description	Part Number
Hard Shell Protective Carrying Case	978-00008
NS-1 Handheld Broadband RF Noise Generator (5-2150 MHz)	NS-1

6. Maintenance and Repairs

Repair Services

In the event that a unit is damaged or otherwise not performing as specified, repair and maintenance service is available. Warranty repair will be performed within one year from the date of purchase at no charge. Beyond one year, charges for time, material, and handling will be incurred. Warranty repair includes defects in material and workmanship only. Each repair is done on a case by case basis and charged according to the technician's time and the components replaced. If unit is under warranty (standard warranty period is 12 months), charges

do not apply unless instrument has been opened, abused, or exposed to moisture. Accidental damage or abuse repairs will always incur time, material, and handling charges. Shipping charges to our factory are the responsibility of the customer. Return shipping charges are also the responsibility of the customer (except for "in warranty" repairs for customers located within the USA).

If you need to return equipment for service, please call our factory at +1 (317) 782-4331 and ask for Tech Support or email us at info@appliedin.com and indicate REPAIR REQUEST in the subject line. To obtain a RMA number, you will first need to provide the following information:

-Your first and last name, company name, email address, telephone number, ship-to address, and bill-to address
-Model of instrument you have
-Version of software that you have loaded (if applicable)
-Serial number of the instrument
-Detailed description of the issue

The RMA number must be written on the outside of the shipping box and on all correspondence relating to that particular shipment. Please include details of the service requested. Ensure that the equipment is securely packed with proper cushioning material on all sides. The unit should be insured for its full value in case of damage or loss in transit. After the repair is completed, we will contact you for payment. If payment is not received within 60 days after contact is made, then the repaired equipment will become the property of Applied Instruments.

Version Updating

As our product lines are refined and features and performance are enhanced, we will upgrade older units at a nominal cost when possible. Shipping charges are additional. Contact us at +1 (317) 782-4331 for price and schedule if you are interested in having a unit updated.

Calibration

Periodic calibration of modules may be necessary to ensure that the unit is operating within the original factory specifications. A standard calibration charge will be incurred.

7. Specifications

XR-3 Base Instrument Specifications

Battery.....rechargeable Li-Ion, 4400mAh 12.6V Max
Run time/charge.....4 +/- hours for a single LNA/LNB
(depends on LNA/LNB current draw)
Universal AC charger.....AC input: 100 to 240 VAC ~1.0A Max., 50-60 Hz
DC output: +15VDC, 2.0A (center pin positive, 2.1mm)
fast charge and then trickle
Vehicle charger.....12VDC
Computer Interface.....USB (Ethernet optional)
Size/Weight (without rubber guards) .....7.6”W x 6.7”H x 2.40”D / 3.2 lbs.
19.3cm x 17.0cm x 6.1cm / 1450 g
Operating Temperature Range.....-20°F to 120°F (-29°C to 49°C)
Battery Charge Temperature Range.....41°F to 100°F (5°C to 38°C)
Warranty.....12 month limited
Specifications subject to change without notice.

WARRANTY

The Applied Instruments XR-3 is warranted against defects in materials and workmanship for a period of twelve months. Applied Instruments agrees to repair or replace any assembly or component found to be defective under normal use during this period. Our obligation under this warranty is limited solely to repairing the instrument proven to be defective within the scope of the warranty when returned to the factory. Transportation to the factory is to be prepaid by the customer. Authorization (RMA#) by Applied Instruments is required prior to shipment.

Applied Instruments assumes no liability for secondary charges or consequential damages and, in any event, Applied Instruments' liability for breach of warranty under any contract shall not exceed the purchase price of the instrument shipped, and against which a claim is made.

Any application recommendation made by Applied Instruments for the use of its products is based upon tests believed to be reliable, but Applied Instruments makes no guarantee of the results to be obtained. This warranty is in lieu of all other warranties, expressed or implied, and no representative or person is authorized to represent or assume for Applied Instruments any liability in connection with the sale of our products other than that set forth herein.

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APPLIED INSTRUMENTS, INC.
RF TEST AND MEASUREMENT