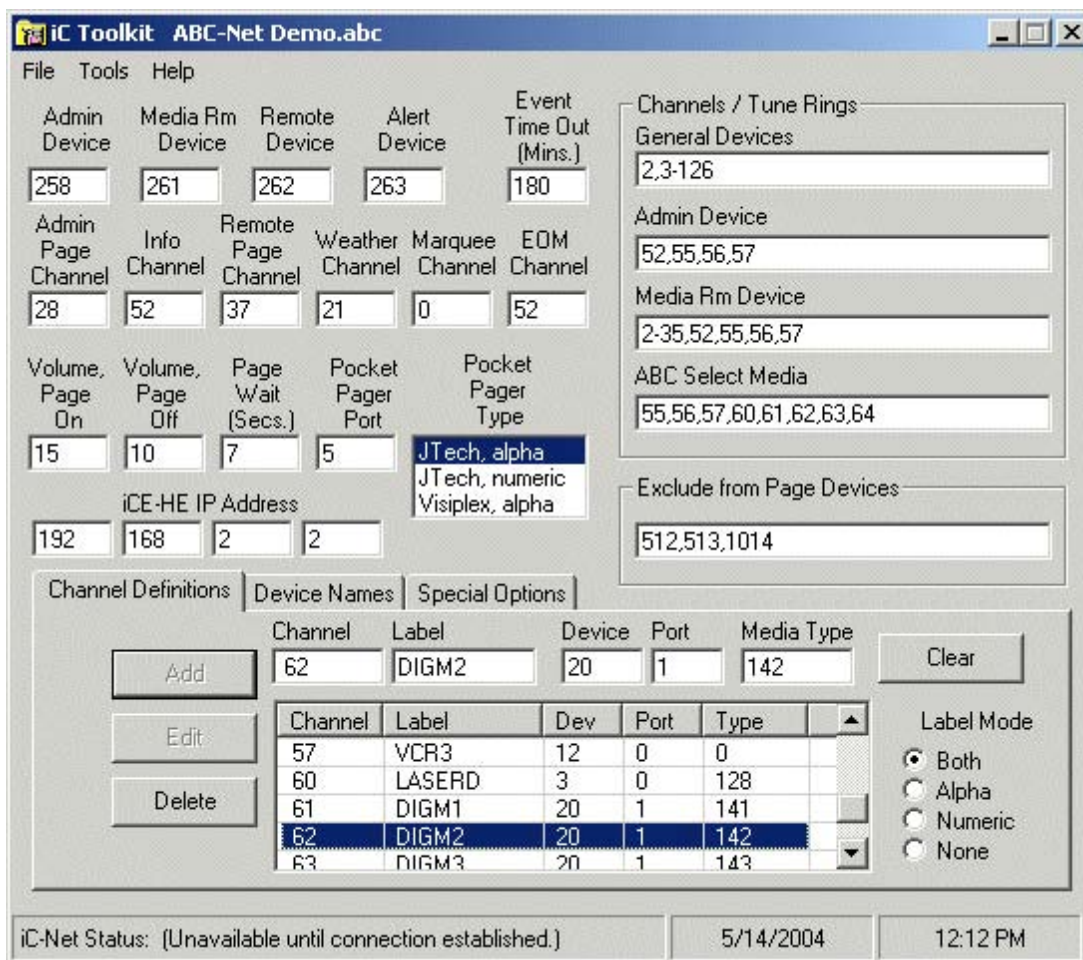


iC Toolkit Overview



iC Toolkit is a Windows application that can be used to configure and test any Contemporary Research iC system, including any iC network controlled by a control system or PC, as well as as ABC-Net and ABC Media systems.

New Features - January 2004

New features in this version of iC Toolkit include:

- Ethernet Connectivity. iC Toolkit can now connect over TCP/IP to the ICE-HE Ethernet Head End or Ethernet-enabled control systems, check out [Communications](#) for more information.
- Quick Control panel offers direct PC control of iC-Net TV controllers, see [Quick Control](#).
- [System](#) tool sets up iC-Net system tuning and on-screen channel text display.
- New ABC-Net Digital Media integration and other special features see [ABC Introduction](#) for details

New Features - May 2004 (2.0)

- Netlinx Integration - IC Toolkit will connect with the NetLinx controller in an ABC-Net system.
- ICE-HE Integration - For ABC-Net systems, you can define the IP address of an ICE-HE that is integrated with a NetLinx controller. For other systems, you can communicate with the ICE-HE directly over an LAN or WAN connection.
- NetLinx Port Definition - You can define the control device and port ID for multi-port control devices (For ABC Axxess systems, simply leave a 0 in the port section. To upgrade an Axxess-based ABC system to Netlinx, simply change the device and port assignments, everything else stays the same)

The Main iC Toolkit screen, shown above, features five key sections for operation

- iC Toolkit Header displays the name of the current file
- Menu Bar accesses all iC Toolkit menus
- System Fields define specific system devices and features
- Data Lists create and store lists of information for devices, channels, and special options
- The Status Bar at the bottom displays current connection status, date, and time

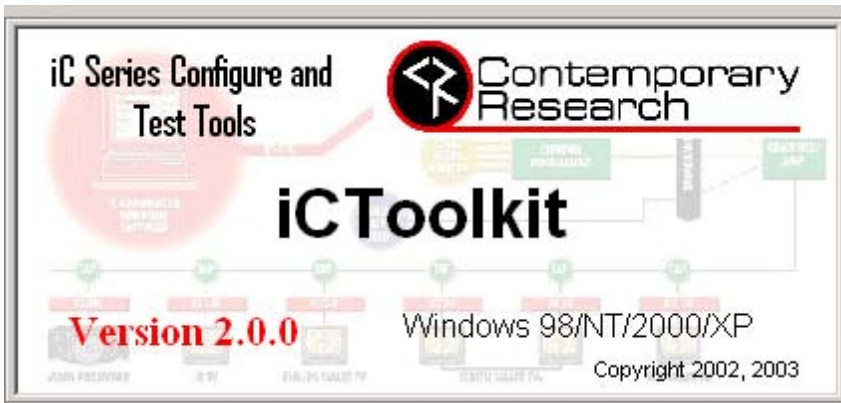
Depending on the application, iC Toolkit can perform a variety of tasks:

- Define "Tuning Rings" for all TVs in the system, a list of channels that can be accessed by the user
- Create text labels for channels displayed on TVs
- Setup special system functions
- Enter a list of iC controllers in the system
- Download data from the iC Head End Network Controller
- Diagnose network operation, change device numbers, and test controller status

This manual is divided into four sections:

- Overview - general instructions
- [iC Systems Setup](#) - using iC Toolkit for integrated system installations
- [ABC System Setup](#) - using iC Toolkit for ABC Media Retrieval systems
- [Reference](#) - useful information for both applications

Launching iC Toolkit



Launching

When you launch iC Toolkit from the Program menu or a shortcut, the iC Toolkit splash screen will appear briefly, displaying the current version of the software. As the program launches, it will load the last file you saved or the default.abc file.

COM Port in Use



This alert will appear if the assigned COM port is in use by another application, such as Palm Hotsync or control system programming software. iC Toolkit will continue to launch after you click the OK button. Make sure you close the competing application before attempting to connect iC Toolkit with the Head-End Network Controller.

File Menu



New

Clears all the fields, sets key numeric fields to default values, then sets the file name to "New.abc" to reduce the risk of accidentally saving the new settings to an existing system file. Now that you have a clean slate to work with, use File/Save As to rename and save the file.

Open

Displays the Windows file Open dialog box, and displays the text files located in the \My Documents\ABC Files folder, the default storage and retrieval location for configuration (*.abc) files.

Retrieve (ABC-Net Only)

Downloads the ABC-Net database from the NetLinx controller.

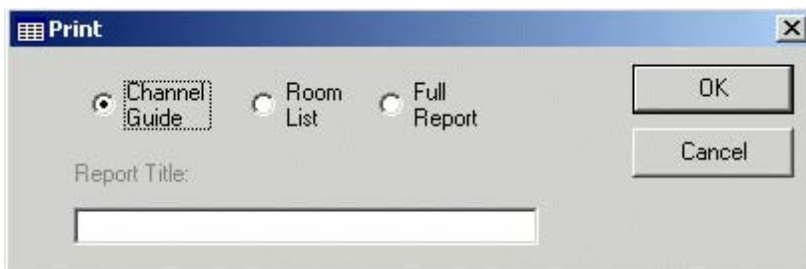
Save

Saves the current configuration file data, using the name displayed on the title bar.

Save As

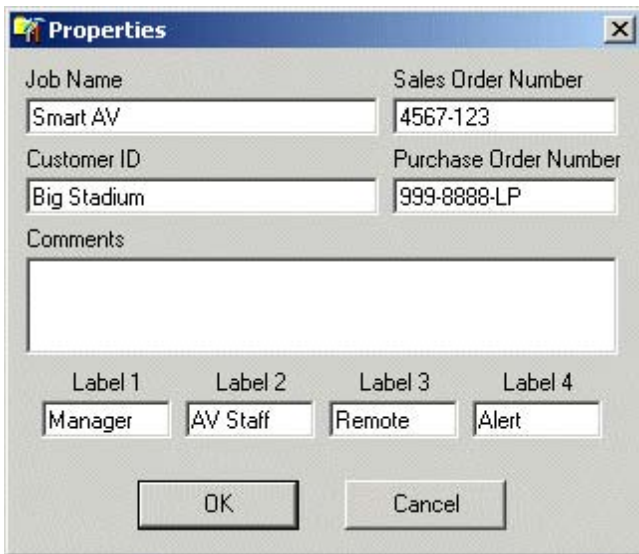
Displays the Windows file Save As dialog box, allowing the user to enter a new name for the file, which will be stored in the \My Documents\ABC Files folder by default.

Print



Gives the user a choice of three report types. **Channel Guide** prints a formatted channel list for distribution to the classrooms. **Room List** prints a formatted room list showing the device number assigned to each room. **Full Report** prints all of the information contained in the file, first prompting the user for a report title. Note that both the Channel Guide and Room List automatically include the Job Name field that appears in the **Properties** window.

Properties



The image shows a 'Properties' dialog box with a blue title bar and a close button. It contains several input fields and buttons. The 'Job Name' field contains 'Smart AV' and the 'Sales Order Number' field contains '4567-123'. The 'Customer ID' field contains 'Big Stadium' and the 'Purchase Order Number' field contains '999-8888-LP'. Below these is a large empty text area for 'Comments'. At the bottom, there are four small input fields labeled 'Label 1' through 'Label 4', containing 'Manager', 'AV Staff', 'Remote', and 'Alert' respectively. At the very bottom are 'OK' and 'Cancel' buttons.

Job Name	Smart AV	Sales Order Number	4567-123
Customer ID	Big Stadium	Purchase Order Number	999-8888-LP
Comments			
Label 1	Label 2	Label 3	Label 4
Manager	AV Staff	Remote	Alert

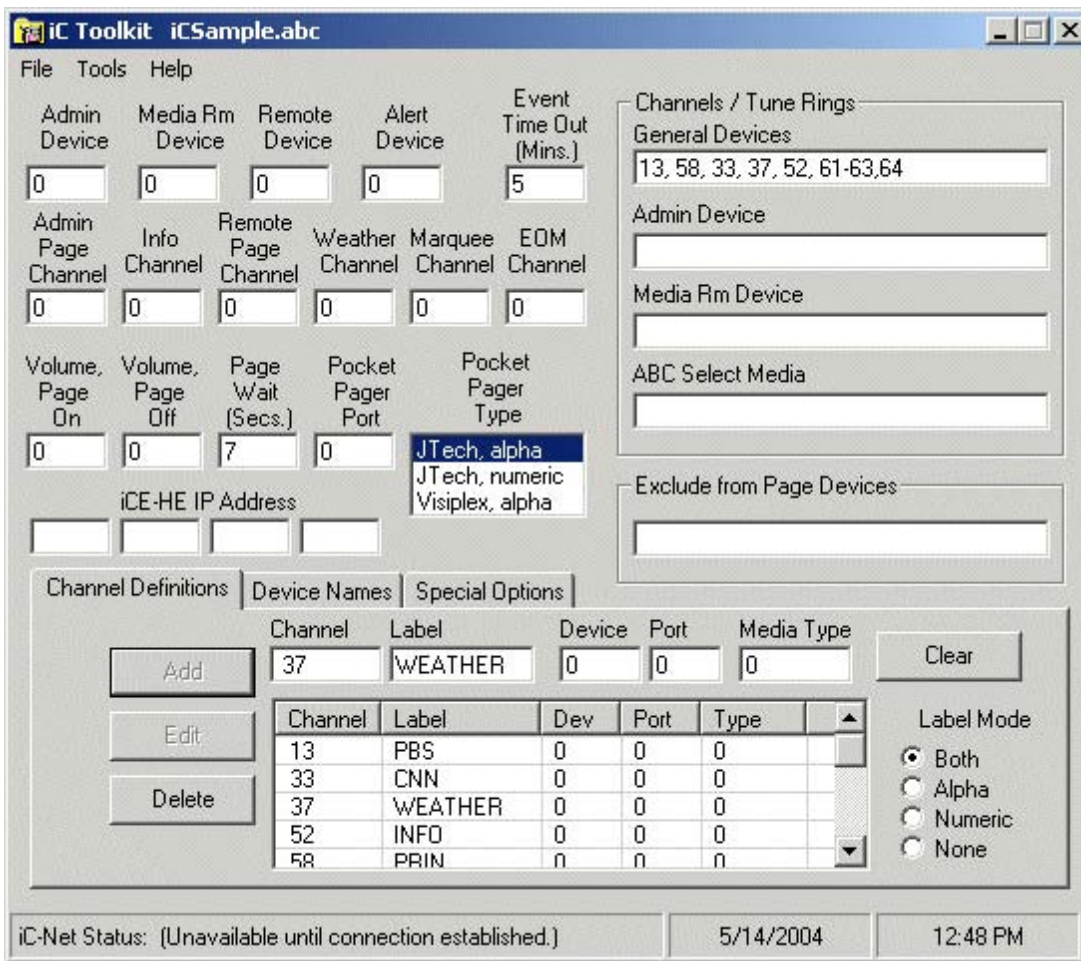
OK Cancel

Allows the user to maintain specific information about the file including Job Name, Customer ID, Purchase Order number, Sales Order number, and miscellaneous comments. The Job Name is also used as the title for printing **Full Reports**.

Exit

Terminates the program.

Introduction - Systems Integration



This section of the iC Toolkit manual focuses on setting up a custom system application, integrating iC technology with a control system or custom PC software. There are three typical scenarios for using iC Toolkit in concert with an integrated control system:

- **New System Setup** - the system designer uses iC Toolkit off-line, defining and saving the data for future download to the Head-End Network Controller (HE). On site, the installer connects a PC's COM port directly to the HE, downloads the data to HE memory, and cross-checks system devices and operation. After that, the PC is removed and the control system is connected to the HE's RS-232 port.
- **Existing System Upgrade** - an installer connects a PC to the HE of an existing system, and uses the Diagnostic tool to capture the list of active devices, often naming the devices to document the location of each iC controller. With that information on hand, installers can save the iC Toolkit file for use in upgrading the system.
- **Integrated Setup and Diagnostics** - in ABC Media Systems, a PC with iC Toolkit can interact with the HE through the control system. This can be a helpful feature, especially for sites that require remote modem support. However, this option will require additional control system programming to handle data transfer through the system and managing modem connectivity.

iC System Tools

There are several tools available to the systems integrator. As iC Toolkit is used for both integrated systems and ABC Media Retrieval systems, there are a number of fields and lists that won't apply for custom applications. When you create a New file, iC Toolkit will zero out most fields and lists for you. In addition, data from unused fields, such as Weather Channel, will be ignored by iC Toolkit for integrated systems.

The tools you'll use for integrated systems include:

- [Properties Tool](#) - stores job information and renames certain Tuning Ring fields to simplify installation and testing.
- [System Fields](#) - defines default tuning rings for the system, discrete tuning rings for two specific controllers, and a system-wide power-up channel.
- [Device List](#) - creates a lists of iC controller device numbers and names
- [Channel Labels](#) - creates a list of TV channel labels displayed by iC controllers
- [Special Options](#) - sets up IRC and VDC control operation
- [Diagnostics](#) - tests and adjusts system operation, including scanning the iC network for active and missing devices, and displaying controller status.

Preparation

Since you'll be defining overall system configuration and features, it's a good idea to have all the key information on paper before you begin. Project information should include:

- Create a System Map of the installed devices, locations, and planned iC-Net zones (see [iC-Net Zones](#) and [Sample System Map](#))
- A list of names for TV channels (8 characters each)
- A list of desired Tuning Rings for your system

ToolKit Tip - Saving 2-Way Device List in Head-End Network Controller (HE)

Whether you're using a PC or a custom control system to control an iC-Net system, the process of downloading a list of 2-way device the the HE is crucial for system operation. First, storing the list in HE memory is useful for diagnosing system status from IC Commander and the front-panel LED on the HE (the LED flashes when the number of expected and active devices do not match). In addition, the HE will not pass on response information from a 2-way device to the RS-232 port unless it is included in the stored device list.

Defining System Tuning Rings

Manager Device	AV Staff Device	Remote Device	Alert Device	Event Time Out (Mins.)	Channels / Tune Rings
1013	263	0	0	5	General Devices
					33,37,52
					Manager Device
					5-126
Admin Page Channel	Info Channel	Remote Page Channel	Weather Channel	Marquee Channel	AV Staff Device
0	0	0	0	13	8,22,38,50
					ABC Select Media

While most of the System Field section is used for defining ABC Media Retrieval system properties, there are several fields, highlighted above, that can define system-wide Tuning Rings for iC network controllers and tuners. A Tuning Ring is a list of channels stored inside iC controllers and tuners, specifying which channels are accessed by channel up/down commands.

The Default Channel field defines the standard tuning ring for the system, while the Administrator and Media Center fields can define different tuning rings for specific controllers or iC Zones.

iC Default Channels

To create a standard tuning ring for the iC system, enter a list of Default Channels in the Channels Available section. When iC Toolkit sends system data to the Head-End Network Controller, it will update all iC controllers on the network.

Admin Device/Administrator Channels

These fields refer to a special controller in ABC systems, but can be used for any device in iC systems. To rename the field for your system, go to [Properties](#) and change the name of Label 1. You can create a unique tuning ring for a specific device by entering a channel list in the Administrator channel field and entering the desired device number in the Admin Device field.

Media Center Device/Media Center Channels

These fields refer to a special controller in ABC systems, but can be used for any device in iC systems. To rename the field for your system, go to [Properties](#) and change the name of Label 2. You can create a unique tuning ring for a specific device by entering a channel list in the Media Center channel field and entering the desired device number in the Media Center Device field.

If you aren't using a unique tuning ring, make sure to blank the Admin and/or Media Center Device field.

Marquee Channel

This is the default channel when a TV first powers up. Entering a zero (0) will set the TV controllers to display the last channel viewed.

Defining Channels and Labels

Channel	Label	Device	Port	Media Type
37	WEATHER	0	0	0
13	PBS	0	0	0
33	CNN	0	0	0
37	WEATHER	0	0	0
52	INFO	0	0	0
58	PRIN	0	0	0

The **Channel Definitions** section provides an 8-character label that will be displayed on each TV selecting that channel. This label displays for a short period after that channel is first selected. The **Axcent3 Port** and **Media Type** fields are not used in integrated iC systems.

Adding or Editing Definitions

To change an existing definition:

- Click on an existing channel row to display the data in the editing boxes at the top
- Change the information in one of the boxes, and the Add button will be activated
- Click on the Edit button to save the changes
- If you Click the Add button, a pop-window will appear to confirm your changes - if you want to save your changes, click the Yes button

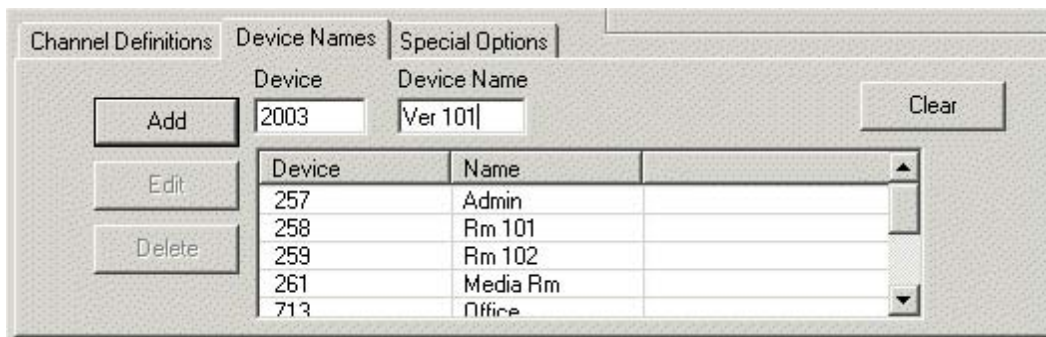
To add a new channel definition:

- Press Clear to clear the fields
- Enter the new information
- Click Add to add the channel to the list

To delete channels:

- Click on channel row
- Click Delete to remove channel from list

Device Names



Device	Name
257	Admin
258	Rm 101
259	Rm 102
261	Media Rm
713	Office

Device Names are used to associate an 8-character alphanumeric name with an iC-Net bus device number. Assigning names to device numbers helps to cross-check system operation and installation. For example, when you use the Diagnostics tool to scan the iC network for devices, it will be easy to look for any unassigned devices found in the search - they won't have a name attached.

If you're connected to an existing system, and haven't prepared an iC Toolkit file for the installation, the Diagnostics tool can scan the iC network and add the devices it finds to the Device List.

iC Toolkit will prevent assigning duplicate names - if you create a duplicate name, the software will allow you to create another, or use the name for the current device (the old name will be blanked out).

The names in the Device List are not synchronized with the special devices in the System Fields, such as Admin or Media Center - those functions are only used to assign a Tuning Ring to a selected device or iC Zone.

See [Channel Information](#) to learn how the Add, Edit, Clear and Delete buttons function.

System Special Options

IRC and VDC Control Setup

You can use the Special Options section to setup a system's IRC and VDC controllers.

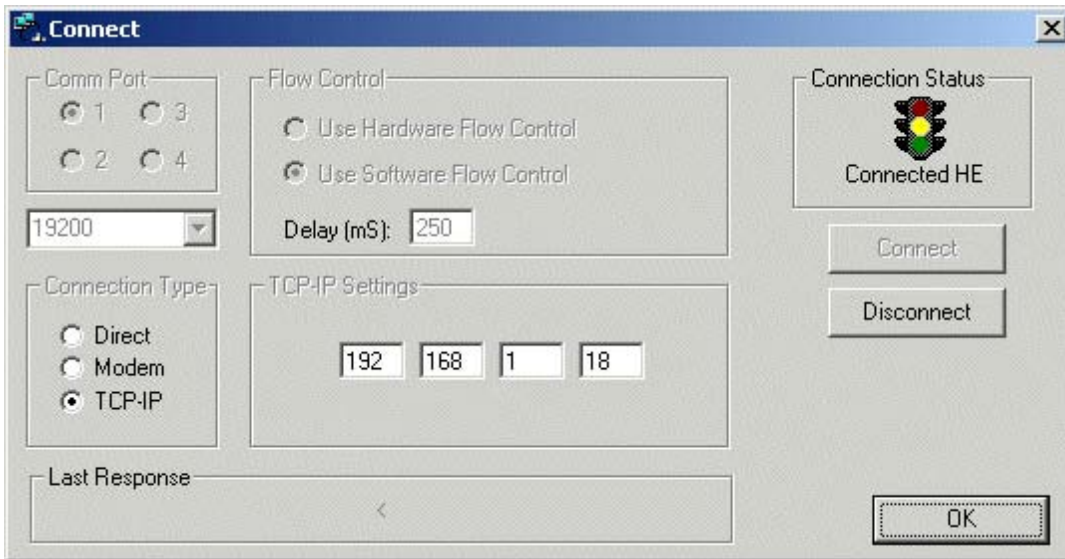
Feature	Parameter 1	Parameter 1	Parameter 2
Set IRC Control Type	T1	Type #	Device #
Set VDC Control Type	T0	Type #	Device #

Some systems will include ICC-IRC Infrared TV Controllers and ICC-VDC Video Display Controllers to control TVs, monitors, video projectors or large-screen displays. Both controllers have an internal database of control codes, defined by a Control Type code. By adding this command to the Special Options section, the system can automatically "teach" each IRC and VDC the control type to use.

ToolKit Tip: The easy way to setup a mix of IRC/VDC units is to assign an "all call" Special Options code that covers most IRC/VDC units first, then list the exceptions after that. Toolkit will send the codes in the order they are entered. For example:

Feature	Parameter 1	Parameter 1	Parameter 2
Set all IRCs to Mitsubishi control	T1	11	4095 (all TVs)
Set all VDCs to Sanyo VP control	T0	20	4095 (all TVs)
Set Room 312 IRC to Panasonic control	T1	02	513
Set Room 220 VDC to Hitachi VP control	T0	22	333

Connect



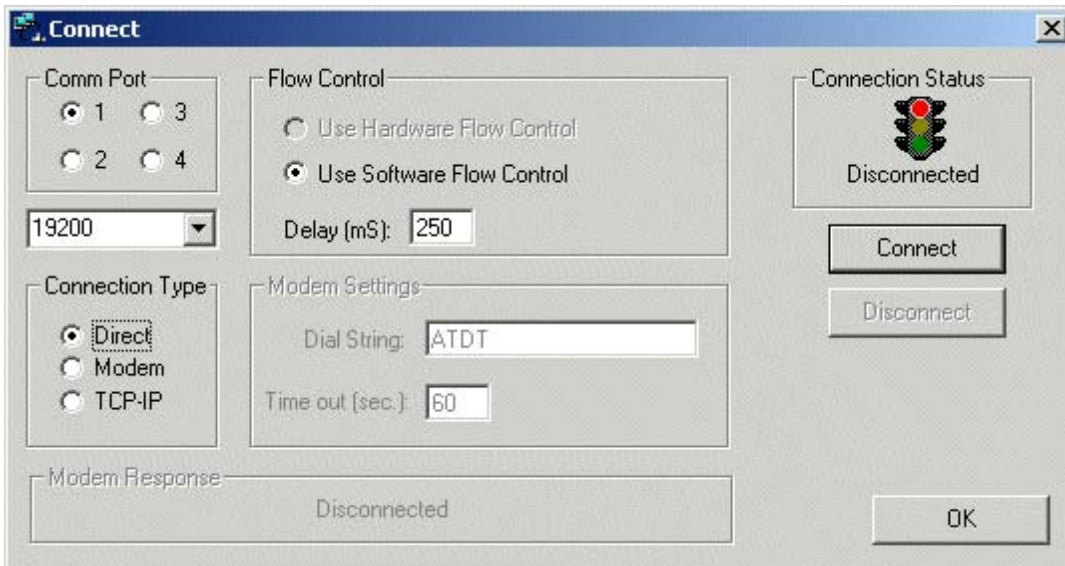
In order to send your system data to the Head-End Network Controller (HE) and use Diagnostics to test the network, you'll need to establish communication between your computer's COM port and the HE's RS-232 port. The Connect tool can be set up for Ethernet TCP/IP, RS-232 cable or modem communication.

See the Reference sections for specifications on COM and Modem cable.

Ethernet Communication

ic Toolkit can link over TCP/IP to an ICE-HE Ethernet Head End, a NetLinx controller in an ABC-Net application, or any ethernet-enabled control system for custom installations. Simply select TCP/IP communication, then enter the quad address of the Head End or controller.

RS-232 Communication



COM Port

Select the COM port for your data cable to the HE or control system RS-232 port..See the [Direct COM Connection](#) and [Modem Connection](#) sections for more information and cable drawings.

Baud Rate

Choose the baud rate that matches the baud rate setting on the HE, default is 19,200 baud. Note that the remaining communications parameters are fixed at 8 data bits, No parity, 1 stop bit.

Flow Control

Currently, hardware flow control is not supported.

Software flow control generates a delay period between each command sent to the Axcent3 master device. The length of the delay is entered into the Delay field. Default is 100 milliseconds.

Connection Type

Select Direct for local connection to the Head End or control system via a cable. Select Modem for remote connection via a modem.

Modem Communication

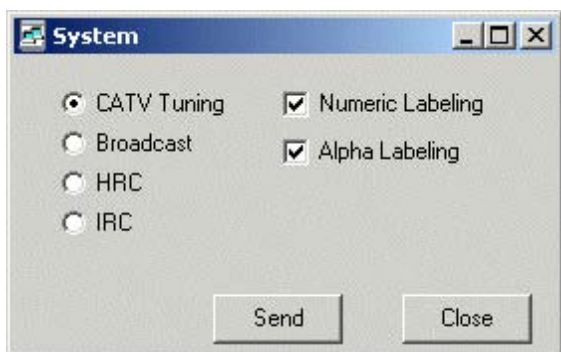


The screenshot shows a 'Connect' dialog box with the following fields and controls:

- Comm Port:** Radio buttons for 1, 2, 3, and 4. A dropdown menu shows '19200'.
- Flow Control:** Radio buttons for 'Use Hardware Flow Control' and 'Use Software Flow Control'. A 'Delay (mS):' field contains '250'.
- Connection Type:** Radio buttons for 'Direct', 'Modem', and 'TCP-IP'. 'Modem' is selected.
- Modem Settings:** A 'Dial String:' field contains 'ATDT' and a 'Time out (sec.):' field contains '60'.
- Modem Response:** A text area containing 'Disconnected'.
- Connection Status:** A traffic light icon with the text 'Disconnected' below it.
- Buttons:** 'Connect', 'Disconnect', and 'OK'.

These fields are available only if Modem is selected as the Connection Type. Dial String allows you to enter the dialing commands sent to your modem including the telephone number being dialed. Typically this string will begin with ATDT for Hayes-compatible modems.

System



The System window sets up overall system tuning and on-screen channel display

Tuning

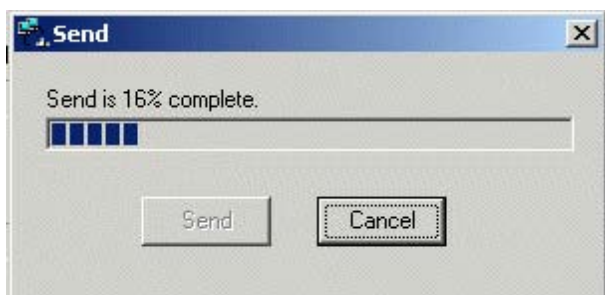
Changes tuner settings for US CATV, off-air broadcast, HRC or IRC channel spacing.

Alpha and Numeric Labeling

Using this parameter, you can selectively display the channel and text portion of a channel label. If only Numeric Labeling is checked – only the channel number will be displayed. If only the Alpha Labeling is clicked, just the name of the channel will show. This does not change any label information stored inside the TV controllers, just how it is displayed.

[Tip: This tool will set all devices in the iC-Net system to the selected tuning and channel display modes.](#)

Send



Send pops up a new window that sends the configuration data to the Head-End Network Controller (HE). Whenever you change information in iC Toolkit, you'll need to resend the data to the system.

While sending, the progress bar and text message will indicate percentage completion. The user can Cancel the Send during the transmission, but the data in the HE will be incomplete. Be sure to resend a complete file after canceling. When the file has been fully transmitted, the Cancel button will change to OK, which you can click to return to the main window.

Should a transmission error occur during the Send, the user will be notified of the error and of appropriate actions.

Tip: You must be successfully connected to the HE before you can send configuration data to HE memory and devices on the iC network. For more information, see the discussion on the [Connect](#) window.

Quick Control



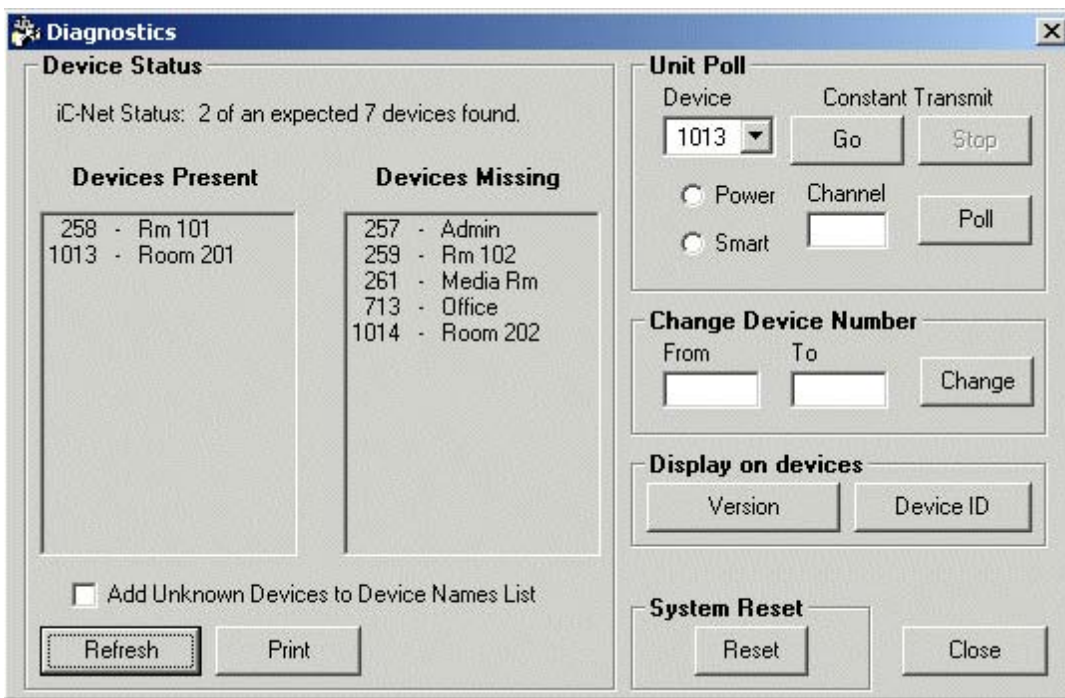
Once you're connected to the iC-Net system, you can take direct control TVs from the Quick Control panel. Any combination of Volume, Channel, or Power commands can be combined by activating the functions' checkbox and pressing Send.

The Send command accesses the list of devices created in the Device Name database. If you aren't using that feature, simply enter the desired device number and Send.

iC-Net Tip:

If you want to test all TV controllers, enter device number 4095 and Send.

Diagnostics



The Diagnostics tool helps to troubleshoot and test system setup and operation.

Device Status

Click on Refresh to scan the system for present and missing devices. In the example above, you would quickly know that two devices are off the iC-Net network. There could be several reasons, including an incorrect device number in the database, a device set to the wrong address, no power to some devices, or a broken data link to some devices.

If you have created names for your assigned devices, it will be easy to look for any unassigned devices found in the search - they won't have a name attached.

Add Unknown Devices

If you're connected to an existing system, and haven't prepared an iC Toolkit file for the installation, click this box after you've scanned the network. This will automatically add the units to the Device List on the Main screen.

Display on all Devices

Clicking *Device Number* or *Software Version* will force all iC-Net devices to display the each unit's device number using on-screen text. At present, Software Version is not implemented on iC-Net devices, and you may not see Device Number text on every device because the feature has not been added to all iC-Net devices as yet, and some devices do not have character generation capability.

Constant Transmit

This will cause a selected device to continuously transmit over the iC-Net bus. This option is very useful for testing RF levels for the return iC-Net signal. Stop this function before attempting any other iC-Net activity.

Change Device Number

This option can be very useful when you want to shift devices to different zones or change a device right from your PC. It's also very dangerous when used without thinking. If you change a device, you'll need to update any affected fields, such as Admin. or Media Center devices.. In addition, be sure you're not assigning a device number that already exists.

Reset System

Clicking on this button resets all iC-Net devices and Head End, just as if you reset power to all devices.

ABC-Net Media Network Introduction

The screenshot shows the iC Toolkit software interface for ABC-Net Demo.abc. The window title is "iC Toolkit ABC-Net Demo.abc". The interface includes a menu bar (File, Tools, Help) and several configuration sections:

- Admin Device:** 258
- Media Rm Device:** 261
- Remote Device:** 262
- Alert Device:** 263
- Event Time Out (Mins.):** 180
- Channels / Tune Rings:** General Devices: 2,3-126
- Admin Device:** 52,55,56,57
- Media Rm Device:** 2-35,52,55,56,57
- ABC Select Media:** 55,56,57,60,61,62,63,64
- Exclude from Page Devices:** 512,513,1014
- Volume Page On:** 15
- Volume Page Off:** 10
- Page Wait (Secs.):** 7
- Pocket Pager Port:** 5
- Pocket Pager Type:** JTech, alpha (selected), JTech, numeric, Visiplex, alpha
- iCE-HE IP Address:** 192, 168, 2, 2
- Channel Definitions:** Add, Edit, Delete buttons. A table with columns: Channel, Label, Dev, Port, Type. The table contains rows for channels 57, 60, 61, 62, and 63.

Channel	Label	Dev	Port	Type
57	VCR3	12	0	0
60	LASERD	3	0	128
61	DIGM1	20	1	141
62	DIGM2	20	1	142
63	DIGM3	20	1	143

The status bar at the bottom shows: iC-Net Status: (Unavailable until connection established.) 5/14/2004 12:12 PM

The iC Toolkit software can configure a Contemporary Research ABC-Net Media Network (NetLinx) or an ABC Media Retrieval systems (Axcent3). Once all the system parameters are defined, the software sends the information to the [NetLinx](#) or [AMX controller](#). The controller stores the data in non-volatile memory and manages the interactive relationship between the Contemporary Research Head End, TV Controllers, remote control panels, and media sources. Once the system is properly configured, the PC is no longer needed.

iC Toolkit configures all operation of the system, including:

- [Defining and naming TV controllers](#) (devices) for rooms, video paging, media center, remote broadcast and security alerts
- [Listing TV channels](#) for general broadcast, video paging, school information, remote broadcast, weather, TV power-up and end-of-media display
- [Setting system-wide functions](#) such as TV volume level and on-screen delay for video page broadcasts, access to a local pager
- [Creating channel Tuning Rings](#) (default channels available to TVs)
- [Assigning media source channels](#), names and [control settings](#)
- [Establishing special commands](#) sent to integrated control system

When you create a new ABC system, you can use the New menu to clear all existing fields and lists, or open the Default file, which includes typical settings for many ABC systems.

New Features - January 2004

- Digital Media Integration - seamlessly integrates the Visual Circuits Firefly digital media player

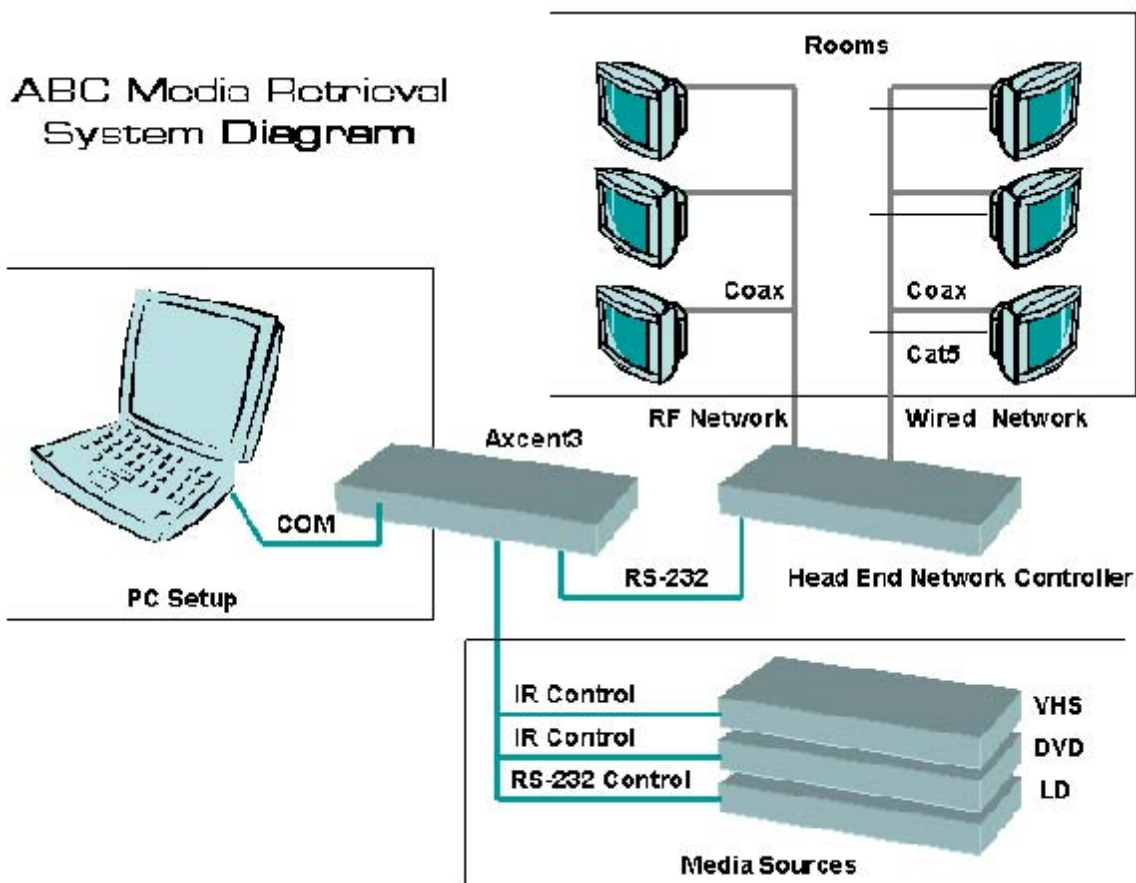
into new and existing ABC systems. Media is distributed to room TVs over CATV cable, will not impact PC network. Teacher control like standard laser disc player, Chapter command can select multiple media files. See [Digital Media](#) for more information.

- Create alternate Admin, Alert, Media Center and Broadcasting locations. See [Special Options](#).
- Automatically setup ICC-IRC and ICC-VDC control types from system database. See [Special Options](#).
- Control Top Menu function on DVD players. See [Defining Analog Media Sources](#).
- Fix erratic cursor control for DVD players by using the new Type 1 Short Pulse IR setting. See [Defining Analog Media Sources](#).

New Features - May 2004 (2.0)

- Netlinx Integration - IC Toolkit will connect with the NetLinx controller in an ABC-Net system.
- ICE-HE Integration - For ABC-Net systems, you can define the IP address of an ICE-HE that is integrated with a NetLinx controller. For other systems, you can communicate with the ICE-HE directly over an LAN or WAN connection.
- NetLinx Multi-Port Definition - You can define the control device and port ID for multi-port control devices. For ABC Axxess systems, add the device number and leave a 0 in the port section. To upgrade an Axxess-based ABC system to Netlinx, simply change the device and port assignments, everything else stays the same.

System Diagram



- When the system is first installed, the parameters of the system (rooms, TV channels, media sources, and other information) are entered into our iC Toolkit PC software..
- The information is then downloaded to an AMX Axcent3 Controller, which stores the information in non-volatile memory and manages all the interactions of the system.
- The software or computer won't be needed again until the user wants to update the system, which can be handled on-site or remotely by a modem.
- The Axcent3 directly controls all the site's media sources such as tape, disc and tuner units, using infrared (IR) or RS-232 serial data.
- The Axcent3 interacts with all the classrooms through the Contemporary Research Head End Network controller.
- The Head End Network Controller communicates bi-directionally with TV controllers in the classrooms through the same RF coax as the TV channels, or by a wired network connection.
- Every classroom has a TV Controller that operates the room's TV, receives commands from the teacher's IR remote control, and manages the flow of information with the Head End.

Defining ABC-Net System Devices

Admin Device	Media Rm Device	Remote Device	Alert Device	Event Time Out (Mins.)	
0	0	0	0	5	
Admin Page Channel	Info Channel	Remote Page Channel	Weather Channel	Marquee Channel	EOM Channel
0	0	0	0	0	0
Volume, Page On	Volume, Page Off	Page Wait (Secs.)	Pocket Pager Port	Pocket Pager Type	
0	0	7	0	JTech, alpha	
iCE-HE IP Address				JTech, numeric	
192	168	2	2	Visiplex, alpha	

This section of the iC Toolkit window set properties for predefined ABC system devices. If desired the names of the top four special devices (Admin, Media, Remote, and Alert) can be changed using the [Properties](#) window.

Admin Device

Enter the device number of the Administrator's (principal's) TV controller. The Admin Device has special features unavailable to classrooms, including:

- Page all TVs, turning on power, setting volume and switching TVs to a video paging channel
- Page TV Zone
- Preview paging camera
- Page a user-selected individual
- Send all TVs to a user-selected channel
- Turn off all TVs
- End all Media Events
- Receive alert

The Administrator's TV controller includes a buzzer that sounds an alert signal and a low-voltage closure that turns the paging camera power relay on and off. Buzzer option is available for any room.

Media Center Device

Enter the device number for the Media Center's TV controller. The Media Center receives the same privileges as the Administrator except for paging. The TV controller will respond to a Media Center page, sounding a buzzer (if installed) and displaying the name of the requesting room on the TV screen.

Remote Broadcast Device

Using this feature, a facility could have a mobile remote broadcasting cart or fixed room that can broadcast video to all TVs, zones or an individual room. Enter the device number planned for this feature's TV controller.

Alert Device

In most applications, the Alert Device is the same number as the Admin Device. If a classroom sends a 911 or 912 code, a buzzer on the Admin TV controller would sound, and the number of the room sending the page will appear on the Admin TV (the TV will also be forced on). Other sites would prefer that a security desk or assistant receive the classroom alert. To meet this need, install a TV and TV controller with buzzer at the desired location, and enter that device number in this field.

ICE-HE IP Address

Only used in an ABC-Net system that integrates an ICE-HE Ethernet Head End with a NetLinx controller. This address is used by the NetLinx controller to connect with the ICE-HE.

ToolKit Tip: Additional Admin, Alert, and Media Center locations

ABC also supports multiple locations for Admin, Alert and Media Centers. Go to [Special Options](#) to learn how.

ABC-Net System Channels

Admin Device	Media Rm Device	Remote Device	Alert Device	Event Time Out (Mins.)	
0	0	0	0	5	
Admin Page Channel	Info Channel	Remote Page Channel	Weather Channel	Marquee Channel	EOM Channel
0	0	0	0	0	0
Volume Page On	Volume Page Off	Page Wait (Secs.)	Pocket Pager Port	Pocket Pager Type	
0	0	7	0	JTech, alpha	
iCE-HE IP Address				JTech, numeric	
192	168	2	2	Visiplex, alpha	

Admin Page Channel

Enter the channel number for the Administrator A/V camera and audio.

Info Channel

Enter is the channel assigned as the Information or Bulletin Board channel. Typically this will be school-specific information that is driven by presentation software.

Remote Page Channel

Enter the channel for the Remote video and audio.

Weather Channel

Enter the system's weather channel number.

Marquee Channel

This is the default channel when a TV first powers up. Entering a zero (0) will set the TV controllers to display the last channel viewed. This can be the same as the Info Channel.

EOM Channel

This is the End-of-Media Channel, or the channel media decks are sent to at the end of a media event. This can be the same as the Info Channel.

ABC-Net System Functions

Admin Device	Media Rm Device	Remote Device	Alert Device	Event Time Out (Mins.)	
0	0	0	0	5	
Admin Page Channel	Info Channel	Remote Page Channel	Weather Channel	Marquee Channel	EOM Channel
0	0	0	0	0	0
Volume, Page On	Volume, Page Off	Page Wait (Secs.)	Pocket Pager Port	Pocket Pager Type	
0	0	7	0	JTech, alpha	
iCE-HE IP Address				JTech, numeric	
192	168	2	2	Visiplex, alpha	

Event Time Out

Once a room selects a media source, the source will be automatically freed up and made available for control by others after the stated number of minutes elapse. This feature helps keep media available, even if users forget to release the media source when they're done.

Volume, Page On

This sets the level of the TV's audio when an A/V page is first initiated. Audio levels 0-63 set the level from off (0) to full volume (63).

Volume, Page Off

This sets the level of the TV's audio when an A/V page completes. Audio levels 0-63 set the level from off (0) to full volume (63).

Page Wait

Enter the number of seconds to wait before broadcasting the page.

When an Admin or Remote page is started, the local video camera and TV is turned on and set to the paging channel. Then, after the defined wait period, the page will be broadcasted to the selected televisions. The delay gives the selected TVs time to turn on and display a page alert message. Pressing the Enter button on the user's remote will end the page.

Pocket Pager Port

Select an AMX Axcent3 RS-232 port for pager transmitter control (see [Defining Axcent3 Ports](#) for more information)

Pocket Pager Type

The ABC Media Retrieval System currently supports 3 makes and models of pager systems. Click to highlight one type.

Available ABC-Net Channels

Channels / Tune Rings

General Devices
33, 37, 52

Admin Device
13, 58, 33, 37, 52, 61-63

Media Rm Device
13, 33, 37, 52, 60, 61-63

ABC Select Media

Exclude from Page Devices

Every TV Controller in the system supports a Tuning Ring - a rotating list of channels users can access using Channel Up and Channel Down on their remotes. Some channels are available to everyone in the system; other channels such as Media and Paging can only be viewed on command.

Channel Syntax

You will be entering groups of channels available for general and specific areas in this section of the iC Toolkit window. You can enter individual channel numbers (such as 30, 31, 32) or a group of adjacent channels using a hyphen (such as 30-32). Commas must separate every channel and group? you can use spaces, but the software will ignore them. Entering 45, 65, 66 will be "seen" as 45,65,66 by the system, and 45 65 66 will be received as 456566 (not good).

Default Channels

Enter the numbers for channels that all classrooms can view and access.

Administrator Channels

Normally, the Administrator can view any channel in the system, including Media and Paging channels or any desired off-air broadcast channel.

Media Center

These are the channels available for selection at the displays via on-screen menu. Typically local media decks and restricted access channels such as MTV, HBO, PBS, etc. will be entered here.

ABC Select Media Channels

These are the channels available for selection at the displays via on-screen menu. Typically local media decks and restricted-access channels such as MTV, HBO, PBS, etc. will be entered here.

Exclude from Page Devices

Devices entered here will be skipped when any Page command is sent from the system.

ToolKit Tip: Acting as a distributed media system, ABC Media Retrieval delivers certain channels to all destinations, others by request. Rather than broadcast copyrighted media to all rooms, users must specifically select a tape or disc media source before it can be controlled or viewed.

Defining ABC-Net Channel Information

Channel	Label	Device	Port	Media Type
37	WEATHER	0	0	0
13	PBS	0	0	0
33	CNN	0	0	0
52	INFO	0	0	0
58	PRIN	0	0	0

Channel Definitions section provides an 8-character label that will be displayed on each TV selecting that channel. This label displays for a short period after that channel is first selected.

Adding or Editing Definitions

To change an existing definition:

- Click on an existing channel row to display the data in the editing boxes at the top
- Change the information in one of the boxes, and the Add button will be activated
- Click on the Edit button to save the changes
- If you Click the Add button, a pop-window will appear to confirm your changes - if you want to save your changes, click the Yes button

To add a new channel definition:

- Press Clear to clear the fields
- Enter the new information
- Click Add to add the channel to the list

To delete channels:

- Click on channel row
- Click Delete to remove channel from list

Parameters for Broadcast Channels and Media Channels

Normal on-air cable channels don't use a control device, port or Media Type definition? the room's TV tunes them in. Active sources like VCRs, DVD players and satellite tuners will need a control assingment and a Media Type. See the [Defining Analog Media](#) and [Defining Digital Media](#) sections for information on what to enter for these two fields.

Defining ABC-Net Analog Media Sources

Channel	Label	Device	Port	Media Type
57	VCR3	12	0	0
60	LASERD	3	0	128
61	DIGM1	20	1	141
62	DIGM2	20	1	142
63	DIGM3	20	1	143

Enter the assigned channel and label, just like a channel, then add the NetLinx or Axcen control device (and port for multi-port control cards) and control type.

Analog Media Control Types

Media Type	Description	Port Type
0	Standard IR	IR
1	Standard IR, Short Pulse	IR
2	Panasonic DVC	RS-232
3	Tascam DVD DV-D6500	RS-232
32	Chaparral Satellite Tuner	RS-232
128	Pioneer LD, DVD	RS-232
129	Sony LD	RS-232
130	Panasonic LD	RS-232

The Media Type field defines how the Axcen3 will respond to a user's remote control. Setup for analog sources is very simple, adding the source's channel, Axcen3 control port, and Media Type.

IR-controlled sources are defined as zero (0), the standard control format.

Some DVD players need a very short IR pulse for Menu Cursor control. If you experience erratic cursor movement for a player, change the Media Type setting to 1.

RS-232 controlled sources are assigned a specific number, which tells the system which RS-232 commands to send to the source.

New Top Menu DVD Function

Several new DVD players include the standard Menu and Top Menu control functions. Users can access the Top Menu function (if included in player) by pressing the blank button between the Input and Down button on the IC-RC remote.

Defining ABC-Net Digital Media Sources

Channel	Label	Device	Port	Media Type
57	VCR3	12	0	0
60	LASERD	3	0	128
61	DIGM1	20	1	141
62	DIGM2	20	1	142
63	DIGM3	20	1	143

Digital Media Codes

Media Type	Description	Port Type
141	Visual Circuits Firefly, Video Port 1	RS-232
142	Visual Circuits Firefly, Video Port 2	RS-232
143	Visual Circuits Firefly, Video Port 3	RS-232
144	Visual Circuits Firefly, Video Port 4	RS-232

Digital media is an exciting new resource for educators, allowing instructors to select digital media files instead of analog media and players. In partnership with Visual Circuits, ABC systems now allow users to handle and control digital media the same way as ordinary media, so operation requires no additional training or restructuring of the media distribution system.

A channel modulator is assigned to the output of each video port, broadcasting the analog output to classrooms. Using this architecture for digital media presentation adds no overhead to the facility computer network or classroom computers. Any existing ABC system can be upgraded for digital media playback, even sites that don't have a computer network.

Assigning Visual Circuits Firefly Codes

Setting up ABC for Firefly digital media control is similar to analog media. Just enter a channel, control port, and Media Type. The only difference is the Firefly can support several playback ports from the same control port. As shown above, each channel would have a different CATV channel and Media Type, but the same Axcnt3 control port assignment.

Setup for future alternate digital media players will follow a similar procedure.

Digital Media Operation

Basic control functions will operate like a standard media source, Chapter commands will open up many new possibilities.

- Play will play the first digital file assigned to the selected channel.
- Pause will stop and present a still image
- Stop will pause playback and present a black image
- Chapter 0 or 1 will replay the first file from the beginning.

What makes digital media truly unique is that the media staff can assign multiple files to a player port. To select a file, the instructor selects Chapter on the remote, then the sequence number of the desired file, just like choosing a different laser disc chapter. This capability allows the media staff to reserve multiple titles for an instructor, or for example, setup one channel for a standard playlist of Science topics, providing teachers a list of topic Chapters for the channel.

Defining ABC-Net NetLinx Ports

This structure uses the NetLinx NI-4000 with two NXC-IRS4 cards and two NXC-COM2 cards as an example, defining added control cards or other NetLinx controllers and architectures follow a similar pattern. There isn't a fixed sequence for adding NXC- cards, you can use be any mix of RS-232 and IR cards.

Device	Port	Description
1	1	RS-232 Port 1 - ToolKit RS-232
1	2	RS-232 Port 2 - ICC-HE
1	3	RS-232 Port 3
1	4	RS-232 Port 4
1	5	RS-232 Port 5
1	6	RS-232 Port 6
1	7	RS-232 Port 7
1	9	Infrared Port 1
1	10	Infrared Port 2
1	11	Infrared Port 3
1	12	Infrared Port 4
1	13	Infrared Port 5
1	14	Infrared Port 6
1	15	Infrared Port 7
1	16	Infrared Port 8
1	17	I/O Port (not used)
13 (NXC-IRS4)	1	Infrared Port 9
	2	Infrared Port 10
	3	Infrared Port 11
	4	Infrared Port 12
14 (NXC-IRS4)	1	Infrared Port 13
	2	Infrared Port 14
	3	Infrared Port 15
	4	Infrared Port 16
15 (NXC-COM2)	1	RS-232 Port 8
	2	RS-232 Port 9
16 (NXC-COM2)	1	RS-232 Port 10
	2	RS-232 Port 10

Defining ABC Axcent3 Ports

Device	Port	Description
1		RS-232 Port 1 - Computer (OEM apps)
2		RS-232 Port 2
3		RS-232 Port 3
4		RS-232 Port 4 - ICC-HE
5		RS-232 Port 5
6		RS-232 Port 6
8		Infrared Port 1
9		Infrared Port 2
10		Infrared Port 3
11		Infrared Port 4
12		Infrared Port 5
13		Infrared Port 6

In an ABC system, every controllable Media Source will need to be assigned to a specific control device on the Axcent3 Controller. Some ports provide Infrared (IR) control to sources, others use RS-232 commands to control the unit. The relay and input/output ports of the Axcent3 are not used for ABC sources, so those ports are not included in the above table.

The Axcent3 units can be daisy-chained, as required, up to a maximum of 16. By convention, and in maintaining backward compatibility with older Axcent devices, the Axcent3 Port numbers on subsequent Axcent3s will be 16 greater than the corresponding port on the previous Axcent3. For example, the port number sequence of the first port on 3 Axcent3s would be 1, 17, 33. The second port number sequence would be 2, 18, 34, etc.

ABC-Net Device Names

Device	Name
257	Admin
258	Rm 101
259	Rm 102
261	Media Rm
713	Office

Device Names are used to associate an alphanumeric name with an iC-Net bus device number. When an Alert is initiated from a TV's menu, the name associated with the initiating device is displayed on the TV of the Alert Device, as well as any optional pocket pager(s).

See [Channel Information](#) to learn how the Add, Edit, Clear and Delete buttons function.

ABC-Net Special Options

Alternate Admin, Alert, Media Center, and Broadcasting Locations

Later ABC control code (Ver 3.6 and above) provide built-in features for multiple Admin, Alert and Media Center locations.

Feature	Parameter 1	Parameter 1	Parameter 2
Second Admin Device	DFLT	PRIN2	Device #
Second Admin Alert	DFLT	ALERT2	Device # (same)
Second Admin Paging	CFLT	PRIN2	Channel #
Second Alert Station (no admin features)	DFLT	ALERT2	Device # (same)
Third Alert Station (no admin features)	DFLT	ALERT3	Device # (same)
Fourth Alert Station (no admin features)	DFLT	ALERT4	Device # (same)
Second Media Center	DFLT	MSTR2	Device #

You can also use the Second Admin Device for a second broadcasting room or cart - assign the Device and the Channel features, but not Alert.

IRC and VDC Control Setup

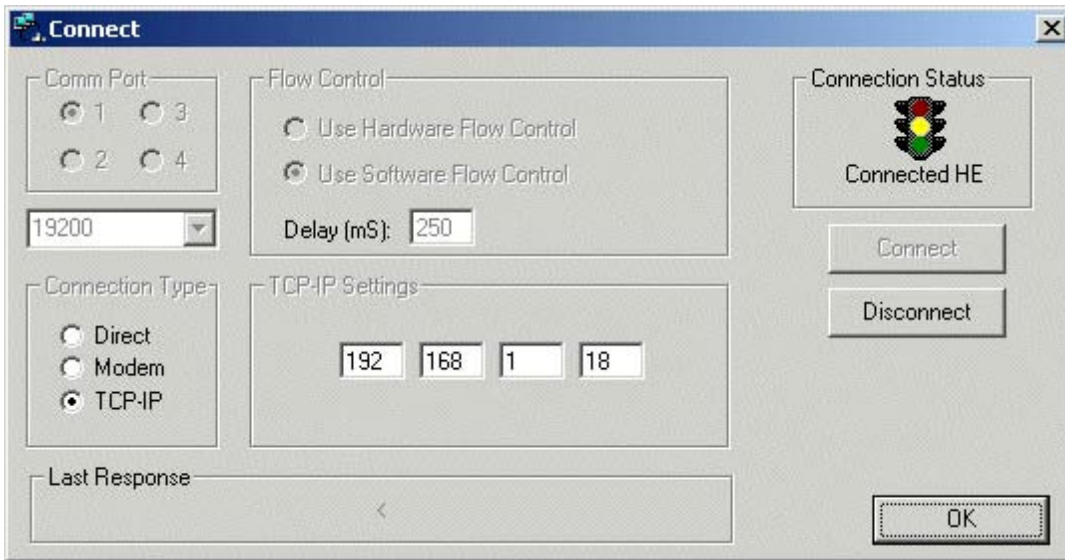
Feature	Parameter 1	Parameter 1	Parameter 2
Set IRC Control Type	T1	Type #	Device #
Set VDCControl Type	T0	Type #	Device #

While most ABC applications use Smart TV controllers, some sites will include CR ICC-IRC Infrared TV Controllers and ICC-VDC Video Display Controllers - often to control special monitors, video projectors or large-screen displays. Both controllers have an internal database of control codes, defined by a Control Type code. By adding this command to the Special Options section, the system can automatically "teach" each IRC and VDC the control type to use.

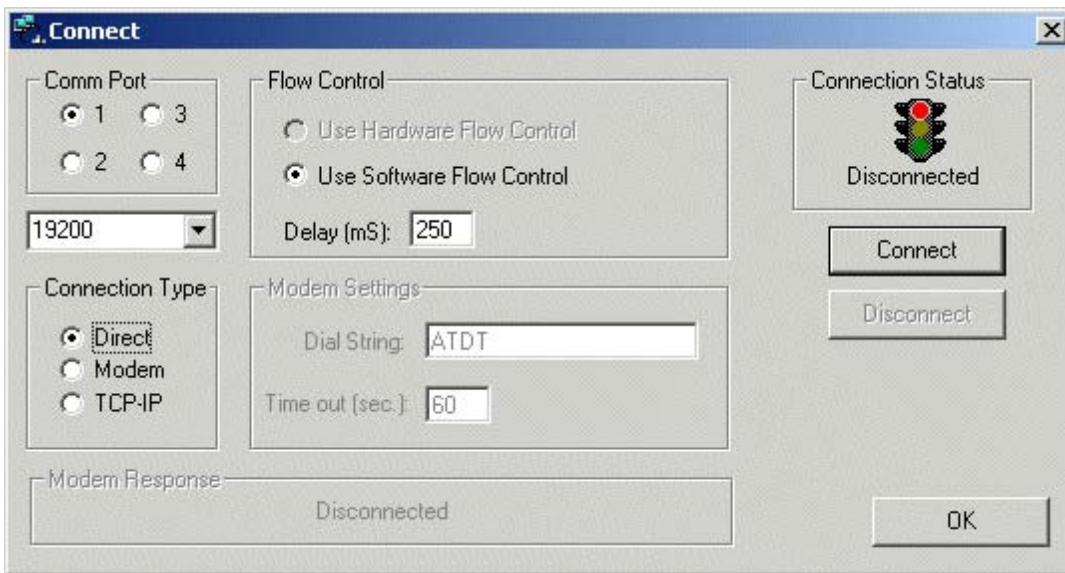
ToolKit Tip: The easy way to setup a mix of IRC/VDC units is to assign an "all call" Special Options code that covers most IRC/VDC units first, then list the exceptions after that. Toolkit will send the codes in the order they are entered. For example:

Feature	Parameter 1	Parameter 1	Parameter 2
Set all IRCs to Mitsubishi control	T1	11	4095 (all TVs)
Set all VDCs to Sanyo VP control	T0	20	4095 (all TVs)
Set Room 312 IRC to Panasonic control	T1	11	513
Set Room 220 VDC to Hitachi VP control	T0	22	333

ABC-Net Connect



TCP/IP Connect



RS-232 Connect

In most cases, use TCP/IP to connect to the ABC-Net system NetLinx controller. The Netlinx will store all the data, and send any needed iC-Net system information to the ICC-HE or ICE-HE Head End. You can also connect to the NetLinx via RS-232 port 1, but IP communication is much easier and faster.

ABC-series Media Retrieval systems using the Axcent3 will only support direct or modem RS-232 communication.

Selecting Connect pops up a window that configures PC communications to the Axcent3 controller. The software can connect to the system's Program Port through a cable or via a dial-up modem to a remote Axcent3 controller. There are three responses you can expect for connection status:

- Connected ABC, Devices Present, Expected - confirms you're connected to an Axcent3 with ABC software onboard, and the Axcent 3 is connected to the HE.
- Connected ABC, no HE Controller found - confirms you're connected to an Axcent3 with ABC software onboard, but the Axcent 3 is not communicating to the HE.
- Not Connected, check cables, baud and wiring - incorrect settings for iC Toolkit COM port, Axcent3 RS-232 port, or modem communication, bad cable connection, or ABC software is not

installed on controller.

COM Port (Axcent3)

Select the COM port for your data cable to the Axcent3 Program Port or modem. See the [Direct COM Connection](#) and [Modem Connection](#) sections for more information and cable drawings.

RS-232 Port (NetLinx)

Select the COM port for your data connection to the NetLinx RS-232 Port 1 (same cable wiring as Axcent2 Program Port). See the [Direct COM Connection](#) and [Modem Connection](#) sections for more information and cable drawings.

Baud Rate

The default baud rate is 19200, with the remaining communications parameters are fixed at 8 data bits, no parity, 1 stop bit.

Baud Rate Tip:

The Axcent3 has an auto-sensing feature for baud rate, so it will adapt to any baud rate setting you specify in the Connect window.

Flow Control

Currently, hardware flow control is not supported.

Software flow control generates a delay period between each command sent to the Axcent3 master device. The length of the delay is entered into the Delay field. Default is 100 milliseconds.

Connection Type

Select Direct for local connection to the Axcent3 master device via a cable. Select Modem for remote connection via a modem.

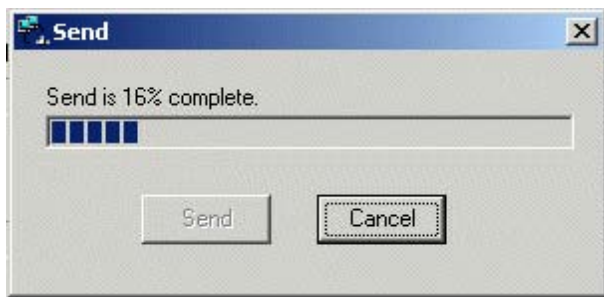
Modem Settings

These fields are available only if Modem is selected as the Connection Type. Dial String allows you to enter the dialing commands sent to your modem including the telephone number being dialed. Typically this string will begin with ATDT for Hayes-compatible modems.

Modem Tip:

From time to time, a modem connected to the Axcent3 may need to be re-initialized. The ABC program in the Axcent3 automatically initializes a connected modem when the Axcent3 is first powered up. If the client's modem seems to be unresponsive, remove power to the Axcent3, then restore power to re-initialize the modem.

ABC-Net Send



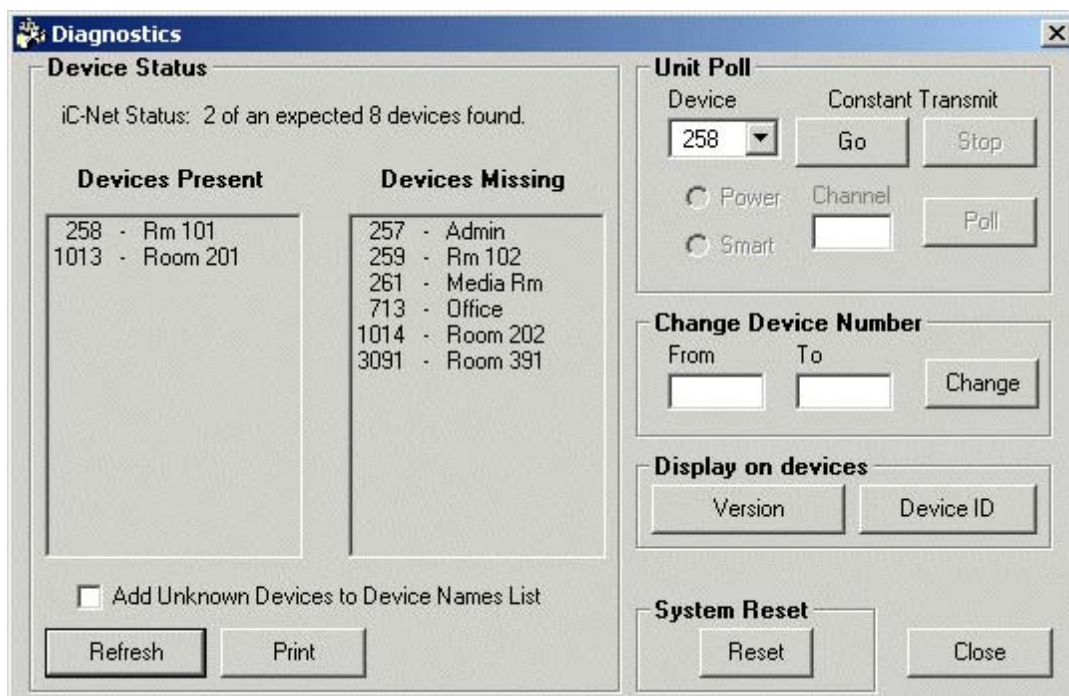
Send pops up a new window that sends the configuration data to the Axcent3 controller. Whenever you change information in iC Toolkit, you'll need to send the data to the system.

While sending, the progress bar and text message will indicate percentage completion. The user can Cancel the Send during the transmission, but the data in the Axcent3 will be incomplete. Be sure to resend a complete file after canceling. When the file has been fully transmitted, the Cancel button will change to OK, which you can click to return to the main window.

Should a transmission error occur during the Send, the user will be notified of the error and of appropriate actions.

ToolKit Tip: You must be successfully connected to the Axcent3 controller before you can send configuration data to HE memory and devices on the iC network. For more information, see the discussion on the [Connect window](#).

ABC-Net Diagnostics



The Diagnostics tool helps to troubleshoot and test system setup and operation.

Device Status

Click on Refresh to scan the system for present and missing devices. In the example above, you would quickly know that two devices are off the iC-Net network. There could be several reasons, including an incorrect device number in the database, a device set to the wrong address, no power to some devices, or a broken data link to some devices.

Display on all Devices

Clicking *Device Number* or *Software Version* will force all iC-Net devices to display the each unit's device number using on-screen text. At present, Software Version is not implemented on iC-Net devices, and you may not see Device Number text on every device because the feature has not been added to all iC-Net devices as yet, and some devices do not have character generation capability.

Constant Transmit

This will cause a selected device to continuously transmit over the iC-Net bus. This option is very useful for testing RF levels for the return iC-Net signal. Stop this function before attempting any other iC-Net activity.

Change Device Number

This option can be very useful when you want to shift devices to different zones or change a device right from your PC. It's also very dangerous when used without thinking. If you change a device, you'll need to update your ABC-MRC configuration data as well. In addition, be sure you're not assigning a device number that already exists.

Reset System

Clicking on this button resets all iC-Net devices and Head End, just as if you reset power to all devices.

Quick Control



Once you're connected to the iC-Net system, you can take direct control TVs from the Quick Control panel. Any combination of Volume, Channel, or Power commands can be combined by activating the functions' checkbox and pressing Send.

The Send command accesses the list of devices created in the Device Name database. If you aren't using that feature, simply enter the desired device number and Send.

[iC-Net Tip:](#)

[If you want to test all TV controllers, enter device number 4095 and Send.](#)

iC Terms and Definitions

You'll run across several terms used throughout the manual.

Term	Definition
Cat5	Refers to Category 5 wiring and connectors. Control data can be networked through Cat5 twisted-pair wiring, independently from cabling that carries TV channels. ABC Media Retrieval Systems can operate over Cat5 and Cat3 rated wiring.
Control System	A smart controller that acts as the central "brain" for an iC system. Handles key functions such as operating media sources, accessing mobile pagers, and storing all the system settings in non-volatile memory.
Device	An electronic controller connected on the iC-Net network.
Device Number	The numeric network address for each device. Every device is assigned a unique device number, from 257 to 4000. Network addresses 1-255 are reserved for integration with control systems such as AMX.
Head End (HE)	A Head End Network Controller is a component that manages control communication over the RF and wired iC-Net networks.
iC-Net	A high-speed network that communicates to Contemporary Research devices. The network provides 2-way operation over both broadband RF cable and devices connected by Category 5 cable.
iC-Net Zones	The 4000 possible iC-Net addresses are divided into 16 zones, each consisting of 255 devices and one <i>virtual device</i> . Zones 1 - 15 are used to control groups of iC-Net devices, while Zone 0 is often reserved for <i>control system</i> devices.
RF Coax	The technology used by cable companies, schools, and corporate facilities to broadcast multiple TV channels over a single cable. In abc2K systems, control information can be transmitted through the same cable as the TV channels.
TV Controllers	Used interchangeably with the term <i>device</i> , controls a local TV, monitor, or projector, receives commands from wireless remote and transmits data to the Head End.
Virtual Device	A virtual device address is used to command all 255 physical devices within an iC-net Zone. For example, 256 the virtual device address for Zone 1. If a command is sent to device 256, any device addressed between 257 and 511 will respond.

iC-Net Zones

The several commands, such as the Page function in an ABC Media Retrieval System or an Admin. Device in an integrated system can access all TVs, a specific group or zone, or a specific TV.

The feature takes advantage of the iC-Net device structure, which divides the 4000 possible device numbers into 16 zones. All the devices within each zone can be controlled simultaneously by sending a command to a single "virtual device number". You'll notice that the chart below only shows 15 zones. As a general rule, integrators don't use Zone 0 (devices 1 - 255), reserving those numbers for control system device numbers to avoid confusion between iC-Net and control system devices. It's a rule of convenience for integrated applications, not a limit - if you need a 16th zone, it's available. ABC systems will always be limited to 15 zones.

For example, noting the zone chart below, if we send a TV Power On command to device #256, any TV controller numbered between 257 and 511 will respond. If we send a TV Power Off command to device #4095, all devices in the system will respond accordingly. This is an immensely powerful feature, because many media systems can only address one device at time, so there is significant delay before all TVs in the site can be turned on.

Zone	First Device	Last Device	Virtual Device
1	257	511	256
2	513	767	512
3	769	1023	768
4	1025	1279	1024
5	1281	1535	1280
6	1537	1791	1536
7	1793	2047	1792
8	2049	2303	2048
9	2305	2559	2304
10	2561	2815	2560
11	2817	3071	2816
12	3073	3327	3072
13	3329	3583	3328
14	3585	3839	3584
15	3841	4000	3840
All Zones			4095

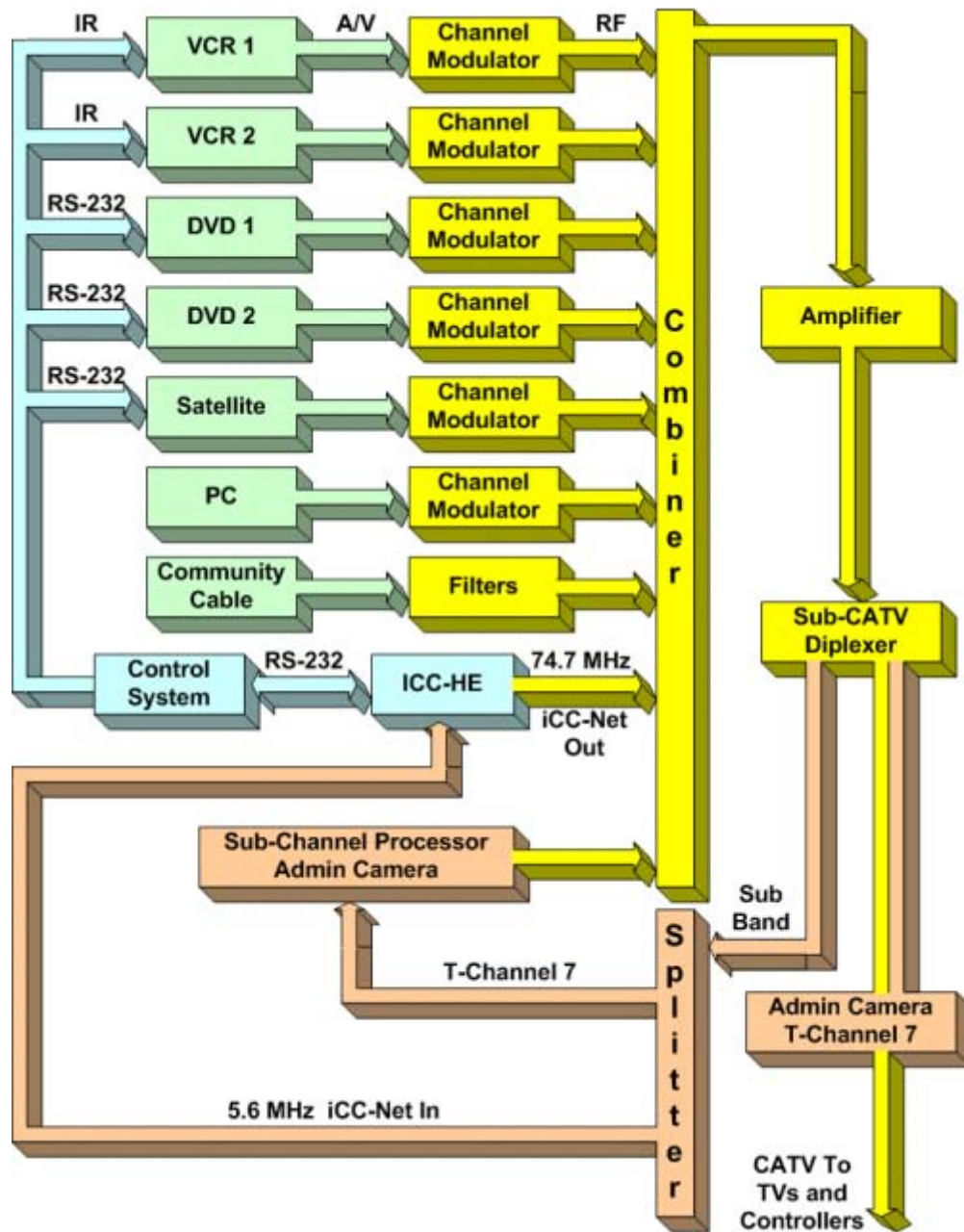
Tip: You've probably figured out that you never want to assign a virtual device number to an actual device in the system. If you assigned #1536 to a device, all the TV controllers in Zone 6 would respond every time you sent a command to that device.

Sample System Map

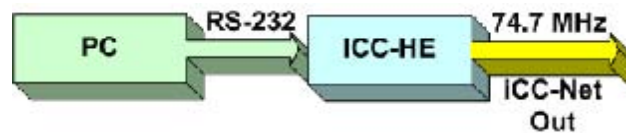
One of the key tasks integrators is to create logical System Map, assigning device numbers to TV controllers so they fall into physical zones useful to the client. The device mapping could be sorted by grade or location; whichever suits the application.

ABC MR Zone	Zone	Room	Device
1	W 1 st Floor		<i>256</i>
		W151	257
		W152	258
		W153	259
		W154	260
2	W 2 nd Floor		<i>512</i>
		W251	513
		W252	514
		W253	515
		W254	516
3	E 1 st Floor		<i>768</i>
		E151	769
		E152	770
		E153	771
		E154	772
4	E 2 nd Floor		<i>1024</i>
		E251	1025
		E252	1026
		E253	1027
		E254	1028
5	Gyms		<i>1280</i>
		G100	1281
		G150	1282
		G151	1283
6	Cafeteria		<i>1536</i>
		TV 1	1537
		TV 2	1538
7	Hallways		<i>1792</i>
		W1	1793
		W2	1794
		E1	1795
		E2	1795
15	Office		<i>3840</i>
		Admin	3841
		Media Center	3842
All Zones	All		<i>4095</i>

iCC-Net Flow Diagram

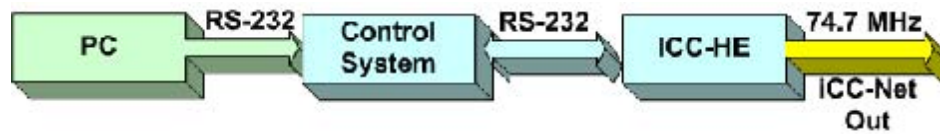


The diagram above shows the structure of a typical iCC-Net coax control system. One of the key aspects for iCC-Net communication is to provide a forward and return (sub-channel) path for data. Control data is sent out at 74.7 MHz and combined with other CATV channels. Return data from 2-way iCC-Net controllers is sent at a sub-band frequency, 5.6 MHz, received by a Sub-CATV diplexer ahead of the amplifier, and sent to the RF input of the Head-End Network Controller (HE).



Direct PC Setup (Integrated Systems)

In most integrated iC/control system applications, a PC will connect with the HE directly, configuring and testing system operation before connecting the control system to the HE RS-232 port. Some data, such as a list of 2-way devices on the network, will be stored in HE memory. Other operations, such as programming Tuning Rings or scanning the network, will communicate across the iC network.



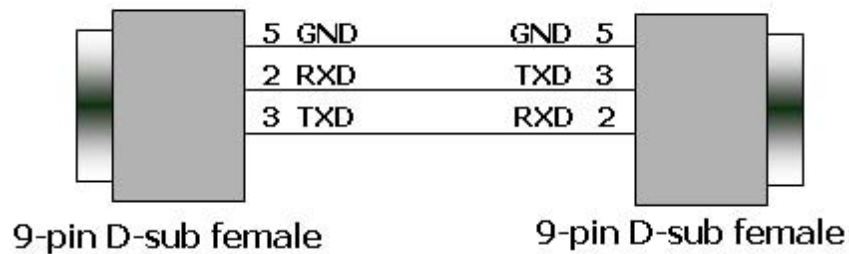
Integrated PC Setup (ABC)

In ABC Media Systems, iC Toolkit connects to the HE through an AMX Axcent3 controller, linking from the Axcent3 Program port, through an Axcent3 RS-232 control port to the HE RS-232 port. The ABC software in the Axcent3 can intelligently switch from sharing data with iC Toolkit, passing data directly to the HE, and automatically detecting direct or modem connections.

To use a similar architecture for other systems applications, the integrator will need to program in a software "switch" that allows the PC to communicate to the HE through the control system, as well as managing modem connectivity if remote configuration and diagnostics is required.

Direct COM Connection - PC to Axcent3 or HE

Axcent3 – PC COM Port Cable Wiring



In most iC Toolkit applications, you will connect a COM cable between your computer's COM port and the Axcent3, NetLinx, or Head-End Network Controller. This type of cable, called a Null-Modem Cable, is available in most electronic stores. It's called a null-modem because it switches the Transmit (TXD) and Receive (RXD) wires on one connector, emulating the connection between two modems. The cable is available with one 25-pin connector as well, if you need that for your computer's COM port.

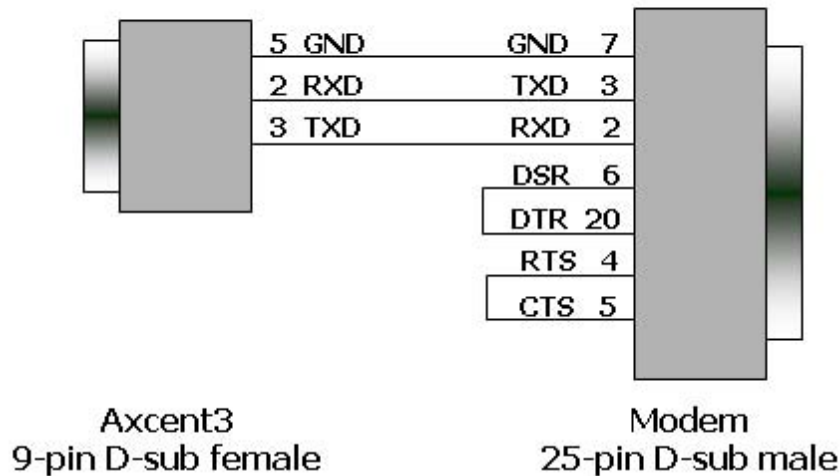
Attach the cable between your PC's COM port and the Axcent3 Program port on the front or the back of the Axcent3.

ToolKit Tip: The Axcent3 has an auto-sensing feature for baud rate, so it will adapt to any baud rate setting you specify in the Connect window.

ToolKit Tip: If your system uses more than one Axcent3, the COM cable will need to be connected the Master Axcent3, not one of the ones in Slave mode.

Modem Connection to Axcent3 or HE

Axcent3 – Modem Cable Wiring



The iC Toolkit software offers the ability to remotely support your client's systems via a modem. Through a modem connection, you will be able to change and troubleshoot the system without making a site visit, saving you and the client valuable time. For this to work, you'll need to provide a standalone modem connected to the client's Axcent3, with a full-time POTS (Plain Old Telephone System) phone line. With that in place, you can dial in to your client's with your PC's internal modem or an external modem connected to a COM port.

Always use a Modem Cable from Contemporary Research or create your own cable following the diagram above. At present, iC Toolkit does not support hardware handshaking, so the DSR/DTR and RTS/CTS wires are jumpered in the 25-pin cable to the modem.

ToolKit Tip: From time to time, a modem connected to the Axcent3 may need to be re-initialized. The ABC program in the Axcent3 automatically initializes a connected modem when the Axcent3 is first powered up. If the client's modem seems to be unresponsive, remove power to the Axcent3, then restore power to re-initialize the modem.

About iC Toolkit



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