InterWrite PRS User's Guide

Beta Documentation

InterWrite PRS Overview

InterWrite PRS is the most important, comprehensive assessment tool you will ever use. Its use as an electronic audience response testing and polling system is unrivalled, but the real appeal of PRS lies in its ability to provide an instructor with instant feedback about each student's understanding of the lesson or lecture. The InterWrite Personal Response System (PRS) easily tracks and records each individual response coming in from the audience. The instant feedback for the instructor and the students is in the form of a chart of the response distribution that can be displayed after each question is answered. The questions used to assess the students' understanding of the material being presented can be prepared in advance, or composed on-the-fly. This flexibility is the hallmark of the PRS system, and what makes it such a powerful assessment tool. Whether used to survey, review, or test, the PRS system meets the challenge with an impressive collection of features that engages students and encourages their participation. Teachers can spend more time teaching and less time marking tests and maintaining grade books. Response data are electronically gathered, scored and recorded in grade books. A variety of report formats extend the considerable array of class and individual student assessment tools available to the instructor. In addition, PRS supports industry-standard XML formats, providing seamless integration with electronic textbook courseware, grading applications and Course Management Systems.

The versatility of PRS is evident in its widespread application. Teachers at all education levels can use it to assess and test their students. Marketing researchers, political analysts, and pollsters in all fields can use PRS to survey and electronically record preferences, opinions, and votes. The PRS system can be used in any situation where there is a need to gather, record and evaluate response data.

The PRS hardware communicates the response data to the PRS software. Two different PRS hardware systems are available to satisfy the operating and budgetary requirements of any organization. The IR (infrared) system features IR Clickers and IR Receivers that use a patented, proprietary transmission protocol in a one-way transmission network to send data from Clicker to Receiver. The IR Clicker transmitter is a small handheld, battery-powered device with numbered and lettered response buttons, a power switch, an LED power/transmission indicator light, and an infrared transmitter. The IR Receiver is connected to the computer and has a red LED power indicator light and an infrared receiver. The IR Receiver decodes the transmitted data, which are then relayed to the PRS software on the computer. The PRS software provides the functionality necessary to establish an environment in which that transmitted data can be electronically converted quickly and easily into useful response information.

The RF, radio frequency, hardware system features RF Clickers and RF Receivers that use a two-way transmission protocol to send data back and forth between the RF Clickers, an RF Receiver and the PRS software. The RF Clicker remote is a battery-operated device that features an LCD display and a keypad that includes numeric, lettered and math symbol *Input Keys* and a set of *Navigation Keys*. The RF Clicker's LCD display makes it possible for the student to see and edit Responses before they are sent and to receive, in return, status messages about each data transmission. The USB RF Receiver hub is connected to the computer. It sends transmitted data to the PRS software on the computer and status messages from the PRS software back to the RF Clickers.

The interactive, two-way transmission of the RF environment affects how PRS is used in the classroom. Some additional features are available—features that cannot be supported in an IR environment, while other PRS features necessary for IR are not required in an RF environment. Where differences exist, the basic functionality will be described and those features that pertain to RF only will be identified by this ***RF*** icon, which is included in the PRS logo on RF product labels.

The InterWrite PRS electronic data collection process is divided into four sections. Each section addresses a different aspect of the PRS audience response system from setup to assessment and evaluation of recorded response data.

Classes is the section that gives a name to the group of participants, who will be referred to as *students* throughout the rest of this manual, that is meeting for a specific purpose. This is the setup phase of the PRS system. In the vernacular of this section of PRS, *Classes* are defined and, typically, associated with a *Roster* of students.

The ***Lessons*** section is where *Questions* are defined and organized into *Lessons*.

Sessions is the section where the *Questions* in a *Lesson* are presented to the students in a *Class* for their *Responses*.

The ***Gradebooks*** section is where the results of a *Session*, which have been scored, or *Marked*, for each student in the *Class*, are recorded and totaled in a *Class Gradebook*.

Classes

The general makeup of the *Class* is defined in the ***Classes*** section. A *Class* is a group of people, an audience, who, during a *Session*, respond electronically to *Questions* that assess their knowledge of a subject, or poll their opinions. Each Class definition consists of:

- *Information* about the Class – a *Name* that uniquely identifies it and a *Type* that describes the hardware environment in which it will take place,
- a *Roster* of participants, *students*, that will be associated with the Class,
- a *Response Map*, which is used to assign each student a specific location in a virtual seating chart, the *Response Grid*, and
- *Default Settings* for the two windows that can be displayed during a Session. The *Response Grid* window is where response transmissions from IR Clickers are acknowledged. The *Chart* window is where response distribution is graphed.

The primary function of the Classes section is to uniquely name a Class and type it. When PRS is used in an RF environment, the *RF-Type Class* is the focal point of operation. The options on the RF Menu (described in the *Menu* section of this chapter) illustrate this point. An RF Class Type is *started* and *stopped*. RF Clickers *scan* for a specific Class and *join* it. A Class Roster does not have to be in place when a Class is started. A Roster based on transmitted Student IDs is derived from Session results. The *IR-Type Class* must be associated with a Roster, which can be associated with a Response Map.

Students are identified in PRS and most Course Management Systems by their Student IDs. In an RF environment, the Student ID is saved in the RF Clicker's memory and is sent with each Response transmitted from the Clicker, ensuring that the Response is associated in PRS records with the Student ID, and thereby, with the student. In an IR environment, there is no way to enter a Student ID into the IR Clicker's memory, so the IR Clicker ID, which is transmitted with each Response, is used to establish the link to the Student ID. This can only be accomplished through the use of a Class Roster.

Class Roster

The Class Roster identifies the students in the Class and connects their names and Student IDs to their IR Clicker ID numbers. A Roster can be created locally in PRS as part of the Class definition. The student's name, Student ID, Clicker ID number, and other information are entered into a student profile form, and each profile form is added to the Roster. Or, an existing Roster can be imported into the Class definition. Rosters derived from Blackboard (*Chapter Seven*), Rosters derived from the PRS Web Registration Application (*Chapter Seven*), and Rosters used with other Class definitions can be imported into a new or existing Class definition. In the RF environment, the Class Roster is used primarily to link the transmitted Student ID with the student's name.

Response Map Tab

During a typical PRS *Session* in an IR environment, a *Lesson* is presented to the students in the *Class*. A *Question* and its *Response* options are displayed at the top of the Session dialog and a *Response Grid* or *Attendee List* is displayed at the bottom in the *Response Area*. Students point their IR Clickers toward an IR Receiver and press the number/letter button that represents their *Response Choice* for the Question. The LED on the Clicker flashes while it is sending the signal to the Receiver. To acknowledge receipt of the Response transmission, the student's name or Clicker ID number displays on the top line in a *Response Box* in the Response Grid. When the Attendee List is displayed in the Response Area, the student's name is deleted from the Attendee List to indicate a successful transmission.

When a Class is quite large, the Response Grid will be quite large, too, making it more difficult for each student to track his Response verification in the Response Grid. A *Response Map*, created as part of the Class definition, provides the means of assigning, or *mapping*, each student to a permanent position in the Response Grid. The students, as well as the instructor, can easily verify that their Responses were received and recorded.

In an RF environment, there is no need to display a Response Grid. Status messages regarding transmissions are displayed on the LCD screen on the RF Clicker, so students can confirm their Responses have been received and recorded without having to monitor a Response Grid at the front of the room.

Loaner Clickers

Capturing and recording student Responses during a Session is what PRS is all about and is the key to its successful use. If a student has forgotten his Clicker, or it is malfunctioning, he won't be able to participate in the Session. Therefore, we recommend keeping a few *Loaner* units on hand to be pressed into service when needed. The process of registering Loaner IR Clickers for a Class is described in *Chapter Three Classes, Class Roster*. Loaner RF Clickers can be configured by selecting the *Configure Clickers* option from the **RF Menu**, described later in this chapter.

Response Window and Chart Window Default Settings Tab

A *Results Chart* is displayed after the Question's *Timer* has expired or the Question is stopped. It charts the Response distribution among the possible Response Choices. It's a useful tool in an academic environment because it makes it possible for an instructor to immediately assess the students' level of comprehension of the material being covered. The *Default Settings* for both the Response window with its display of the Question, the Response Choices, and the Response Grid or the Attendee List and the Chart window with its display of response distribution are part of a Class definition. Some of the default settings established here can be changed on-the-fly at the beginning of a Session.

Lessons

The ***Lessons*** section is the staging area for your questionnaires. *Lessons* are made up of sets of *Questions*. The Lessons containing the Question Sets are organized in the *Lesson Tree*. The Lesson Tree is structured much like a file directory, making it very easy and intuitive to plan, prepare and organize large numbers of Lessons in advance.

A Lesson is presented during a *Session*. At the beginning of each new Session, the Lesson is associated with a *Class*. The Questions in the Lesson, or a selected subset of the Questions, are presented to the Class during the Session. The electronic *Responses* of each student in the Class are recorded and saved in a Session file. The Responses in the Session file can be graded, *Marked*, and added to a *Gradebook*.

A Lesson can be copied, renamed, imported, and exported. A new Session for a selected Lesson can be started directly from the Lesson section, eliminating the need to go to the Sessions section to initiate the Session. In addition, a variety of *Reports* can be created from PRS Lessons. This Lesson Reporting function gives an instructor an easy way to access and list the Questions and Response Choices in a Lesson. The importance of this feature becomes apparent when a Lesson is presented in a *Self Paced Mode* Session or as a homework assignment for RF. The Questions and Response Choices are not displayed during this type of Session, so the Report function provides the instructor with a convenient way of making them available to the students.

Questions

A Lesson's Questions can be composed in PRS. These Questions are stored in a native PRS XML format to support industry standards, making them available for export and import. Question Defaults are set as part of the Lesson definition. These default settings influence the presentation of the Questions during a Session.

Many textbook publishers provide electronic *Question Sets* with their textbooks. Most use the QTI XML storage format for their Question Sets, which is supported by PRS, so they can be easily imported directly into a PRS Lesson. PRS's powerful Question Editor can then be used to modify any Question in the imported Question Set, to add additional Questions to the Question Set, to copy Questions into other Lessons, and to select a subset of the Questions for presentation during a Session.

PRS PowerPoint Add-in

Another powerful Lesson presentation tool is the PRS PowerPoint Add-in. When InterWrite PRS is installed on your Windows computer, a PRS Toolbar is automatically added to your Microsoft PowerPoint software. On the Mac, the PRS PowerPoint Add-in has to be manually installed, but once installed, the Add-in works the same on both systems.

The PRS Toolbar becomes part of the PowerPoint application. It is used to make any slide in a PowerPoint presentation into a PRS Question Slide. When a PowerPoint Slide Show with one or more PRS Question Slides is run, PRS is launched, if it isn't already running. When the PRS PowerPoint Slide Show is begun, a New Session dialog is displayed. During the course of the Slide Show presentation in an IR environment, every time a PRS Question Slide appears, a Response Grid or Attendee List displays to verify that the students' Responses to the Question on the Slide have been received and recorded.

RF In an RF environment, the Start RF Class dialog is displayed, the RF Class is selected and started, and the students join the Class before the PRS PowerPoint Slide Show is started. When the PRS PowerPoint Slide Show is begun, a New Session dialog is displayed. It is not necessary to display a Response Grid in RF.

The recorded Responses from a PRS PowerPoint Session are saved in a standard PRS Session file. The file is listed in the *Sessions Section List Window*, making PowerPoint Session results accessible to the Session functions described next.

A similar process is available to InterWrite users who have both InterWrite and PRS installed on their systems. Multiple Question Slide-like *pages* can be created in InterWrite and tagged as *PRS Question Slides*, and run in a PRS Session. In addition, single PRS Question Slides can be inserted "on-the-fly" into any InterWrite presentation.

Sessions

A *Lesson* is presented during a *Session* to the students in a *Class* for their *Responses*. A Session can be started from the ***Sessions*** section, or from the ***Lessons*** section. Below is a summary of the process leading up to, and including, the Session.

- The Class definition establishes a Class Name and Class Type.

  IR Class Type
  - A *Roster* of students must be linked to the Class definition.
  - A *Response Map* should be set up to indicate where each student's Responses will appear in the *Response Grid*.
  - Default Settings can be established for the *Response* window and the *Results Chart* window.

  RF **Class Type**
  - A *Roster* can be linked to the Class definition, but it's not required.
  - Default Settings can be defined for the *Results Chart* window.
- The Lesson contains the Questions that will be presented to the Class during the Session.
- At the beginning of the Session, the *New Session* dialog is displayed.
  - The Audience type is selected.
  - Self Paced Mode can be enabled.
  - The Class participating in the Session is selected.
  - A Lesson is chosen for presentation to the selected Class.
  - Presentation options are set and default settings are reviewed.

  RF In an RF environment, the same New Session dialog displays, but several options are grayed out, because their settings have already been established. It is not necessary to designate a Class, as the RF Class has already been *started* and the students have *joined* it. The default Audience Type is designated as part of the Class definition. The Audience Type and the Self Paced Mode settings are addressed when the RF Class is started. An additional option is added to the New Session dialog for an RF Class Session—the *Collect Homework* checkbox. This option is described in *Chapter Five Sessions*.
- The results of each Session are saved in a Session file, which is listed in the *Sessions Section List Window*.

Sessions can be renamed, resumed, reviewed, marked, and exported. Reports on a number of different aspects of a Session can be created.

Self Paced Mode

An option available when profiling a Session is *Self Paced Mode*. A Self Paced Session allows the instructor to configure a timed Session wherein students can answer Questions in any order and at their own pace during the designated time frame. Any Lesson can be chosen for presentation during a Self Paced Session. Other Session settings that are not relevant to a Self Paced Session are grayed out. A specialized Response Grid is displayed for an IR Session that allows students to verify Responses and track unanswered Questions. In an RF Self Paced Session, messages regarding the status of each transmitted Response are displayed on the LCD screen.

Insert Question

One more important feature of the basic – that is, non-Self Paced – PRS Session is the ability to insert impromptu Questions during the Session. For example, based on class discussions between Questions, or on a high percentage of incorrect Responses to a Question, an instructor may decide to approach the material from a different perspective, or try to isolate or clarify the source of the students' confusion by adding one or more *ad hoc* Questions to the Session. The value of this feature in terms of instant assessment is immeasurable. An instructor can be immediately and effectively responsive when he perceives a weakness in the students' understanding of the material.

No Lesson

While the purpose of this manual is to describe the features of PRS, it is important to note that one can easily use the assessment and testing functionality of PRS's audience response system without using its Lesson capabilities. *No Lesson* is an option on the New Session dialog. When you select this option, only the Response Area is displayed for IR, and only the Session Toolbar is displayed for RF.

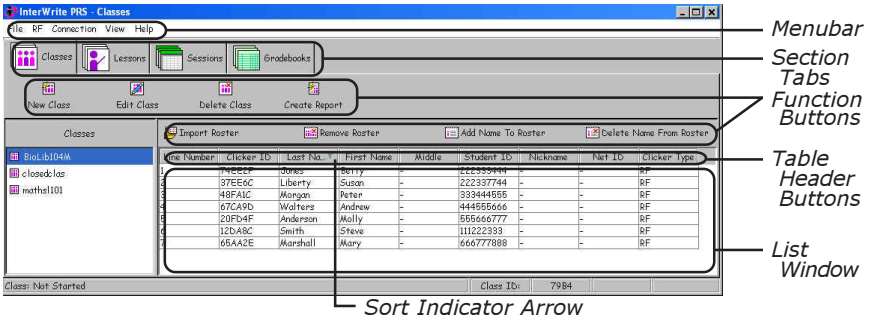
Gradebooks

The ***Gradebooks*** section is the section where electronic *Gradebooks* are defined. The results of *marked Sessions* are recorded and added to the Gradebooks. A variety of *Reports* can be created based on the data in the Gradebooks. Gradebooks are stored in a format that makes them readily accessible for export to third party Course Management Systems (CMS), such as Blackboard, WebAssign and WebCT. A PRS Blackboard Registration Application (*Chapter Seven*) has been developed that links the Clicker ID of the registering student's IR Clicker to his Blackboard Student ID. Class Rosters set up in Blackboard can be imported into PRS Class definitions, and exported PRS Gradebooks can be imported into Blackboard. In an RF environment, where student Responses are linked directly to the Student ID, the transfer of data is even easier.

InterWrite PRS is a powerful, interactive tool, particularly in the classroom. Not only does it free teachers from the more tedious aspects of teaching (grading tests, maintaining grade books), but it provides instantaneous assessment and feedback. Every teacher knows each class has its own dynamic—no two classes are the same. The PRS system can be used to present and review content in a way that keeps the students in each class engaged and to immediately evaluate their level of comprehension, giving the teacher the flexibility and functionality to react accordingly.

Screen Elements

The main screen of each of the four PRS Sections has the following elements in common: the **Menubar**, the **Section Tabs**, the **Function Buttons**, the **Table Header Buttons**, and the **List Window**.



The menus on the **PRS Menubar** provide options for:

- setting *Preferences* on the **File Menu**,
- starting and stopping Classes and configuring RF Clickers on the **RF Menu**,
- establishing the communication link between the IR Receiver and the PRS software on the **Connection Menu**,
- offering another way of moving from section to section using the **View Menu**, and
- providing additional information about using the PRS system on the **Help Menu**.

The Menus on the PRS Menubar are described in detail in the next section.

The **Section Tabs** provide a way of moving from one section to another. Each of the four PRS sections has a set of **Function Buttons** that allow you to create, edit, and delete the components of that section with additional, specialized functions specific to the section.

Each section has a **List Window** where the work product of that section is displayed in a table—Class Rosters, Questions, Sessions, Gradebooks, *etc.* A feature of each List Window is the ability to click on a column **Table Header Button** to sort the data in the List Window by the contents of that column. For example, in the Classes Roster List Window shown above, a click on the **Last Name** Table Header Button will order the entries in the Roster List Window alphabetically in ascending order based on the students' last names. A green **Sort Indicator Arrow** will display on the Table Header Button used to index the contents of the table. Click on the Table Header Button with the Sort Indicator Arrow to toggle between *ascending* and *descending* sort order. This feature is available in every dialog that has a List Window.

PRS Menus

File Menu

The File Menu provides the options to set system *Preferences* and to *Exit* the PRS application.

Preferences

Customer ID By default, in an IR environment, each IR Clicker is assigned a unique string of six numbers. This numeric string is the transmitter's ID. Any IR Clicker can be used with any InterWrite PRS installation. **Programmable IR Clickers** are different in that they can be programmed with unique IDs that will be accepted and recognized by only one InterWrite PRS system—the InterWrite PRS system whose Customer ID matches the one used to program the IR Clickers. So, for example, if an elementary school teacher wants to have an IR Clicker for each child in her class that is numbered in a way that's easy for the children to identify and remember, she can purchase Programmable IR Clickers that can be assigned unique IDs, which are associated with the Customer ID of her InterWrite PRS system, and which cannot be used with any other InterWrite PRS system. That unique Customer ID is entered here in this field.

If the Customer ID gets changed, click on the **Set to Default** button to return the Customer ID to its original assignment.

Default Data Directory This Preference shows the current location of the **Data Directory**. Click on the **Browse** button if you want to navigate to a different directory location for the **Exports**, **Gradebook**, **Lessons**, **Reports**, **ResponseMap**, **Roster**, **Session**, and **Settings** folders.

Default System Font By default, the display font used throughout the PRS system in Windows is *Comic Sans MS*. The default font on the Mac is *Arial*. Click on the **Down Arrow** to display a list of the fonts installed on the computer.

Font Preview When you select a font from the drop-down list, an example of the font selection is displayed here. Click on the second **Set to Default** button to return to the default system font when PRS is restarted.

Exit

Use this File Menu option to exit and close the PRS application.

RF Menu

The RF Menu provides a one-stop shop for the settings that are specific to the RF environment. Many of the options described here will make much more sense when you have read *Chapter Three Classes* and understand them in the context of the **Class Type** and the **Class System Types**, *Open* and *Closed*.

Start Class

This menu option displays the **Start RF Class** dialog, the same dialog displayed when PRS is started up (and an RF Receiver is installed).

Stop Class

This menu option is selected when you want to end the RF Class.

Joined List

This menu option displays the complete list of RF Clickers that joined the RF Class. When you stop the Class, this list is deleted.

Configure Clickers

By default, an RF Clicker is set to *Normal* and does not require any additional configuration. A Normal Clicker is the property of the student and can be used in any Class whose Class System Type is designated as *Open*.

A *Loaner Clicker* is an RF Clicker that can be loaned to a student during a Class when his Clicker has malfunctioned, or he has forgotten it. An RF Clicker configured as a *Loaner Clicker* will require the student borrowing it to input his Student ID before he joins the Class, ensuring that his Responses will be credited to him during that Class. *Loaner Clickers* can be configured for both *Open* and *Closed Classes*.

A *Closed Clicker* is an RF Clicker that is linked to the Class ID assigned to a *Closed* Class System Type. Closed Clickers are automatically assigned a unique Join ID to identify each one in the Closed Class. Whereas *Normal Clickers* are typically student-owned and can be used in any *Open Class*, *Closed Clickers* are the property of the school and remain in the classroom. Each Closed Clicker can then be assigned to a specific student in the Closed Class, so that Johnny always uses Clicker 1 and Suzie always uses Clicker 2, and so on.

A *Master Clicker* is a special RF Clicker that can be used by an instructor to send commands to a Session from anywhere in the room. Master Clicker Commands are described in *Chapter Two PRS System Installation*.

The *Closed Loaner Clicker* setting is used to set up a Loaner Clicker for use in a Closed Class. Any student can use a Closed Loaner Clicker because, as is characteristic of any RF Clicker designated as a *Loaner*, it prompts the person using it to enter his Student ID before he joins the Class, in this case, the Closed Class.

A *Closed Master Clicker* is a Master Clicker used to send commands to a Session that is run in a Closed Class.

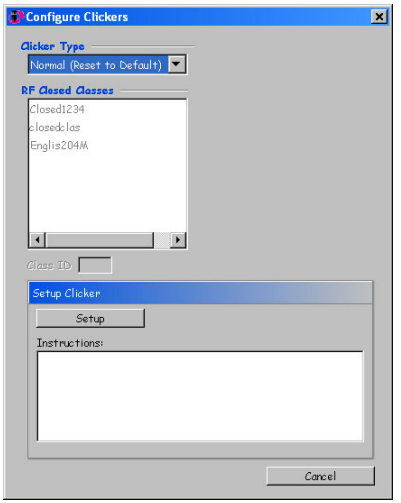
Scan for Receivers

This RF Menu option will look for and attach to any RF Receivers on the system. Use this menu item only when an RF Receiver is attached to a USB port on the computer. Or, when the RF Receiver has been moved from one USB port to another after the PRS software has been started.

RF Configuring Clickers

***Normal* is the default Clicker Type. *Normal Clickers* require no configuration and can be used in any Open Class. The option appears on the Clicker Type menu so that you can set a Clicker that has been configured previously as a *Loaner, Master, Closed, Closed Loaner,* or *Closed Master* Clicker back to *Normal*.**

The basic process for configuring RF Clickers is the same, no matter which **Clicker Type** configuration you choose.



1. Select the **Clicker Type** from the drop-down menu.
2. When you choose one of the *Closed* configurations, select a Class in the **RF Closed Classes** window. The **Class ID** you assigned to the Closed Class will display.
3. Click on the **Setup** button to display the Setup Instructions in the **Instructions** window for the Clicker Type you chose.
4. Turn on all the Clickers, as instructed, and press the **Quick Jump** number displayed in the angle brackets (< >) on each Clicker.
5. The "Configuration Class" name is displayed on each LCD. Press the Enter/Send key to join each Clicker to the Configuration Class.
6. If the Clickers have been configured for *Closed*, each Clicker will display the **ID:** field. Enter a unique ID for each Clicker. Press to save the ID.

The LCD display confirms the Clicker Type assignment. The Instructions window on the **Configure Clickers** dialog will list the Join IDs assigned to each of the Clickers you configured. You can **Close** the dialog, or select a new Clicker Type and configure additional Clickers.

Configuring RF Clickers for a Closed Class

The **Student ID** is attached to each transmission sent to the PRS software. In the Open Class paradigm, the student enters his Student ID, which is saved in the memory of his personal Clicker. In the Closed Class model, where Clickers are owned by the school and stay in the classroom, there are two ways to set up the Closed Clickers so each will have a unique ID to bundle with transmissions.

If the Closed Clickers will always be used by the same 30 students, you can assigns IDs of **1** through **30**, for example, label the Clickers accordingly, and assign a specific Clicker to each of the 30 students.

However, if the Closed Clickers are going to be used in the classroom by different groups of students throughout the day, you might consider configuring those Clickers as *Closed Loaners*. Clickers configured as *Loaners*, regardless of whether they are used in an Open Class or a Closed Class, will prompt for an ID before they join the Class. So, each student in each Closed Class Session will have his Responses attributed directly to his Student ID.

Configuring an RF Clicker as a Master

Master Clickers are specially configured RF Clickers that can send commands to the PRS software during a Session to remotely control the Session presentation. This is true of Master Clickers configured for both the Open Class and the Closed Class. The command key assignments are described in *Chapter Two PRS System Installation*.

Connection Menu

The **Connection Menu** is used to:

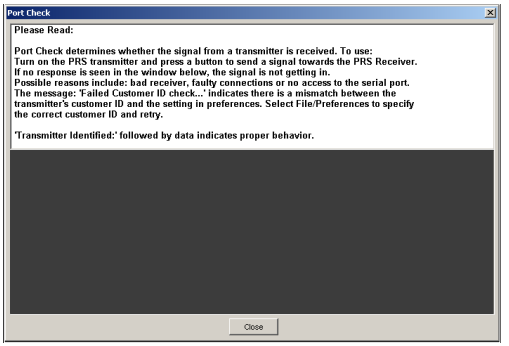
- specify the COM Port to which the Receiver is connected,
- simulate Clicker input from the computer keyboard,
- test for both the COM Port connection and for the receipt of a signal from a Clicker.

Port Check

The Port Check menu option is used primarily to detect IR Receivers. The USB-connected RF Receiver is automatically assigned to a COM Port and the assignment is noted on the Connection Menu.

As part of the installation of the IR Receiver (*Chapter Two*), the COM port to which the IR Receiver is connected must be communicated to the InterWrite PRS software. The number of COM ports displayed on the Connection Menu will vary with the number of COM Ports on the computer. Select from the list the COM port to which the IR Receiver is connected. If you don't know which COM port it is, or if you want to test the connection, select a COM port in the Connection Menu, click on the

Port Check menu option, verify the IR Receiver is powered-on, and send a signal from a powered-on IR Clicker to the IR Receiver. If the IR Receiver is connected to the COM port you selected in the Connection Menu, a *Clicker Identified* message will appear in the black Port Check window. If the Port Check window remains blank, select another COM port in the Connection Menu and repeat the transmission check process.



Transmitter Test

As indicated in the white message box on the Port Check window, the Port Check feature verifies that a signal from an IR Clicker is received by the IR Receiver. Not only can you use Port Check to verify the IR Receiver COM port connection, you can also use it to test an IR Clicker. Verify the IR Clicker does not need new batteries. (Under normal operating conditions, the LED indicator light on a powered-on IR Clicker is bright green. Change the batteries when the LED indicator light is dim.) Select the Port Check option and send a transmission by pointing the tapered end of the powered-on IR Clicker toward one of the IR Receivers in the room and pressing a numbered button. If nothing shows up in the Port Check window, there is a problem with the IR Clicker. Try *resetting* it. Straighten a paper clip and stick the end of the paper clip into the hole on the back of the IR Clicker. The hole is located to the right side, near the battery pack. Push until you feel a slight *click*. Power on the IR Clicker and rerun the Transmitter Test.

Key Input

If you are learning how to use the InterWrite PRS system and/or you want to simulate a Session, you can set up PRS to accept input from the computer keyboard that simulates Clicker input signals. When you want to test a Lesson, you can run a test Session without having a PRS Receiver connected to your computer.

1. Select the *Key Input* feature on the Connection Menu.
2. When you are using a Response Map, make sure the Response Grid (Class definition) has enough Response Boxes, in addition to those assigned to the students in the Roster, to accommodate the number of simulations you intend to use. When there is no Response Map in place, the grid will *roll over*.
3. Click on the **New Session** Function Button in the Sessions Section.
4. Start the Question.
5. To send a simulated Response to the Question, type a letter, which identifies a unique ID (there are twenty-six unique IDs, one for each letter of the alphabet). Then, type the number of your test Response Choice.
5. Use the SHIFT and CTRL keys in combination with the letter key to indicate a *High Confidence Level* or *Low Confidence Level* (see the following *Clicker Operation Instructions* section), respectively. For example, the Key Input *SHIFT + b + 1* would be interpreted by the *Key Input Response Simulation* option as: "Respondent 'b' has high confidence that the first Response Choice is the correct one."

As you enter these alphanumeric combinations from the computer keyboard, each will register as a Response in a Response Box in the Response Grid displayed below the Question and Response Choices.

View Menu

The **View Menu** lists all four of the PRS Sections and indicates with a diamond which section is currently being displayed in the PRS Window. You can move to another section by selecting it from the View Menu, or by clicking on its Section Tab in the PRS Window.

Help Menu

InterWrite PRS Help

This menu option displays a Help file for the PRS software.

Check for Updates

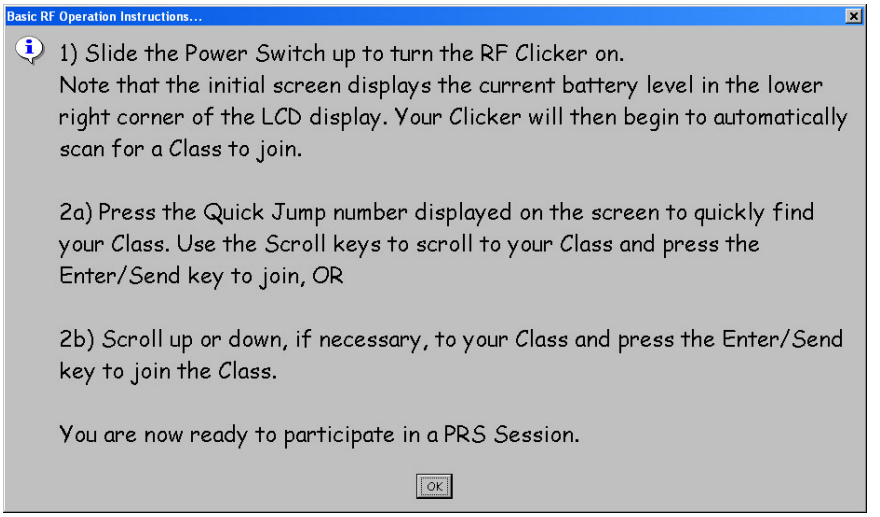
This option links to the GTCO CalComp Web site where it checks for the current version of the InterWrite PRS software. If there is a newer version of the software, you will be given the option to download it. You should check for updates periodically to make sure you have the latest and greatest version of the PRS software.

Clicker Operation Instructions

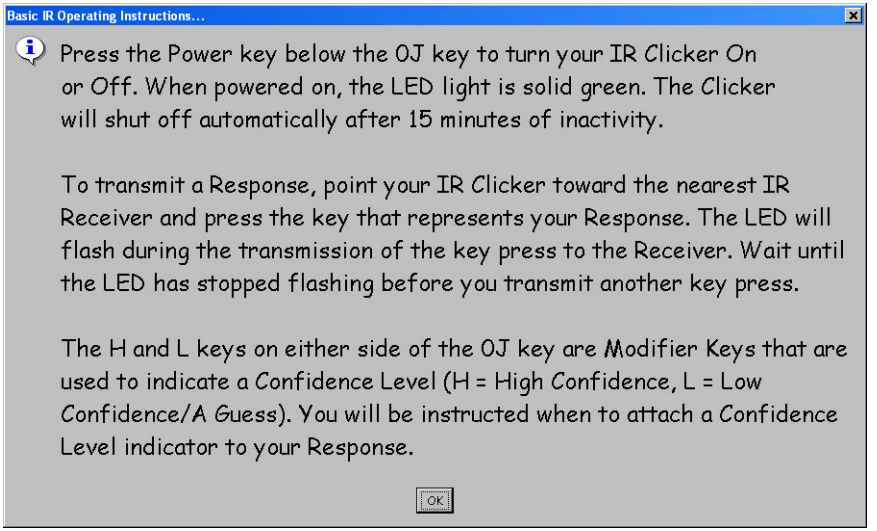
RF Clickers and IR Clickers are used to electronically transmit a student's Response to a Question presented during a Session. The basic operation of the RF Clicker and IR Clicker may not be intuitive to the first-time user. We've included Basic Operating Instructions for both the RF Clicker and IR Clicker on this menu. In addition, although the IR Clickers have a limited selection of keys when compared to the RF Clickers, they can respond to most Question Types. The Response process is not as straightforward as it is with the RF Clicker, so an instruction set has been included on this menu for responding to various Question Types using the IR Clicker.

Basic *RF* Instructions

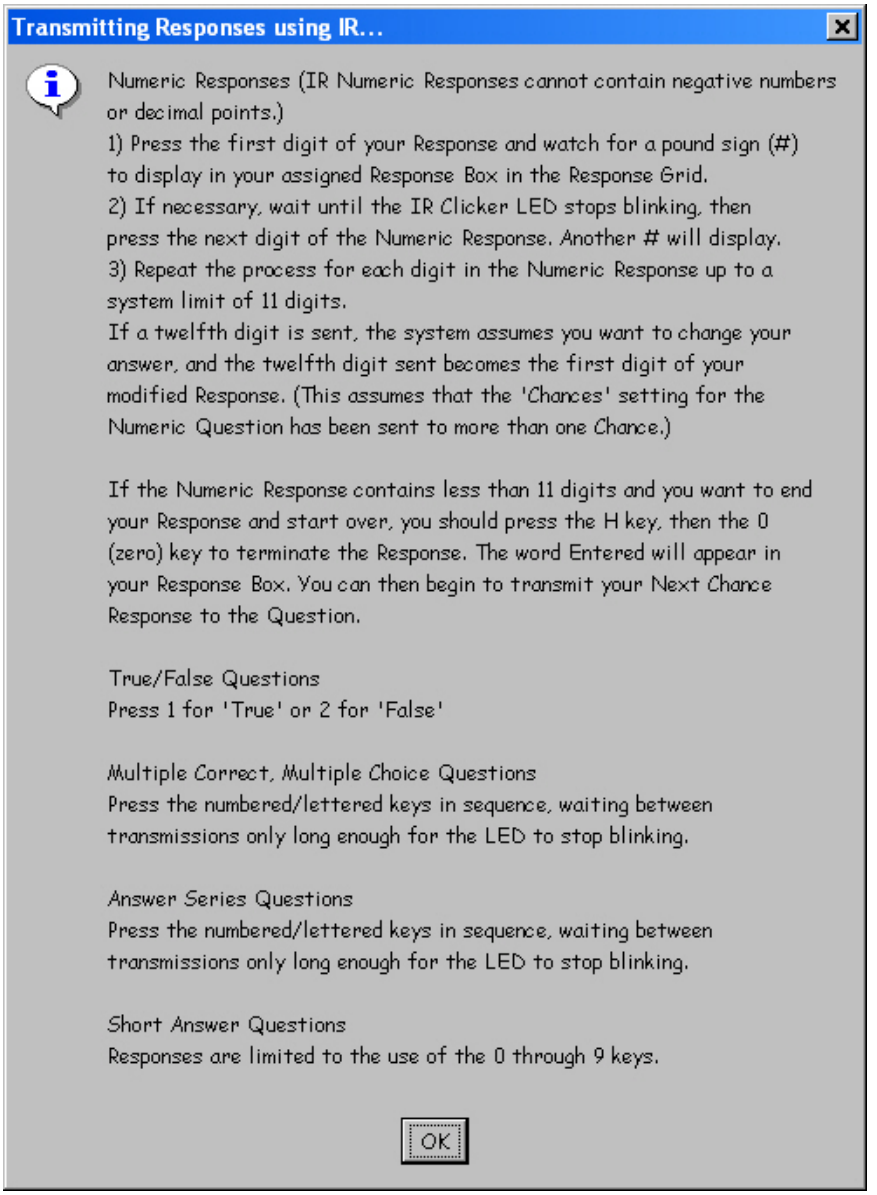
The first instruction set describes the basic operation of an RF Clicker.



Basic Operating Instructions for IR Clickers

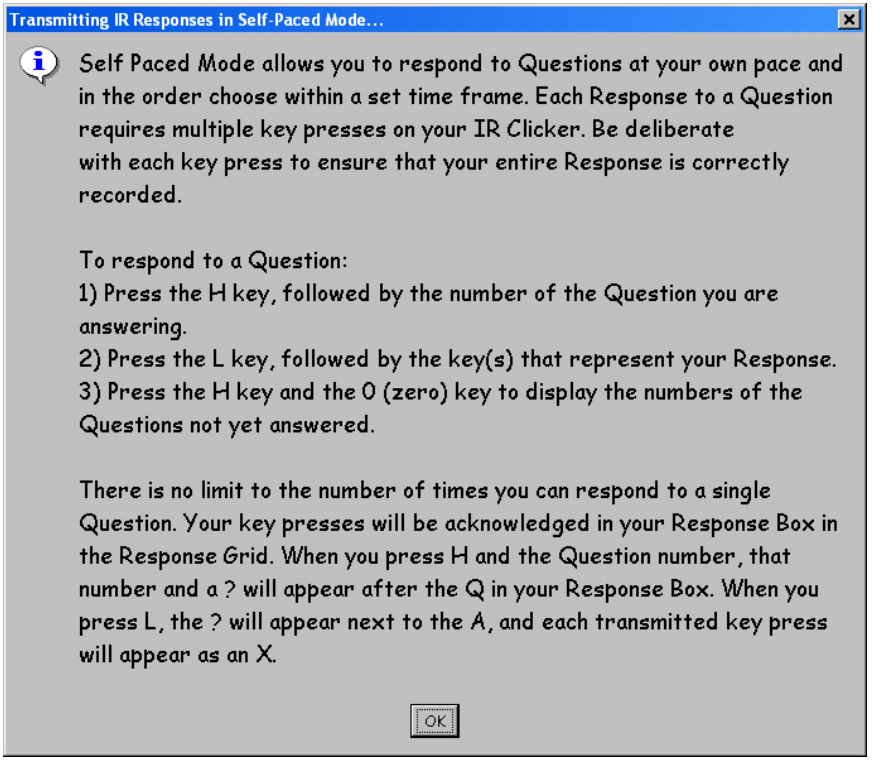


Responding to Different Question Types Using the IR Clicker



Self Paced Session Instructions

This set of instructions describes how to respond to Questions during a Self Paced Session when using an IR Clicker.



Confidence Level

A *Confidence Level* designation allows a student to qualify his Response to a Question. By attaching a High Confidence Level indicator to a Response, a student is saying that he is very sure about the correctness of his Response. When a student attaches a Low Confidence Level indicator to his Response, he is basically saying his answer is a guess and he has little confidence in its correctness.

IR Clickers have an **H** key and an **L** key in the bottom row of keys. Pressing the **H** key followed by a Response value key attaches a High Confidence indicator to the Response. Pressing the **L** key plus a Response value key attaches a Low Confidence indicator to the Response.

RF Clickers do not have **H** and **L** keys. The 1 key is used to indicate Low Confidence and the 9 key is used to indicate High Confidence. When a Confidence Level is attached to a Response from an RF Clicker, the Confidence Level Indicator should *follow* the Response. Confidence Level Indicators can only be used with True/False Question Types and single-choice Multiple Choice Question Types.

By default, when a Confidence Level is not indicated, all Responses are assigned a *Medium Level of Confidence*. The instructor should indicate at the beginning of a Session, or before a Question is presented, that he wants a Confidence Level attached to the Response(s).

Example Files

Click on this menu option to view examples of a Class Roster and a Response Map, among others, in the native *.csv* format. This links to the GTCO CalComp Web site, where the examples are found.

About

The *About* Help Menu option displays an information window with the PRS version number, system information, and contact information for GTCO CalComp.

Manual Organization

This *InterWrite PRS User's Guide* covers all aspects of the PRS system, including the installation, set up, and troubleshooting of the hardware. A chapter is devoted to the installation and set up of the *InterWrite PRS Web Registration Application*, a Web-based application that makes it possible for students to register online for those classes using the PRS system, and the *PRS Blackboard Registration Application*, which makes the export and import of information between PRS and Blackboard possible. The primary focus of this User's Guide, though, is the PRS software. A chapter is devoted to each of the four tabbed *Sections* of the PRS software with detailed descriptions of each section's functions and procedures.

Chapter One **InterWrite PRS Overview** This chapter introduces the InterWrite PRS system, identifies the primary screen elements, describes the Menu options on the PRS Menubar, and outlines the organization of this manual.

Chapter Two **PRS System Installation** Both of the PRS hardware systems feature Receivers and Transmitters, or Clickers. Both are easy to install and operate. The Clickers are handheld, battery-powered devices. AAA batteries are easily installed in the back of each type. IR Receivers are connected to each other, if more than one is being used, to a power supply, and to the serial port on the computer. The IR Receiver setup is completed when the COM port is selected on the *Connection Menu*.

Each RF Receiver is connected to a USB Port, which is automatically detected by the PRS software.

Chapter Three **Classes** Describes how to set up a Class definition.

Chapter Four **Lessons** Describes how to add branches to the Lesson Tree, define and organize Questions, import Questions into Lessons, and set up PowerPoint Lessons.

Chapter Five **Sessions** Describes how to set up and run a Session, how to insert impromptu, unplanned Questions during a Session, how to rename, resume, review, mark, and export a Session, and how to create a Session Report.

Chapter Six **Gradebooks** Describes how to set up a Gradebook, add Marked Sessions, export Gradebooks, and create Reports based on Gradebook data.

Chapter Seven **PRS Registration Applications** This chapter first describes how to install and set up the Web-based PRS Registration Application, and then how to install the PRS Blackboard Registration Application and set up the PRS Tab in Blackboard. Both applications are included on the InterWrite PRS CD.

The optional PRS Web Registration Application is used to register PRS Clickers over the Internet. The application includes an Administrative section that supports the organization and maintenance of the Internet registration process.

The PRS Blackboard Registration Application is used to establish a connection between the student's IR Clicker and his Blackboard Student ID, so Roster information can be exported from Blackboard for use in a Class definition, and Marked PRS Sessions can be exported from PRS Gradebooks for use in Blackboard.

Appendix Regulatory and Warranty Statements.

PRS System Installation

The InterWrite PRS system consists of the PRS software, the optional PRS Web Registration Application and PRS Blackboard Registration Application, and the PRS hardware. Setup, installation, and operation of the two PRS registration applications is detailed in *Chapter Seven*. The setup and installation of the InterWrite PRS software and hardware is covered here.

InterWrite PRS Software

Install the PRS software first so the appropriate drivers are in place when you install the hardware.

The PRS software for the Mac and Windows is included on the InterWrite PRS CD.

Windows Installation

PRS is compatible with Windows 2000 and XP. The PRS application software must be installed on Windows by an *Administrator*.

1. Log in as *Administrator*. Insert the PRS CD into the CD drive on your PC. The installer will autorun.

   If it doesn't, click on the **Start** button on the Windows Task Bar and select *Run* from the menu. Type *X:\setup.exe* (**X** represents the CD drive letter).
2. Select the *Install InterWrite PRS Software* menu option.
3. Follow the onscreen instructions for the software installation.

For the Mac installation, *Tiger (10.4)* and *Panther (10.3)* are automatically supported. To run InterWrite PRS on *Jaguar (10.2)*, you must first download the free version of Java 1.4.2 available for 10.2.6 and above.

Mac Installation

PRS is compatible with Mac OS X 10.2.6 and above. The InterWrite PRS application software must be installed on the Mac by an *Admin*.

1. Insert the PRS CD into the CD-ROM drive on your Mac. An InterWrite PRS icon will appear on your desktop.
2. Double-click on the InterWrite PRS icon on the desktop to display the CD's contents. Double-click on the **Install InterWrite PRS** icon.
3. Follow the onscreen instructions for the software installation.

PRS Hardware

The PRS hardware, Receivers and Transmitters (Clickers), is available in two transmission types**—IR** (Infrared) and **RF** (Radio Frequency). The IR Receivers and IR Clickers support a one-way, line-of-sight transmission from Clickers to Receivers and on to the PRS software. The RF Receiver Hubs and RF Clicker Remotes support two-way radio frequency transmission. Responses are transmitted from RF Clickers to RF Receivers to the PRS software and status messages are returned via the Receiver to the individual Clickers. Both PRS hardware systems are used to send, capture and decode signals that are ultimately relayed to the PRS software on the computer, where they are interpreted as *Question Responses*. Each Response has a code attached to it that identifies the Clicker it came from. The software establishes the connection between that unique transmitted code and the student's identity, providing the basis for recording Responses and attributing them to the student. In the IR system, the unique code is the Clicker ID. It is matched in the Class Roster to the Student ID and student name. In the RF system, the Student ID is the unique code transmitted with each Response. As the Student ID is the unique identifier of students in the Class, a Roster does not have to be in place in order to have the Responses attributed correctly and recorded.

The Clickers are small, battery-operated, handheld devices. IR Clickers have a keypad that consists of four rows of lettered and numbered keys and a Power button. The RF Clickers have an expanded keypad that includes *Input Keys* and *Navigation Keys*. A two-line LCD screen displays Responses as they are entered and the returned status messages.

The Receivers receive and decode data transmitted to them from the Clickers. The IR Receiver sends the decoded data via a serial connection to the computer. The RF Receiver uses a USB connection. In both cases, the decoded data are analyzed and recorded by the PRS software.

If you are installing a *Mixed PRS System* that uses both IR and RF PRS hardware, don't mix up the Power Supply cables. The Power Supply for IR is slightly different than the one for RF, and they cannot be used interchangeably.

RF Receiver Installation

The RF Receiver does not rely on line-of-sight transmission, so it does not have to be positioned at the front of the room. Just be aware that the RF Receiver works best when it is *not* sitting on a metal surface (such as your computer box). The PRS RF Receiver ships with a 9V Power Supply, Power Supply Plug Adaptors, a USB cable.

1. Plug the Power Supply into a wall or power strip outlet.
2. Plug the other end of the Power Supply into the RF Receiver.
3. Plug the square USB B connector into the RF Receiver.
4. Plug the flat USB A connector into an available USB port on your computer.

The RF Receiver is automatically assigned to a COM Port and that information is communicated to the PRS software, so there is no need to set the COM Port on the Connection Menu.

In a Windows installation: The unsigned RF Receiver driver is already installed on your computer. Nevertheless, Windows may need some coaxing before it will recognize the new hardware. Be persistent and do not let Windows worry you about the driver being unsigned. This will not in any way affect the operation of the RF Receiver or PRS.

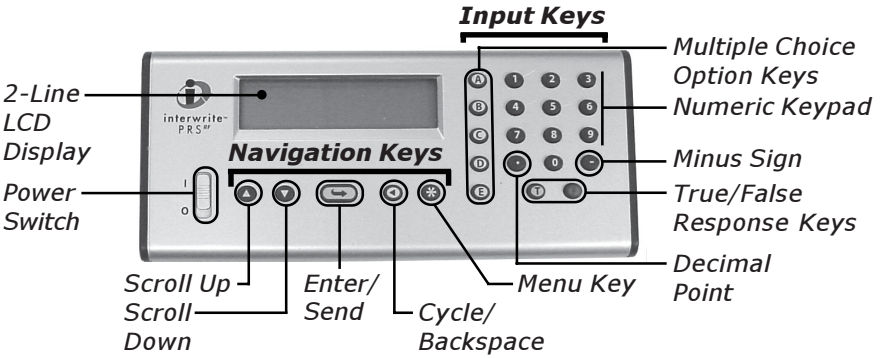
LED Light Phases

The RF Receiver green LED light has three phases:

- **Fast Flash** No USB connection
- **Slow Flash** Scanning for a free channel, or one with less *noise*
- **Solid On** Working

RF Clicker Setup and Operation

The RF Clicker ships with the batteries installed, so there is no real setup involved.



Clicker Key Quick Reference

		FUNCTION
INPUT KEYS	Numeric Keypad	Enter numeric Responses and Response Choices for numbered Multiple Choice Questions Enter numeric values, *e.g.*, Student ID and numeric Responses
	Decimal Point	Enter a decimal point in a numeric Response Press twice to enter a forward slash (/) for fractions
	Minus Sign	Enter to indicate a negative number
	Multiple Choice/ Alpha Character Keys	Enter your Response Choice(s) to a Multiple Choice Question Switch to *Alpha Mode*
	True/False Response Keys	Enter Response to True/False Questions Switch to *Alpha Mode*
	Confidence Level Indicators	1 = Low Confidence and 9 = High Confidence Enter a Confidence Level *after* a single-choice Multiple Choice Response, or after a True/False Response

NAVIGATION KEYS

		FUNCTION
▲▼	Scroll Up Scroll Down	Scroll Up and Scroll Down when in Setup Menu (watch for the ⇕ symbol on the LCD display), or when in *Homework Mode* Scroll through the alphabet when in *Alpha Mode*
↵	Enter/Send	Save input values, *e.g.*, Student ID Send Responses
◄	Cycle/Backspace	Cycle through setting options when ◄ is displayed in the lower right corner of the LCD display, or go up a menu level when ◄ is in the upper left corner Backspace to clear a character in an input field
*	Menu Key	Display Setup Menu Stop Autoscan

LCD DISPLAY SYMBOLS

	FUNCTION
⇕	This symbol indicates you can press the ▲ or ▼ key to scroll up or down through the Setup Menu options.
◄	When this symbol appears in the upper left corner of the LCD screen, press the ◄ key to go up a level in the Setup Menu. When the symbol appears on the second line of the LCD display in the right corner, it means you can click on the ◄ key to cycle through the possible settings for the Setup Menu option.
➔	When you see this symbol on the LCD display, press the ↵ key to display an input field, or a submenu.

First-time users and students using *Loaner Clickers* will be prompted to enter an ID. This is the Student ID. It will be saved in the memory of Student-owned Clickers, but stored only temporarily in Loaners.

Basic Operation

1 Slide the **Power Switch** up to turn the RF Clicker on.

After the initial screen displays, where a battery icon indicates the relative level of battery life remaining, the RF Clicker begins *Autoscanning* for a *Class* to *join*.

2a Press the **Quick Jump** number, displayed in angle Brackets (< >) on the PRS Status Bar, to quickly find your Class. Scroll ▲ ▼, if necessary, to your Class and press ↵ to join, OR

2b When Autoscanning has completed, scroll ▲ or ▼, if necessary, to your Class and press ↵ to join.

Master *RF* Clicker

The Master RF Clicker is a special configuration of the RF Clicker that is set using the *Configuring Clickers* option on the **RF Menu**. An RF Clicker configured as a *Master* or *Closed Master Clicker* enables the instructor to send commands to the PRS software during a Session and control the presentation from anywhere in the room. The following table summarizes the key assignments for an RF Clicker configured as a Master Clicker.

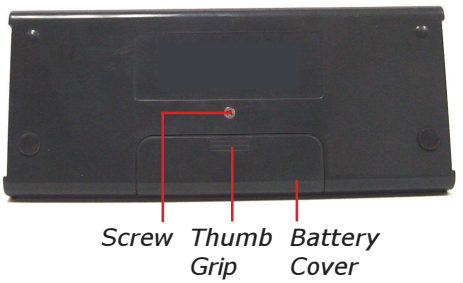
Master RF Clicker Command Key Assignments

KEY	COMMAND
A	Start Question Resume Question
B	Pause Question
C	Stop Question
D	Increase Timer
E	Decrease Timer
▼	Next Question
▲	Previous Question
◄	Close Chart

Replacing *RF* Clicker Batteries

When you see the *Low Battery* message when you turn on your RF Clicker, you have about 15% Battery Life remaining. Replace the batteries as soon as possible.

Back of RF Clicker

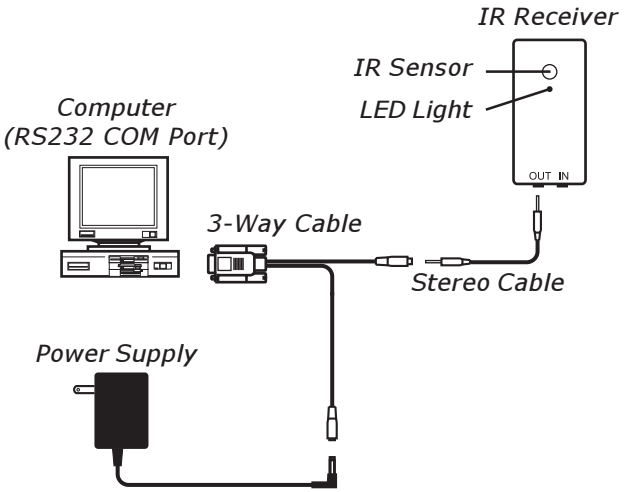


1. On the back of the RF Clicker, remove the **Screw** holding the **Battery Cover** in place.
2. Remove the Battery Cover by pushing down on the **Thumb Grip** and sliding it toward the bottom of the Clicker.
3. Remove the old batteries and discard them following the proper disposal procedures.
4. Insert three AAA batteries, positioning them properly to ensure the correct polarity.
5. Slide the Battery Cover back into place and replace the Screw.

IR Receiver Setup and Operation

The IR Receiver must be positioned at the front of the room where it can capture the line-of-sight signals from the IR Clickers. A glass window on the front of the IR Receiver unit above the red LED Light contains an IR Sensor reception cone, which has a Reception Angle of approximately 90 degrees. The size and seating arrangement of the room will predict where at the front of the room the IR Receiver should be located. Be sure to test transmission reception from everywhere in the room. One IR Receiver can receive and process data from up to 50 Clickers. Larger rooms with more seating may require more than one IR Receiver. Multiple Receivers are daisy-chained together. Receivers in the corners of the room should point diagonally to the opposite corner at the rear of the room to take advantage of the entire Reception Angle of the IR Sensor. The primary IR Receiver ships with one stereo cable (6 meters), a 3-way RS232 Serial cable and a Power Supply. Each additional IR Receiver ships with a 12 meter stereo cable used to attach it to the next Receiver in sequence. One Power Supply can serve up to four IR Receivers.

Hardware Connections for One IR Receiver



1. Plug one end of the **Stereo Cable** into the **OUT** jack of the IR Receiver.
2. Plug the other end of the Stereo Cable into the connector on the **3-Way Cable**.
3. Plug the **Power Supply** connector into the receptor on the 3-Way Cable.
4. Plug the serial end of the 3-Way Cable into an RS232 serial COM port on the computer, or into a serial-to-USB adapter, if your

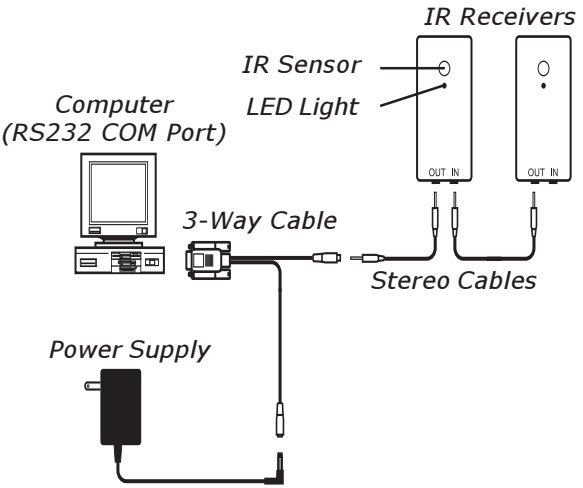
computer does not have any available serial COM ports. We recommend the KEYSPAN USB Serial Adapter.

5 Plug the **Power Supply** into an AC wall outlet or power strip.

Ensure all connections are secure.

Complete all connections *before* plugging in the Power Supply.

Hardware Connections for Multiple IR Receivers



When more than one IR Receiver is required for coverage, plug one end of the 12 meter Stereo Cable into the **OUT**put jack on the second unit and the other into the **IN**put jack on the first unit, the third into the second, and so on down the chain. The last IR Receiver in series does not have to be terminated. One Power Supply will serve up to four units in the chain. Please contact GTCO CalComp if you require a special configuration. Contact information is in the *Appendix*.

Making the Connection

The PRS software needs to be informed where to pick up data collected by the IR Receiver. It needs to be told which COM port the Receiver is connected to.

1 Open the PRS application.

2 From the **Connection Menu**, select the COM port the IR Receiver is connected to. The Mac lists either the device, or an identifying serial number, that each port is connected to, making it fairly easy to find the correct connection for the IR Receiver. Windows, on the other hand, just lists the available ports on the system. It's up to you to determine which

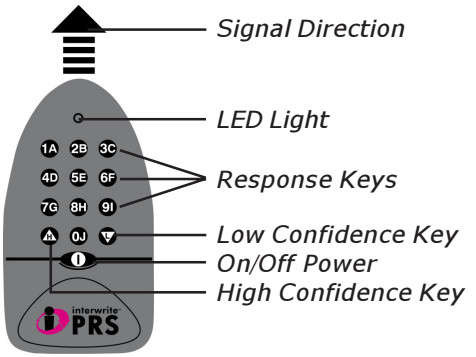
port the IR Receiver is connected to. If you're not sure, refer to the *Port Check* section in *Chapter One* for information on testing the COM ports for the connection.

Troubleshooting the IR Receiver Connection

If the IR Receiver is not being recognized on any of the COM Ports, first, check all connections to make sure they are secure. From the **Connection Menu**, select a COM Port and run a Port Check, as documented in *Chapter One, PRS Menus*. Repeat for each COM Port. If the IR Receiver still fails to show up, leave it connected and restart the computer. In most cases, the IR Receiver will now show up as connected to the COM Port.

The software for some serial devices will take over a COM Port and fail to release it when the device is disconnected. If the IR Receiver is attached to one of these COM Ports, Windows won't recognize it because the Port has been commandeered by another application. We've seen this behavior when a Palm Pilot, for example, had been connected to the COM Port to which the IR Receiver is currently connected.

IR Clicker Setup and Operation



IR Clickers require little in the way of setup. It's simply a matter of installing two batteries, as follows:

1. A tiny screw holds the battery cover in place on the back of the unit. IR Clickers are shipped either with the screw in place, or taped inside the lid of the Clicker box. If the screw is in place, remove it now.
2. Remove the battery cover by pushing down on the thumb grip and sliding it in the direction of the arrow.
3. Insert two AAA batteries, positioning them properly to ensure the correct polarity.
4. Slide the battery cover back on and reinsert the screw to hold it in place.

Basic Operation

1. Press the **ON/OFF** button to power the IR Clicker on.
2. Locate the IR Receiver and point the Clicker toward it.
3. Make your *Response Choice* and press the corresponding alphanumeric **Response Key**.
4. Watch the *Response Grid* or *Attendee List* for verification of the receipt of your transmission.

The **LED Light** will flash while the Response transmission to the IR Receiver is in progress. The IR Clicker's power will automatically shut off after 15 minutes of inactivity.

LED Light

The **LED Light*** illuminates to indicate the following:

Red = High Confidence Level Transmission
Green = Medium Confidence Level Transmission
Orange = Low Confidence Level Transmission
Flashing = Response Transmission in Progress

**Replace the batteries when the LED Light becomes dim.*

Confidence Level

You might want students to qualify their Responses to a Question by indicating the level of confidence they have in the correctness of their answers. The IR Clickers have an **H** key and an **L** key in the bottom row of keys. These keys can be used in combination with the Response keys to attach a *Confidence Level* to a Response. The **H** key indicates the student has a high level of confidence in the accuracy of his Response. The **L** key signifies the student is basically guessing at the correct answer and has a low level of confidence in the accuracy of his Response. By default, when a Confidence Level is not indicated, all Responses are assigned a *Medium Level of Confidence*. You should indicate at the beginning of a Session, or before a Question is presented, that you want a Confidence Level attached to the Responses. When a Confidence Level is requested, students should be told to press the **H** or **L** key first, then press a Response Key.

The Confidence Level setting will revert to the default value of *Medium* after 15 seconds have passed without a transmission, or after the IR Clicker is powered Off and On.

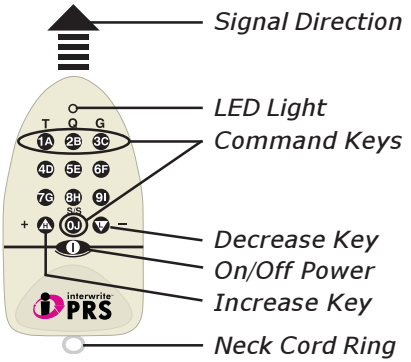
Clicker Operation Instructions

Even with the limited key selection of the IR Clickers, they are capable of sending a variety of different Responses, depending on the type of Question being asked. Clicker Operation Instruction sets can be accessed from the **Help Menu** (*Chapter One, PRS Menus*). Display the relevant instruction set prior to the beginning of the Session.

Master IR Clicker

The Master IR Clicker is a special version of the IR Clicker for use by instructors. It affords an instructor remote control capabilities, leaving him free to move around the room, while managing the Session presentation. The **H** and **L** Modifier Keys, which on a regular IR Clicker are used to attach a Confidence Level to a Response, are used on the Master IR Clicker in combination with the Command Response Keys to send commands to the PRS software instead of Responses.

The keys numbered 0 through 3 have special Command assignments on the Master IR Clicker. Each special Command Key has a letter above it. The letters stand for: **S**tart/**S**top (0), **T**ime (1), **Q**uestion (2), and **G**raph (3). The **H** Modifier Key is used to indicate *increases* (+), while the **L** Modifier Key is used to indicate *decreases* (**–**). So, when the H and 1 Keys are pressed, the Command to increase the Timer by 30 seconds is sent to the PRS software.



Command Key Assignments

Key **0** is associated with **Start, Pause, Resume**, and **Stop**.

H+0: *Start* or *Resume* the Timer, depending on which option is available.

L+0: *Pause*, if available; *Stop*, if the Resume option is available. The effect is to require two successive entries of L+0 for a complete stop.

Key **1** is associated with **Time**.

H+1: Increase the allotted time on the Timer by 30 seconds.

L+1: Decrease the allotted time on the Timer by 30 seconds.

Key **2** is associated with the **Question Number Indicator** on the **Results Chart** Toolbar, if the Results Chart is open, or on the **Session Dialog** Toolbar.

H+2: Move to the next Question (when autoadvance is not enabled) and increase the Question Number by one.

L+2: Move to the previous Question and decrease the Question Number by one.

Key **3** is associated with the **Results Chart**.

H+3: Open the **Results Chart**.

L+3: Close the **Results Chart**.

Each of these Commands is associated with a specific Function Button. If the associated Function Button on the Session screen is disabled, the remote Command will have no effect.

Be aware that if your signal is received by multiple IR Receivers, the result would be the same as if you had transmitted the same Command multiple times. For example, if you send L+0 and it hits two Receivers, it will issue both the **Pause** and **Stop** Commands.

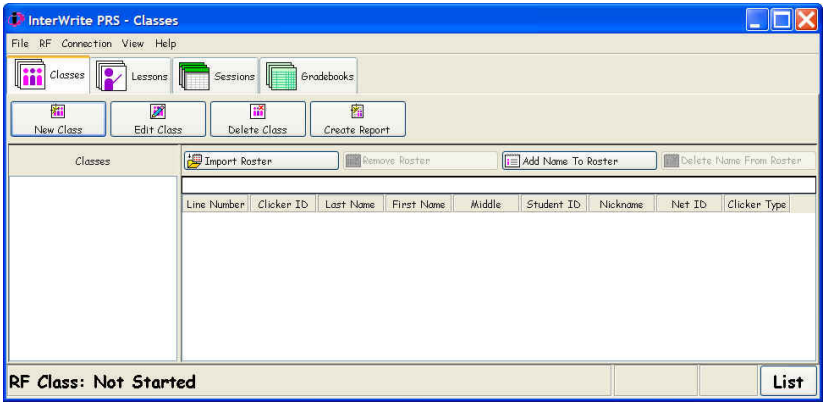
Using a Flash Drive with PRS

Instructors will often set up *Classes*, *Lessons* and *Gradebooks* on a USB Flash Drive connected to their office computers. They can then easily access everything they've worked on when they connect the Flash Drive to the classroom computer. This works fine as long as the *Preferences, Set Default Data Directory* option on the **File Menu** (*Chapter One*) points to the correct drive letter on each computer. My Flash Drive shows up as the *E: Drive* on my laptop, where I have one CD-ROM drive, and as the *F: Drive* on my desktop, where I have two CD-ROM drives. Make sure that on each system where you are using PRS, the PRS Default Data Directory is pointing to the correct drive letter for the Flash Drive. If it's not, PRS will build new a default data directory on the local drive, and it won't see the PRS directory on the Flash Drive.

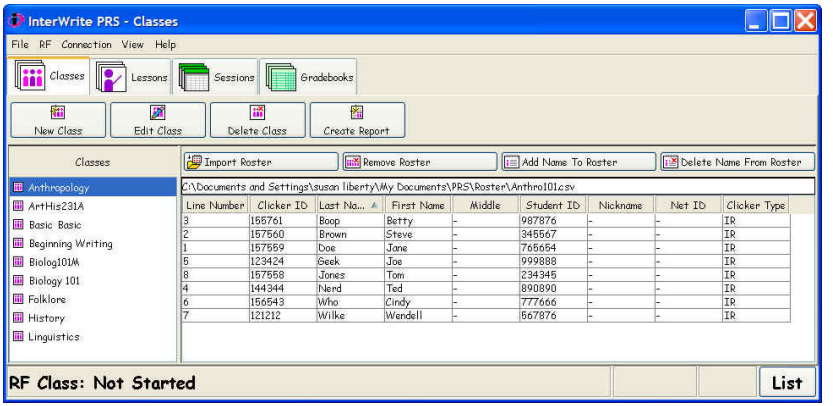
Another option is to use the Flash Drive only to move PRS files from one system to another. Save everything locally and use the Flash Drive as a transfer medium.

Classes

Classes is the section of PRS where each meeting, or *Class*, is defined and profiled. The primary function of the Classes section is to establish an association between the Class profile and the Roster of students in that Class. The Class profiles are listed in the left pane of the *Classes Window*. Class Rosters are displayed in the right pane.



The following screen shot shows the Classes Window after some Classes have been profiled and associated with Class Rosters, an example of which is shown in the right pane, the *Roster List Window*. A feature of the List Window is that you can click on one of the labelled column Table Header Buttons, where the green Sort Indicator Arrow will appear, to sort, or *index,* the entries in the List Window based on that key. Click repeatedly on the Table Header Button to toggle between *ascending* and *descending* order.



In the PRS Overview in *Chapter One*, two types of PRS hardware systems were described:

- Radio Frequency Receivers and Clickers that feature two-way transmissions
- Infrared Receivers and Clickers that feature one-way transmissions

Although the *Class* has the same function in both transmission environments—identifying and naming a group of students—its implementation in each environment is different enough that it will be discussed in two separate sections of this chapter.

The first section describes the operation of the Class in the RF environment. The second section covers the implementation of the Class in the IR environment.

The Class in the *RF* Environment

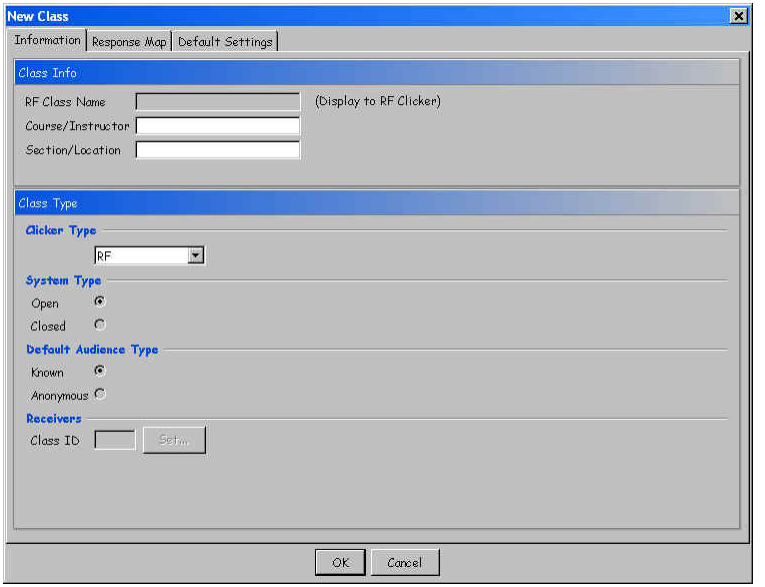
When PRS detects an RF Receiver connected to the computer, it goes into *RF Mode*. Upon startup of a new installation of PRS, you will be reminded that you have not defined any RF-Type Classes and, as a result, have no Classes to *start*. The remedy is to either set an existing Class to the RF Type, or define a **New Class**. What this suggests from the beginning is that in the RF environment, the Class is central to the process of presenting a PRS Session. You will *start* the Class, students will *join* it and, after the Session is finished, you will *stop* the Class.

You do not have to have an RF Receiver connected to your computer in order to define an RF-Type Class. You can define the Class on one computer and transfer it to the computer connected to the RF Receiver when you are ready to *start* the Class and run a Session. For purposes of this discussion, it will be assumed that the Class is profiled on the computer to which the RF Receiver is connected.

When PRS is started up after at least one RF-Type Class has been profiled, it goes into what can be thought of as *Classroom Mode*. A **Start RF Class** dialog, which lists all defined RF-Type Classes, displays first. When you select the RF Class you want to start and click OK, the RF Receiver begins broadcasting the selected Class. Powered-on RF Clickers will *find* the Class, either through *Autoscan* or *Quick Jump*, and *join* it. Each time a Clicker joins the Class, the **Joined** counter on the Status Bar of the PRS window is incremented. When everyone has joined the Class, you are ready to begin a Session.

A Class Roster does not have to be in place in order to run a Session. Each RF Clicker has been registered to the student's **Student ID**. (The RF Clicker will Autoscan for Classes, but will not allow the student to join a Class until a Student ID has been entered and saved.) The Student ID is transmitted with every Response, providing a way of identifying the student and attributing his Response. When the Class is stopped, a Roster listing the Clicker IDs and Student IDs of all the students who participated in the Session will appear in the Roster List Window of the Classes section. The Roster will be associated with the Class and the name of the Class will be used to name the Roster. You can double-click on the **Last Name** and **First Name** fields to enter student names in those fields. If a Class Roster is already in place, students whose Student ID had not been associated previously with the Class will be added to the Class Roster.

Click on the New Class Function Button to display the following dialog where you can set up your RF Class.



Class Info Section

In the RF environment the **Class Name** is the name that the RF Receiver broadcasts and the name that displays on the RF Clicker's LCD screen when it is scanning for Classes to join. The **Class Name** is derived from the first six characters entered in the **Course/Instructor** field and the first four characters entered in the **Section/Location** field. It cannot be edited.

Class Type Section

When the **Clicker Type** is set to *RF*, three subsections are displayed; **System Type**, **Default Audience Type**, and **Receivers**.

System Type

System Type describes your preference for the kind of environment in which your Class will be run. You have the choice of an *Open Class System*, or a *Closed Class System*.

- An Open Class System is one in which the RF Clickers are *Student-owned*. These Clickers belong to the students and are used by them to join any Open RF Class in any classroom where PRS is running.
- A Closed Class System is one in which the RF Clickers are *Class-owned*. These Clickers stay in the classroom and are assigned to the students for use only when they are in that classroom. When this System Type is selected, the **Set Class ID** button is activated in the Receivers section on this dialog. A **Class ID** is assigned to the RF Receiver. The classroom RF Clickers are configured as *Closed* and linked to the assigned Class ID. (*Configure Clickers* is an **RF Menu** option and is described in *Chapter One, PRS Menus*.)

Default Audience Type

The *Audience Type* setting determines whether a student's identification will be recorded and saved with his Responses. This is a default setting that can be changed when the RF Class is started.

Known The Student ID that identifies each student is recorded with the student's transmitted Responses. This Audience Type setting is necessary when you expect to grade, or *Mark,* Sessions for this Class.

Anonymous The Anonymous Audience Type is used when identification of the students is not required and their Responses are not recorded and graded. This setting is typically used when the Class is being polled or surveyed, or during review Sessions.

Receivers

Class ID This is the ID that the RF Clickers in the Closed Class will be linked to, and which will uniquely identify the RF Receiver with the Closed Class being profiled here. The Class ID must be four characters long—choose from 0 through 9 and A through F to represent the Hex number that will identify the Closed Class. When you click on the **Set Class ID** button, a dialog will display with a note reminding you that the Class ID must be unique and should not be used by any other PRS users within 500 feet of your location. If you were to share a Class ID with another classroom within that radius, the Clickers in that other classroom could join your Closed Class.

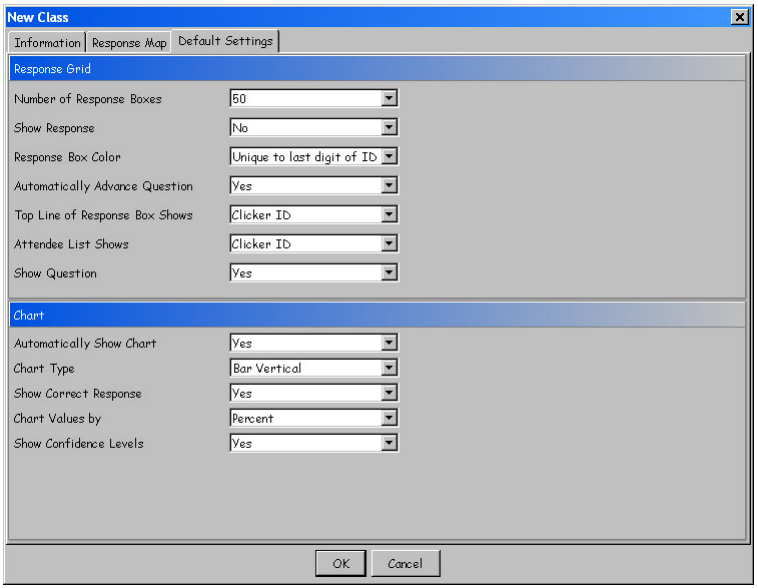
In order to link the RF Clickers with this Closed Class, you must *Configure the Clickers*. This option is selected from the **RF Menu** (*Chapter One, PRS Menus*) and completes the process of associating RF Clickers with the RF Receiver in a Closed environment.

Response Map Tab

A limitation of the IR environment that does not exist in the RF environment is that there is no way to return receipt confirmation messages to the IR Clickers. In that environment, user identification is displayed in a *Response Box* to confirm that a Response from that user was received during a Session. The Response Boxes are arranged in rows and columns on the screen, making up the *Response Grid*. The *Response Map* acts as a virtual seating chart, providing a fixed location in the Response Grid for each student's Response Box, enabling him to easily locate his receipt confirmation. The Response Grid and Response Map are not necessary in the RF environment as messages confirming Response receipt are returned directly to the individual RF Clickers. You can ignore the Response Map Tab when you are defining a Class for RF.

Default Settings Tab

Default settings for the *Response Grid Window* and the *Results Chart Window* are established on this tab. These windows are displayed during a Session.



As indicated above, the Response Grid is not used for an RF Class, so you can ignore these settings. However, after each Question is presented during a Session, you will most likely want to display the Results Chart to show the Response distribution.

You can establish, as part of the Class definition, the default settings for how you want the Results Chart window to display for this Class. The following table describes the options for each of the Chart window settings.

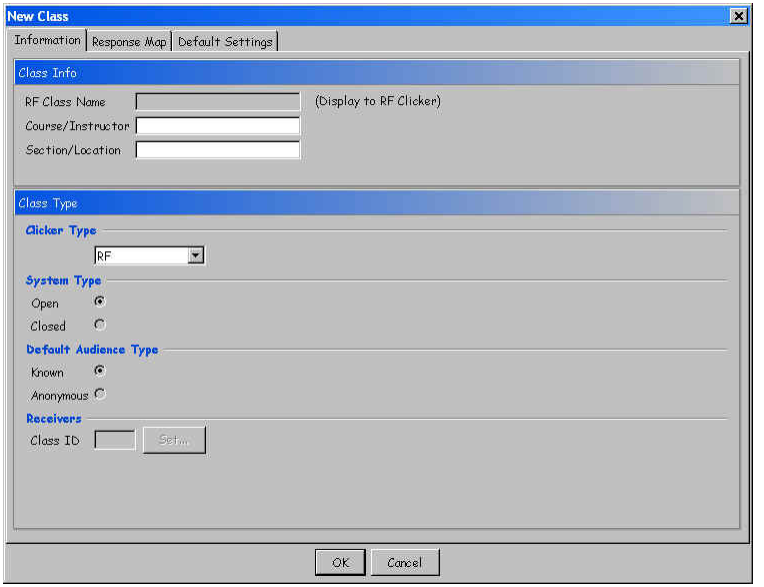
Option	Settings	Description
Automatically Show Chart	Yes/No	Do you want a chart of the Response distribution results to display automatically after each Question during a Session? If you choose *No*, you can click on the **Show Chart** Function Button on the Session dialog Toolbar when you are ready to display the Results Chart.
Chart Type	Bar Vertical Bar Horizontal Pie	Do you want the bar chart to display along the horizontal or vertical axis, or would you prefer a pie chart of the results?
Show Correct Response	Yes/No	When this option is set to *Yes*, the number of the correct Response, percentage of Correct and Incorrect Responses and number of Out of Range Responses is displayed above the chart, the correct answer is displayed as bright blue in the chart legend, and the color of the correct Response's chart bar or pie section is combined with bright blue.
Chart Values by	Percent Number	*Percent:* The results are charted based on the percentage of Responses for each *Response Choice*. *Number:* The results are charted based on the number of Responses for each Response Choice.
Show Confidence Levels	Yes/No	The Confidence Level of Responses is shown in the color of the bars and pie sections—Red=High Confidence, Green=Medium (default) Confidence, Yellow=Low Confidence. If you choose *No*, the High Confidence and Low Confidence colors will not display in the Results Chart.

That's all there is to profiling a Class for the RF environment. You can skip the next section about the Class in the IR environment and go to the *Class Roster* section at the end of this chapter.

The Class in the IR Environment

The *Class* identifies and names a group of students. The Class definition addresses three different aspects of the PRS Class: 1) Class Name and Type, 2) the Response Map, which assigns each student a fixed position in the Response Grid, and 3) default settings for the Response Grid and Results Chart that will display when this Class participates in a Session. In the IR environment, the Class Roster is an important part of the Class definition. When a Response is sent from an IR Clicker to the IR Receiver, the Clicker ID is attached to the Response. The Class Roster, described at the end of this chapter, links the Clicker ID to the student's name and Student ID, ensuring that the transmitted Response will be credited to that student.

Click on the New Class Function Button to display the following dialog where you can set up your IR Class.



Class Info Section

The **Class Name** is derived from the first six characters entered in the **Course/Instructor** field and the first four characters entered in the **Section/Location** field. It cannot be edited.

Class Type Section

1 Select the *IR* **Clicker Type** from the drop-down list.

The rest of the options in this section will disappear when the IR Clicker Type is selected, as they are relevant only in an RF environment.

2 Click on the **OK** button to save the new Class definition.

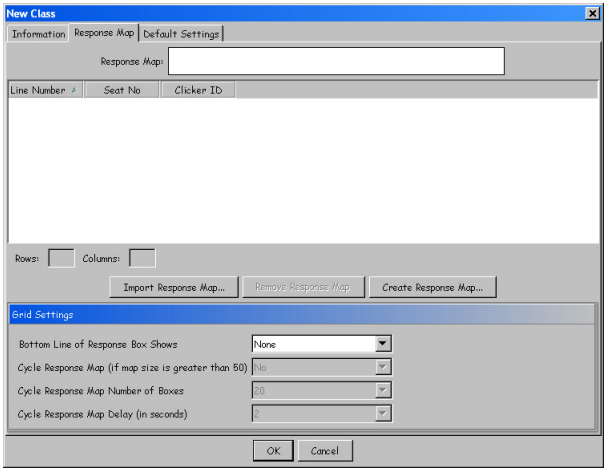
Before you can set up a Response Map, you must have a Class Roster linked to this new Class definition. Go to the Class Roster section at the end of this chapter. Return here when you are ready to continue with the Class definition.

Response Map Tab

The *Class Response Map* provides a way of mapping each student listed in the Class Roster to a permanent location in a *Response Grid*. It is a virtual seating chart. The Response Grid is displayed in the *Response Area* below the Question and Response Choices. In a PRS PowerPoint Lesson Session, the Response Grid can be sized and moved to any location over the Question Slide.

When a Response Map is not defined, Responses are posted to the Response Grid in the order received. An individual's Response will rarely show up in the same place in the Response Grid from one Question to the next. Large groups of students will find it difficult to track and verify their Response transmissions if a Response Map is not in place. When a student has been assigned a permanent position in the Response Grid by means of a Response Map, he has only one place to look to verify that his Response has been transmitted, received and recorded.

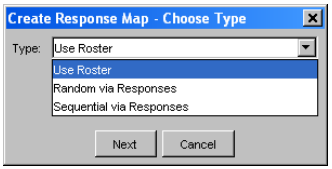
A Response Map can be imported or created. Created Response Maps can be derived either by using the Class Roster to populate the Map, or by having students *register* for the Response Map by pressing a key on their IR Clickers when requested to do so. A Response Map can be updated when respondents not currently included in the Response Map attend a Session. Their responses will show up at the end of the Response Grid, assuming there are additional, empty Response Boxes in the grid. You will be prompted to save the Response Map with the new registrations.



If the size of your Class is likely to fluctuate from one Session to the next, add more Rows and/or Columns to the Response Map than indicated by the size of the Class Roster. Additional students can then be easily accommodated when they show up for a Session. If you haven't set up enough Response Boxes in the Response Grid, and the Response Map hasn't been set to *cycle* in the Grid Settings section, when the Response Grid is full, additional Responses will be ignored.

Create Response Map Function

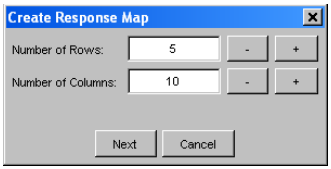
Click on the **Create Response Map** button below the Response Map List Window to display the **Create Response Map Choose Type** dialog.



You have three options: *Use Roster*, *Random via Responses*, or *Sequential via Responses*. The *Use Roster* option allows you to create a Response Map directly from the Roster associated with this Class definition. The order of assignment in the Response Map is based on the order in which the students are listed in the Roster. When you select this option and click on the **Next** button, the Response Map List Window is populated with information extracted from the Roster, the **Rows** and **Columns** fields are automatically calculated based on the size of the Roster, and the **ResponseMap** directory displays. Name the new Response Map and save it. The name and path to the newly created Response Map is displayed in the **Response Map** field above the Response Map List Window. Add more Rows and Columns if you either expect more students, or plan to run test Sessions and use *Key Input* (*Chapter One, PRS Menus, Connection Menu*) to simulate Response transmissions.

Sequential and Random Response Maps

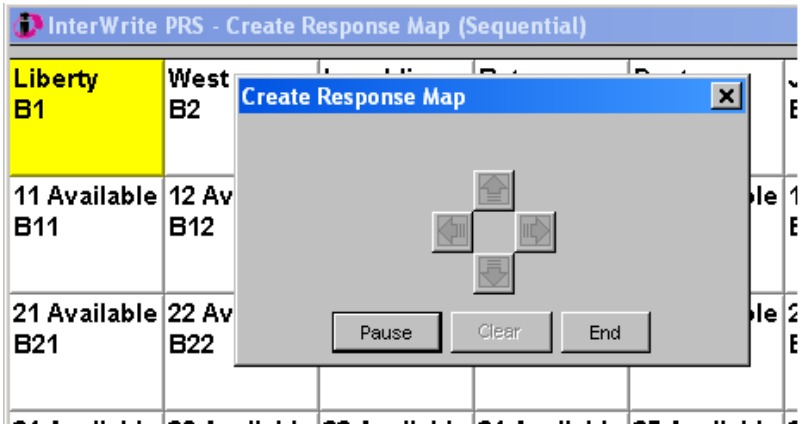
Both the *Sequential via Responses* option and the *Random via Responses* option require the *registration* of the IR Clickers. Sequential registration allows you to register students in the Response Map in a specific order, while Random registration assigns the next position in the Response Map to the next signal received. The end result of the three types of Response Map creation is the same; each student occupies a specific, assigned position on the Response Map.



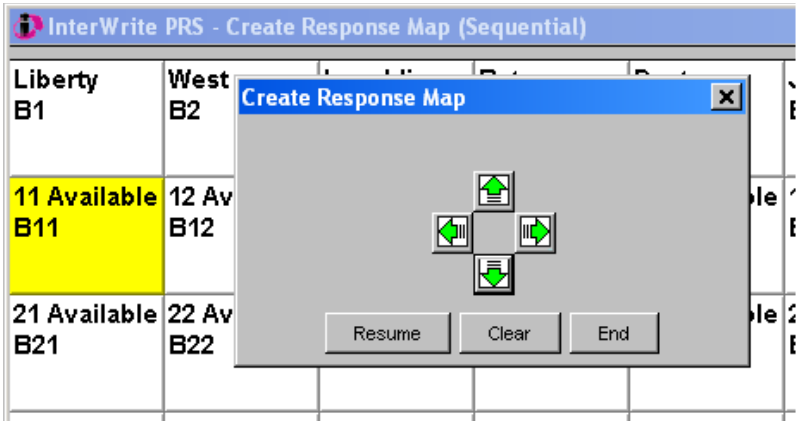
Select either the Sequential or Random response option and click on the **Next** button. The **Response Map Row/Column** prompt displays. Use this option to describe how you want the individual Response Boxes arranged in the grid. Set the number of Rows and Columns you want in the Response Map. If necessary, add additional Rows or Columns to the Class definition to provide room for late registrants, or for Key Input Response simulations (*Chapter One*). Click on the **Next** button.

The following screen shots show a portion of each screen that displays for a **Sequential Response Map**.

The yellow Assignment Block moves from one Response Box to the next in order across the Response Map. When a signal is sent from an IR Clicker, its Clicker ID is registered to the Response Box with the Assignment Block in it. If a Clicker ID is not assigned to the Response Box you want it to be in, click on the **Pause** button.



Use the green arrow buttons to reposition the yellow Assignment Block. Click on the **Clear** button to remove the Clicker ID currently in the Response Box with the Assignment Block. Click on the **Resume** button to activate the Assignment Block and register the correct Clicker ID to that Response Box.



Click on the **End** button when all Response Box assignments have been made. You will be prompted to name and save the Response Map in the **ResponseMap** directory.

Random Response Maps provide assigned locations, but they are in no particular order of assignment. The Response Map grid displays, but there is no yellow Assignment Block. Simply have each student press a button on his or her IR Clicker, one after the other. The student's Clicker ID will display in the Response Box to which the student is now assigned. When the Response Map Random Registration process is finished, you will be prompted to name and save the Response Map in the **ResponseMap** directory.

Import Response Map Function

Click on the **Import Response Map** button to import an existing Response Map. The **ResponseMap** directory, where the Response Maps are stored by default, displays. Select the Response Map you want to import, or browse to another location where you have stored Response Maps and import one from there.

Remove Response Map Function

A prompt displays when you click on the **Remove Response Map** button to remind you that the Response Map you are *removing* is just disassociated from this Class definition. The Response Map file is not deleted and remains available to be used with this or any other Class definition.

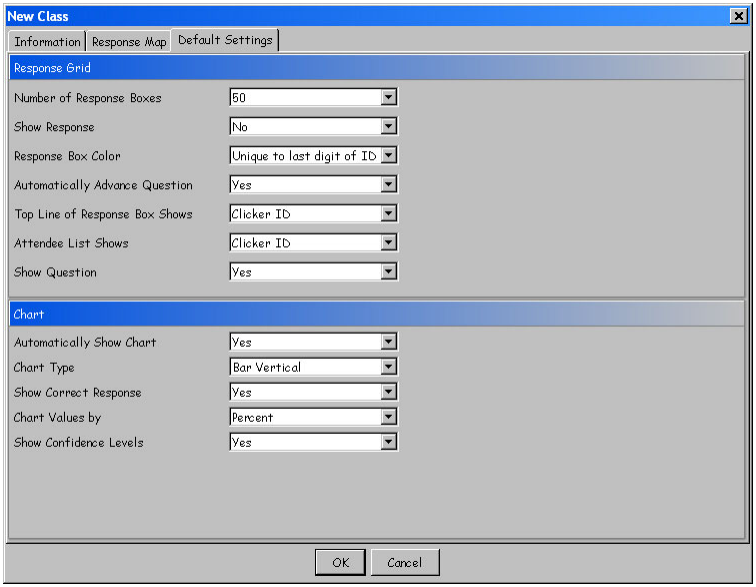
Grid Settings Section

The options set in the **Grid Settings** section below the Response Map Function Buttons pertain to the Response Map defined here. Each setting is described in the table below.

Option	Settings	Description
Bottom Line of Response Box Shows	None Clicker ID Last 4 digits Clicker ID Last 2 digits Clicker ID	If this Class definition has an associated Response Map, you can choose what, if anything, will display on the bottom line of each Response Box in the Response Grid.
Cycle Response Map (if map size is greater than 50)	Yes/No	If you have a large number of students in the audience, you can set the Response Map to *Cycle Mode*. When set to *Yes*, each block of Response Boxes (defined next) will display for the amount of time (Delay) set below before cycling through to the next block in sequence. Cycling, when set, continues throughout the Session. You should always cycle the Response Map when the defined number of Response Boxes is very large. The Response Boxes in the Response Area could be so small, they would be difficult to see and read. Students would not be able to verify receipt of their Response under such extreme circumstances.
Cycle Response Map Number of Boxes	20 – 300	Set the number of Response Boxes that will display during each Response Map Cycle.
Cycle Response Map Delay (in seconds)	1 – 9	This sets the amount of time, in seconds, the current block of Response Boxes (set above) will display before cycling to the next block.

Default Settings Tab

Default settings for the *Response Grid Window* and the *Results Chart Window* are established on this tab. These windows are displayed during a Session. Some of the settings established here can be changed on the New Session dialog before the Session is begun.



Response Grid Section

The following table identifies each of the options in the **Response Grid** section and its possible settings for the **Response Area** window.

Option	Settings	Description
Number of Response Boxes	20 – 2000	The setting you choose here is based on the number of students in the Class. It will be grayed out when a Response Map has been set up for the Class. The number of Response Boxes is determined by the size of the Class and is divided into a display of the Rows and Columns that will fit in the Response Area. If you want all Responses to be displayed at the same time, set the number of Response Boxes equal to or higher than the number of students participating in the Session. Each Response will be recorded and displayed in a Response Box. If the number of Response Boxes is smaller than the number of students, the last Responses received will display at the beginning of the Response Grid

Option	Settings	Description
		and overwrite the initial Response in that Response Box. All overwritten Responses will have already been recorded, so no Response data are lost when a smaller Response Grid is defined. This is the opposite of what happens when a Response Map is defined. In that case, if the Response Grid defined by the Response Map is smaller than the audience, only the Responses that are displayed in a Response Box are recorded. All others are lost.
Display Response in Box	Yes/No	Do you want to display each student's Response to each Question during a Response Session? Your setting here will depend in part on whether or not you plan to identify students during the Response Session – *Known* or *Anonymous* (Audience option, New Session) – and whether or not you want each student's Response to be published, especially if his name is displayed. If this is a survey, you may want to show Responses *and* names. If it's a test, you probably won't want to show Responses.
Response Box Color	Unique to last digit of ID Clear	This option is grayed out when a Response Map is set up as part of the Class definition. The Response Box colors are already set to indicate the number of tries by each respondent: *Blue* – has not yet responded, *Yellow* – out-of-range response, try again, *Rose* – one in-range Response transmission, *Teal* – second in-range Response transmission, *Red* – Last Chance Response, further attempts to respond will be ignored. *Unique to last digit of ID:* Each digit, 0 through 9, is assigned a color, *e.g.*, 0=orange, 1=pink, 2=blue, *etc.* When responding to a Question, each IR Clicker's Response will display in the color assigned to the last digit of its ID. This makes it easier for a respondent to find his Response in the Response Grid, especially if there is no Response Map in the Class definition. *Clear:* All students display the same Response colors: *Green* = an in-range Response transmission, *Yellow* = an out-of-range Response transmission, *Red* = the Last Chance in-range Response, further attempts to respond will be ignored.

Option	Settings	Description
Automatically Advance Question	Yes/No	When this option is set to *Yes*, after the *Timer* has expired and the **Results Chart** has been closed, the next Question will automatically display. When set to *No*, you must manually advance to the next Question in the Session.
Top Line of Response Box Displays	Clicker ID Last 4 digits Clicker ID Last 2 digits Clicker ID Last Name First Name Nickname First Name Last Initial Last Name First Initial Student ID	When the *Response Grid* is chosen as the **Display Mode** for the Session, the selection from this list determines what type of student identification will display on the top line of the Response Box. Be mindful of privacy issues if you choose to display the Student ID.
Attendee List Shows	Clicker ID Last 4 digits Clicker ID Last 2 digits Clicker ID Last Name First Name Nickname First Name Last Initial Last Name First Initial Student ID	Choose from this list which field from each student profile you want to display to identify the student when *Attendee List* is chosen as the **Display Mode** for the Session.
Display Question	Yes/No	If the Questions for a Session are going to be presented orally, written on the board, or displayed on an overhead projector, for example, set this option to *No*.

Chart Section

Responses are graphed to provide immediate, visual feedback about the Response distribution for each Question during a Session, making the **Results Chart** an excellent tool for on-the-spot assessment. After a Question is run during a Session, the Results Chart is displayed either automatically, or manually by clicking on the **Show Chart** button on the Session dialog Toolbar. These default settings can be changed from one Session to the next.

The following table describes the **Results Chart** settings options.

Option	Settings	Description
Automatically Show Chart	Yes/No	Do you want a chart of the Response distribution results to display automatically after each Question during a Session? If you choose *No*, you can click on the **Show Chart** Function Button on the Session dialog Toolbar when you are ready to display the Results Chart.
Chart Type	Bar Vertical Bar Horizontal Pie	Do you want the bar chart to display along the horizontal or vertical axis, or would you prefer a pie chart of the results?
Show Correct Response	Yes/No	When this option is set to *Yes*, the number of the correct Response, percentage of Correct and Incorrect Responses and number of Out of Range Responses is displayed above the chart, the correct answer is displayed as bright blue in the chart legend, and the color of the correct Response's chart bar or pie section is combined with bright blue.
Chart Values by	Percent Number	*Percent:* The results are charted based on the percentage of Responses for each *Response Choice*. *Number:* The results are charted based on the number of Responses for each Response Choice.
Show Confidence Levels	Yes/No	The Confidence Level of Responses is shown in the color of the bars and pie sections—Red=High Confidence, Green=Medium (default) Confidence, Yellow=Low Confidence. If you choose *No*, the High Confidence and Low Confidence colors will not display in the Results Chart.

Select a Class definition in the Classes List Window. Click on the **Edit Class** Function Button. The Class definition window displays. Make your changes to any of the settings in the tabbed sections. Note that everything about the Class definition can be edited, except the **Class Name**.

Select a Class definition in the Classes List Window. Click on the **Delete Class** Function Button. You will be prompted to verify you want to delete the Class. A Class cannot be deleted if it's the only Class in the List Window.

Select a Class definition in the Classes List Window. Click on the **Create Report** Function Button. The Report, listing the complete Class Roster, will display in a Print Preview window. The Print Preview window features a number of *Export* options on the **File** Menu, navigation tools on the **Navigation** Menu and Toolbar, and zoom tools on the **Zoom** Menu and Toolbar.

The Class Roster

The Roster identifies the people in the class, meeting, or polling group. The purpose of the Roster in the IR environment is to link a student's name and Student ID to his or her Clicker ID, ensuring the student's Responses are attributed to him or her. The IR Clicker ID is sent with each Response transmission during a Session. Without a Class Roster, there is no way to match Responses to students and subsequently to *mark* the results of a Session.

In the RF environment, a Class Roster does not have to be in place in order to run a Session for the Class. The Student ID, saved in the student-owned RF Clicker's memory, or temporarily stored in the *Loaner RF Clicker's* memory before the student joins the Class, is transmitted with each Response, ensuring attribution and identification. So a Class Roster based on Student IDs can actually be generated during a Class Session. Student names can be added to the Roster after the fact.

We recommend keeping a few *Loaner Clickers* on hand in case a Clicker malfunctions or a student has forgotten to bring his. Each *IR Loaner Clicker* should be profiled in the Class Roster. When a student uses a *Loaner Transmitter* during a Session, edit the Class Roster before starting the Session. Insert the student's *Student ID* into the *Loaner's* profile. This will ensure that the student's Responses are correctly recorded and credited to him. After the Session, remove the student's Student ID from the Loaner profile.

An RF Clicker is *configured* as a Loaner. Select the *Configure Clickers* option from the RF Menu (see *Chapter One, PRS Menus* for details). The student using the RF Loaner Clicker will not be able to join a Class until he has entered his Student ID.

A Class Roster can be created by adding names here in the PRS application, or a Roster can be imported. Existing Class Rosters can be *imported* into, as well as disassociated, or *removed*, from the Class. When a Roster is established as part of a Class definition, it becomes *associated* with that Class. When a Roster is removed, it is *disassociated* from the Class definition. However, the Roster file itself is not deleted and remains available to be associated with other Class definitions.

The **Add Name to Roster** Function Button is used to build the Roster locally in the PRS application, and/or to add names to an existing, associated Roster. A Name can be *deleted* from the Roster by selecting the name in the Roster List Window and clicking on the **Delete Name From Roster** Function Button.

Creating and Maintaining a Class Roster

As described earlier, Class Rosters can be developed locally as part of the Class definition, or they can be developed outside PRS and imported into the Class definition. A Roster associated with a Class definition can be maintained using the Add Name and Delete Name Function Buttons. Rosters developed using third part CMS applications are usually maintained in the application and reimported into the Class definition.

A somewhat unique situation exists when a Class Roster is developed using the Web-based PRS Registration Application described in *Chapter Seven.* The Web-based PRS Registration Application can be set up so that students required to buy a PRS Transmitter for one or more classes can register online for those classes. The resulting Roster, in addition to being managed online in the Admin portion of the PRS Registration application, can be downloaded to the **PRS/Roster** directory for import into a Class definition. Conversely, a Roster developed locally in PRS for a Class definition using the Add Names function can be imported into the PRS Web Registration Application. The registration files created by PRS and the PRS Web Registration Application are stored separately. Online registrations are maintained in a database on the PRS Registration Application Web site. Rosters created in PRS using the Add Names function and downloaded Rosters are stored and maintained in the **PRS/Roster** directory on the computer. If you want to keep individual Rosters synchronized, you should make all changes at one location and download or import to the other location.

Roster Display Mode

During a Session, the Class Roster can be displayed in one of two ways in the *Response Area* below each Question and its Response Choices. The Roster can be displayed in a *Response Grid*, or as an *Attendee List*.

A **Response Grid** is made up of individual *Response Boxes* that are arranged in a grid of rows and columns. When a student transmits a Response to a Question, confirmation of a received signal in the form of the student's Transmitter ID number or his name (this identification selection is made in the **Response Window Defaults** dialog of the New Class definition) is displayed in a Response Box in the Response Grid. When a *Response Map* (the next tab) has been set up as part of the New Class definition, each student will have an assigned Response Box—a permanent location—in the Response Grid, where that confirmation of transmission and receipt of his or her Responses will always appear.

The **Attendee List** (the list of everyone from the Class Roster who is in attendance during the Session) is also displayed in the *Response Area* below each Question and its Response Choices. As each student transmits his

Response to a Question, his name is removed from the list to verify transmission receipt. When the Question's Countdown Timer has expired, the remaining names in the Attendee List are of those students who did not respond to the Question.

Both Display Modes are useful in helping the instructor monitor Class participation during a Session. An option to toggle between the two Roster Display Modes is available from the **Preferences** menu on the Session dialog Toolbar, and can be used at any time during the Session to view either the Response Grid or the Attendee List.

Roster Function Buttons

The Function Buttons above the Roster List Window in the ***Classes Section*** represent the options available for creating and maintaining Class Rosters.

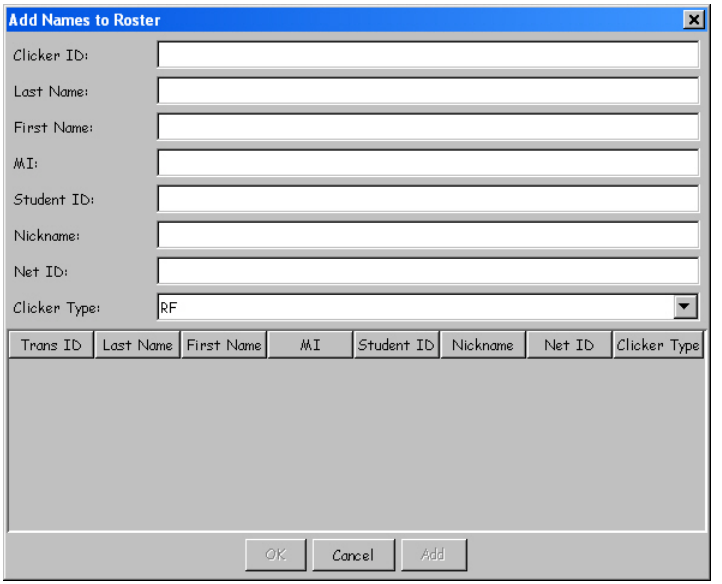
Imported Rosters can come from a variety of sources, including third party Course Management Systems and other Class definitions. Click on the **Import Roster** Function Button when you want to import an existing Roster to associate with the selected Class.

By default, the Import Roster Function Button displays the **PRS/Roster** directory. You can browse to another location to find the Roster you want to import for this Class definition. Rosters associated with PRS Classes must be in a *.csv* file format. Imported Rosters can come from a variety of sources. They can be created in PRS for another Class, created as a *.csv* file in Excel, downloaded from the PRS Web Registration Application (*Chapter Seven*), or created in a Course Management System, such as Blackboard (*Chapter Seven*), WebAssist or Web CT.

If you want to create a Roster from an existing MS Excel spreadsheet, here are a few tricks to make the process go smoothly. PRS can read only those Rosters stored in a *.csv* format. In addition, PRS expects a specific structure in the *.csv* file. It is recommended that you use one of the example files accessed on the GTCO CalComp Web site from the **Help Menu**, or create a *dummy* Roster file. Use the **Add Names** Function Button to add one name, real or phony, and include any other information you want in your Roster file from the choices available in the Add Names dialog. Name and save the file. When you open it in Excel, you will have the proper file structure into which you can copy and paste roster information from your existing spreadsheet. The *.csv* file format does not accept embedded commas in names, which is why student names are broken down into separate *First Name, Middle Initial,* and *Last Name* fields. When you save the file, you will be asked whether you want to save the formatting. Click on the **Yes** button. When you exit Excel, you will be prompted again to save the file. You do not have to save it again, unless you want to save it in the Excel *.xls* format.

When you click on the **Remove Roster** button, a prompt displays to remind you that the Class Roster you are *removing* will no longer be associated with this particular Class, but the actual Roster *.csv* file is not deleted. It will continue to be available to import into this Class or any other Class you define.

Use the **Add Name To Roster** Function Button to create a Class Roster, or to add a name or names to the existing Roster. You can also use this function to edit any of the student profiles in the Roster. Click on the **Add Name To Roster** Function Button to display the dialog shown here.



Enter the student's profile information into the appropriate fields, being sure to include his or her Student ID and, for IR, the IR Clicker ID number. Click on the **Add** button to save the profile to the PRS database in the **PRS/Roster** directory. The **Add Names To Roster** dialog is persistent, allowing you to edit and add as many profiles as needed to the Class Roster. Each profile will be displayed in the List Window as it is added to the Roster in the Class definition. Click on the **OK** button when you have finished editing and adding student profiles. They will display in the Roster List Window in the Classes section.

Select the name you want to delete from the Class Roster and click on the **Delete Name From Roster** Function Button. A prompt will display to verify that you want to delete the selected name from the Class Roster. This option deletes the name from the Roster file identified in the field above the Roster List Window. If this Roster is used with any other Class definitions, the name just deleted will no longer appear in those Class Rosters.

Editing On The Fly

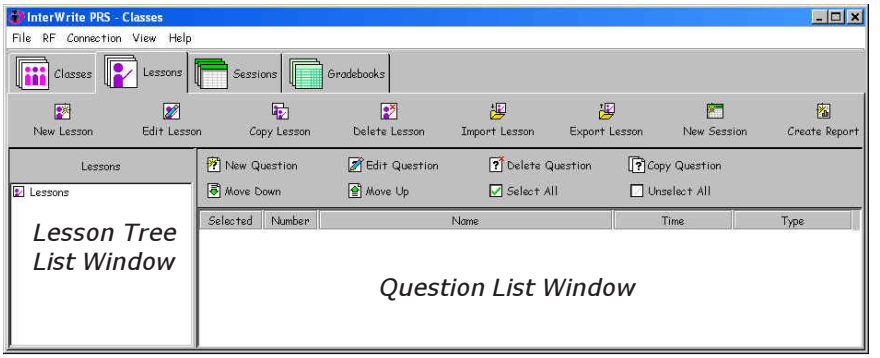
You can directly edit an item in a List Window by double-clicking on it and making the change in the Edit dialog that displays.

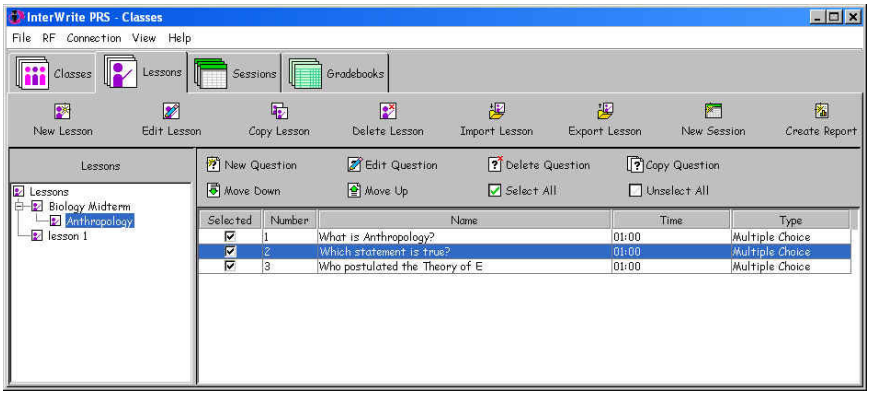
Lessons

PRS Lessons

Lessons is the section where you define and organize your questionnaires, which are called *Lessons*. Each Lesson is made up of a series of *Questions*.

The Lessons main screen, shown below, is divided into two panes. The Lessons are organized in the *Lesson Tree* in the left pane. Questions for the selected Lesson are displayed in the right pane in the *Questions List Window*. Note that each pane has its own set of *Function Buttons*.





The screen shot above shows a typical display of Lessons section, which are branches of the Lesson Tree, and of the Questions in the selected Lesson.

New Lessons and Imported Lessons can be added to the Lesson Tree. Existing Lessons can be edited, copied, deleted and exported. A variety of Reports can be created from the Lessons in the Lesson Tree. A New Session can be started up for the selected Lesson from this section.

The Lesson Tree List Window

The **Lesson Tree** is structured like a file directory, providing a way of arranging and organizing your Lessons. **Branches** are created in the Lesson Tree, and individual Lessons are categorized and stored in the Branches. A Branch is defined by clicking on a position in the Lesson Tree (initially, the *Lessons Branch* is the only Branch), clicking on the **New Lesson** Function Button, and naming the Branch. No other New Lesson settings are necessary in a Branch definition. Typically the Branch is named for the Class, *e.g.*, Biology. Subbranches can specify *types* of Lessons, *i.e.*, Review, Quizzes, Midterms, Finals; or Lesson *categories*, *e.g.*, the Digestive System, the Nervous System, the Circulatory System, *etc*. Lessons are then defined by clicking on a Branch in the Lesson Tree and clicking on the **New Lesson** Function Button. The Lesson Function Buttons are activated when you click on a Branch in the Lesson Tree.

In the context of the PRS system, a *Lesson* is a questionnaire and consists of a series of *Questions*. The Lesson is merely a storage container for the Questions and their default presentation settings. The presentation settings describe how the Questions are to be presented to the audience during a *Session*.

Questions

Questions can be composed and stored in the selected Lesson in PRS by clicking on the **New Question** Function Button. Questions in a variety of different formats can also be imported as a Lesson. As described in *Chapter One*, many textbook publishers provide electronic *Question Sets* with their textbooks. The PRS software has the capability of importing the Question Sets from Wiley (WileyML format), Pearson (proprietary XML format), Learning Pathways (proprietary format), Bedford, Freeman, Worth (QTI XML format), and native PRS XML (Open Specification format); as well as Questions in *.png*, *.gif* and *.jpg* image formats. Once these Question Sets, whatever their source, are imported into a PRS Lesson, they become PRS Questions. You can set Question Defaults for the Questions in the new, imported Lesson and use the PRS Question Editor to edit, manage, and delete them as you would the Questions in any of the homegrown PRS Lessons. You can also add new Questions to an imported Question Set.

And finally, for those teachers and presenters who prepare their presentations using Microsoft's PowerPoint software, the good news is that you can incorporate the Audience Response System capabilities of PRS directly into your PowerPoint Slide Shows. You'll see how easily that's

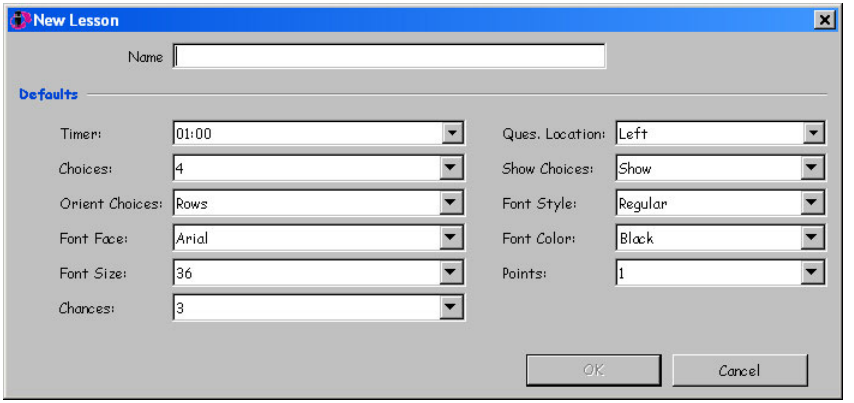
The Question List Window

The Question Function Buttons become active when a Lesson is selected in the Lesson Tree. New Questions can be created for the Lesson, and existing Questions can be edited, copied and deleted. Questions can also be rearranged in the Question List Window by moving them up or down. By default, all the Questions in the Lesson are *Selected*, indicated by the green Check Mark. This means that when the Lesson is presented in a Session, all the Questions in the Lesson will be displayed during the Session. If you wanted to present a subset of a Lesson's Questions during a Session, simply clear each Question's **Selected** checkbox by clicking on it. All *Unselected* Questions will be excluded from the Session. The unselected Questions will remain stored in the Lesson, but they will not appear again in any Session that uses that Lesson until the checkboxes have been re-selected here.

You can order, or *index*, the Questions in the Question List Window by clicking on the Table Header Button of the column of data you have chosen as the *Index Key*. Click on the Table Header Button again to toggle between *ascending* and *descending* order.

The **New Lesson** Function Button is used to create Branches in the Lesson Tree and Lessons within those Lesson Tree Branches. To create a Branch, click on the location in the Lesson Tree where you want the new Branch to appear and click on the New Lesson Function Button. Give the Branch a **Name** and click on the **OK** button.

To create a new Lesson, click on the Branch in the Lesson Tree where you want to store the new Lesson and click on the New Lesson Function Button. In either case, the following screen will display.



Give the Lesson a **Name**. The Name identifies the Lesson in the Lesson Tree. The default settings for the presentation of the Questions in this Lesson during a Session are set up in the **Defaults** section of the **New Lesson** dialog. Although the defaults set here apply to all the Questions in the Lesson, you can change the default settings in the **New Question** dialog for an individual Question. The following table describes each Default option and lists its possible settings.

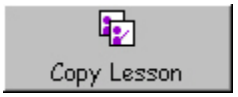
Option	Settings	Description
Timer	00:30 – 90:00 min.s	The *Timer* is set for the amount of time you want to give students to answer each Question. Be aware of the anticipated size of the Class when you set the Timer. When signals are transmitted from Clickers to the Receiver, the Receiver processes the first signal it receives and ignores the others coming in at exactly the same time. Signals from Clickers are not queued by the Receiver. Even so, each transmitted signal is processed very quickly, so signals that are sent within nanoseconds of each other are usually processed without having to be resent, especially

Option	Settings	Description
		with smaller, classroom-size groups. But, with groups of several hundred, serial processing can be an issue. Just be sure to set enough time on the Timer so that every student has a reasonable chance of getting their Responses to each Question processed. If, as you are presenting the Session, you see that the default Timer value is not giving all the students enough time to respond, you can change the setting for the Timer at the beginning of each Question. Or, you can set the default Timer to a higher value. Then, during the Session, click on the **Stop Question** button  at the top of the Question dialog to stop the Timer when you have verified that everyone has responded to the Question.
Choices	2 – 10	Select the number of *Response Choices* you want to have as the default value for the Multiple Choice Questions in the Lesson.
Orient Choices	Rows Columns	*Response Choices* can be displayed either in *rows* or in *columns*. The settings for this option should be considered in conjunction with the **Question Location** setting below. Typically, when you set the Question Location to *Left*, the Response Choices are aligned in *Rows* to the right of the Question. When Question Location is set to *Top*, the Choices orientation probably depends more on the *type* of Response Choices—columns often being more suitable for graphic Responses.
Font Face	All System Fonts	Choose a font from among the fonts installed on the computer. Generally speaking, you should avoid using decorative fonts, which might be difficult to read, or using a number of different fonts on the same Question screen, which might be distracting.
Font Size	10 – 36 points	Choose a font size that will project well.
Chances	1 – 10,000	You can set a limit on the number of tries, or *Chances*, a student can have to answer a Question. During a Session, when a student is transmitting Responses, the *Last Chance Response*, the upper limit of whatever value the Chance option is set to, will display as red in the Response Box, and is the Response that will be recorded. Additional Responses will be ignored. An out-of-range

Option	Settings	Description
		Response will not count against the number of Chances a student has to answer the Question. The instructor should inform the students how many chances they have to select the right Response during the allotted time for each Question, and remind them to watch the Response Grid (IR environment) to make sure all their Responses have been properly transmitted and received.
Question Location	Top Left	Questions can be located at the *Top* of the display screen, or on the *Left*. As indicated above, Question Location is usually set with consideration to the *orientation* of the Response Choices.
Show Choices	Show Hide	You can choose to *Show* or *Hide* the Question choices for each Question.
Font Style	Regular Bold Italic Underline Bold Italic Bold Underline Italic Underline Bold Italic Underline	*Regular* is usually the best choice for the default *Font Style*. As you are composing individual Questions and Choices, you can use the different Font Styles to emphasize specific characters, words, or phrases. When choosing different Font Styles, as well as mixing Font Faces, apply the principle of *less is more*.
Font Color	Black Red Green Blue Yellow Orange Brown Purple Dark Gray Lt Brown Lt Green Slate Cyan Dk Blue Magenta	Set a default color for the Questions and Responses in the Lesson. You can use color changes in addition to, or instead of, Font Style changes to add emphasis and to make your Lesson more visually appealing and engaging.
Points	0 through 1000	You can assign a point value, also called a *weight*, to each Question in the Lesson. Set the default Question Point Value here.

The *Font Settings* you choose here, including color, will be applied to all the Questions in the Lesson. Nevertheless, you can change any of the font settings on a character-by-character basis in the Question dialog as you compose the individual Questions for the Lesson.

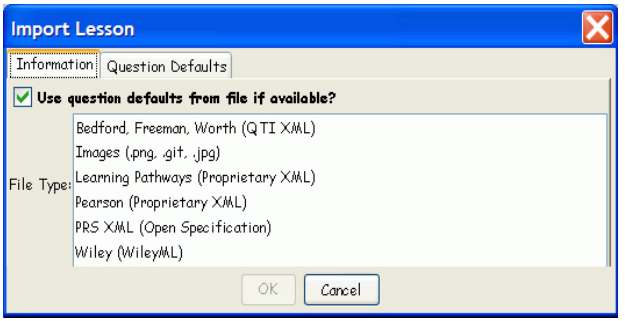
Select the Lesson you want to edit in the Lesson Tree and click on the **Edit Lesson** Function Button to display the Lesson profile dialog. You can change the Lesson **Name** and any of the **Default** settings. Click on the **OK** button to save your changes.



In the Lesson Tree, select the Lesson you want to copy. A prompt with the Lesson Tree will display. Select the Branch to which you want to copy the selected Lesson, and click on the **OK** button. The Lesson will display in the Lesson Tree Branch as *Copy of* and the name of the Lesson you copied.

Select the Lesson you want to delete from the Lesson Tree. Click on the **Delete Lesson** Function Button. You will be prompted to verify you want to delete the Lesson.

As described earlier, Lessons are made up of *Question Sets*. These Question Sets can be imported into a PRS Lesson from a variety of sources, shown in the screen shot below.



Note that you can opt to use the question default settings from the imported file, or you can unselect this option at the top of the **Information** tab and set PRS Question Defaults on the **Question Defaults** tab.

When you choose to import a Question Set into a PRS Lesson, the **PRS** directory will display in the left pane. Browse to the directory where the files of the **File Type** you chose are stored. When you have reached the destination directory, the files in the folders in that directory will display in the pane on the right side of the window in Windows and on the left side of the window on the Mac, with a heading that indicates the type of files expected from that source. When you are assured you have chosen the directory that contains the Question Set you want to import into this Lesson, click on the **Select** (Windows) or **Choose** (Mac) button. Click on the **OK** button to save the imported Question Set as a PRS Lesson. When the imported Lesson is selected in the Lesson Tree, the Questions will display in the Question List Window. You can use the Question Editor to edit, copy, delete, and add new Questions to the imported set. Imported Questions can also be moved, selected and unselected.

Lessons are exported to a **PRS Open Specification XML** format and stored in the **PRS\Exports** directory. You can select a specific Lesson in the Lesson Tree to export, or you can select a Branch in the Lesson Tree to export. When you select a Branch, all the *Sub-Lessons* in the Branch will be exported.

Exporting a single Lesson

1 Select the Lesson you want to export from the Lesson Tree.

2 Click on the **Export Lesson** Function Button.

The name of the Lesson displays at the top of the **Export Lesson** dialog.

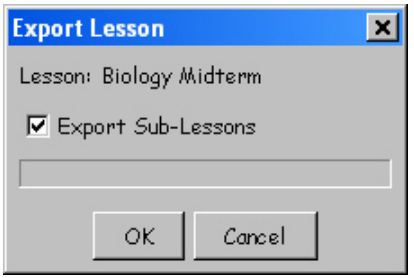
3 Click on the **OK** button.

A **Choose Destination Directory and File Name** dialog displays. PRS has created a folder in the **Exports** directory named for the Lesson.

4 Name the file that will contain the exported Lesson and click on the **Select** button.

A prompt verifying the path to the exported Lesson will display. The XML file containing the exported Lesson and using the filename you provided here will be created in the named Exports subdirectory.

Exporting the Lessons in a Branch of the Lesson Tree



1 Select the Branch of the Lesson Tree that contains the Lessons you want to export.

2 Click on the **Export Lesson** Function Button.

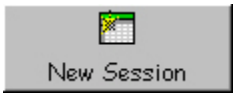
The name of the Branch displays at the top of the **Export Lesson** dialog and the *Export Sub-Lessons* checkbox is selected.

3 Click on the **OK** button.

The **Choose Destination Directory and File Name** dialog displays. PRS has created a folder in the **Exports** directory named for the Branch.

4 Name the XML file that will contain all the Lesson files in the selected Branch and click on the **Select** button.

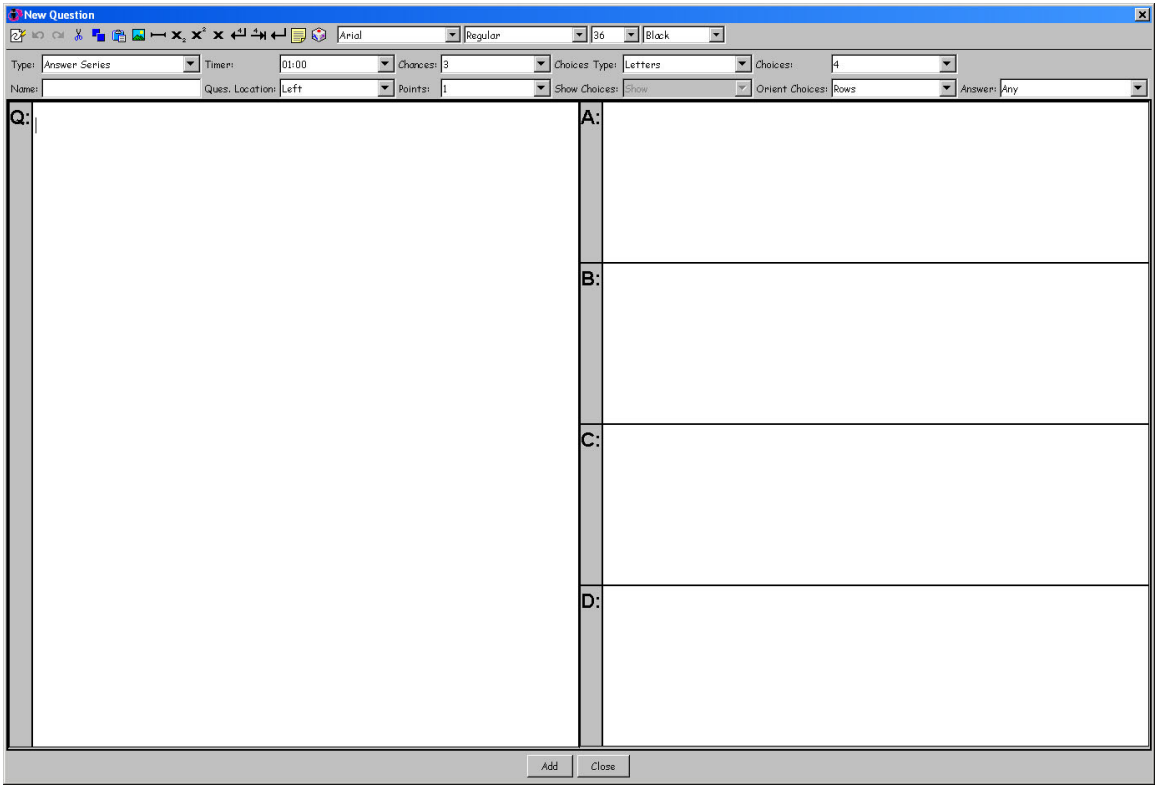
A prompt will display verifying the location of the file containing the exported Sub-Lessons. If this file is moved to another PRS system and is imported, it will recreate the Branch in the Lesson Tree and all the Sub-Lessons in that Branch.



Select the Lesson for which you want to create a Report and click on the **Create Report** Function Button. Choose the type of Report you want to create for this Lesson. The *Text Only* option means that graphics in the Question or in any of the Response Choices will not be included in the Report. This function is often used when an instructor is running a Self Paced Session (*Chapter Five*). The Questions and Response Choices do not display during this type of Session, so this is an easy way to make them available to the students.

You can start a Session directly from the Lesson Module. Select the Lesson you want to use during the Session and click on the **New Session** Function Button. Fill in the remaining Session options in the **New Session** dialog (*Chapter Five*) that displays.

A Lesson is made up of a series of *Questions*. When you have profiled the Lesson, click on the **New Question** Function Button to display the **Question Editor**, shown below. The editing tools you can use when creating a Question are arranged in the Toolbar. The table to the right describes each tool.



The settings options can be found below the Toolbar. Some of these options were set as **Defaults** in the **New Lesson** dialog. You can change the default settings for the Question you are currently profiling. The changes you make to the default Question settings are persistent for subsequent Questions of the same Question Type until you change them again. There are two additional settings in the Question Editor: **Choices Type**, where you can choose between *lettered* or *numbered* Question Choices; and **Answer**, where you can choose between *Any*, or *None*. The *Any* selection is used most frequently for survey Questions where there is not right or wrong answer. *None* is selected for a throwaway Question with no correct answer that is often used to take attendance. The difference between the two is that the Responses to a *None* Question are not included in Session Reports that calculate Response totals. You will note that as you change the **Question Type** (described in the next section), some of the settings options will be grayed out because they are not relevant to the selected Question Type being profiled.

Tool	Tool Name	Function
	Switch to Freehand Mode	Use this tool to toggle between writing or drawing freehand and typing Questions and Responses.
	Undo	Undo, or *remove*, the most recently typed character. Repeat Undo until all characters are removed.
	Redo	Redo to replace most recently removed character. Repeat Redo to replace all removed characters.
	Cut	Cut the selected item.
	Copy	Make a copy of the selected item.
	Paste	Paste the copied or cut item.
	Insert Image	Use this tool to add a graphic to the Question and/or to any of the Responses.
	Insert Horizontal Rule *	Insert a horizontal line at the cursor location.
	Insert Subscript *	Display the text box in which you will type the subscript text. It will be half the font size.
	Insert Superscript *	Display the text box in which you will type the superscript text. It will be half the font size.
	Subscript/Superscript Off *	Turn off the subscript or superscript font option and return to the default font size.
	Indent 4 Spaces with Linebreak *	Issue an HTML formatting command to insert a linebreak and indent four spaces.
	Indent 4 Spaces *	Issue an HTML formatting command to indent four spaces.
	Insert Linebreak *	Issue an HTML formatting command to insert a linebreak.
	Show/Hide Notes	This tool button toggles the **Instructor Notes** on and off. The default is *Hide Notes*. Instructor Notes will not display when the Question is presented during a Session, regardless of whether they are on or off here.
	Run Character Map	Launch the Windows Character Map, select a font, and either drag/drop or copy/paste the character into the text.

* The PRS Question Editor is an HTML (Hypertext Markup Language) editor. It has somewhat different formatting requirements than a standard text editor. The specialized HTML Editing Tools described above provide the formatting commands you need when composing your Questions and Responses.

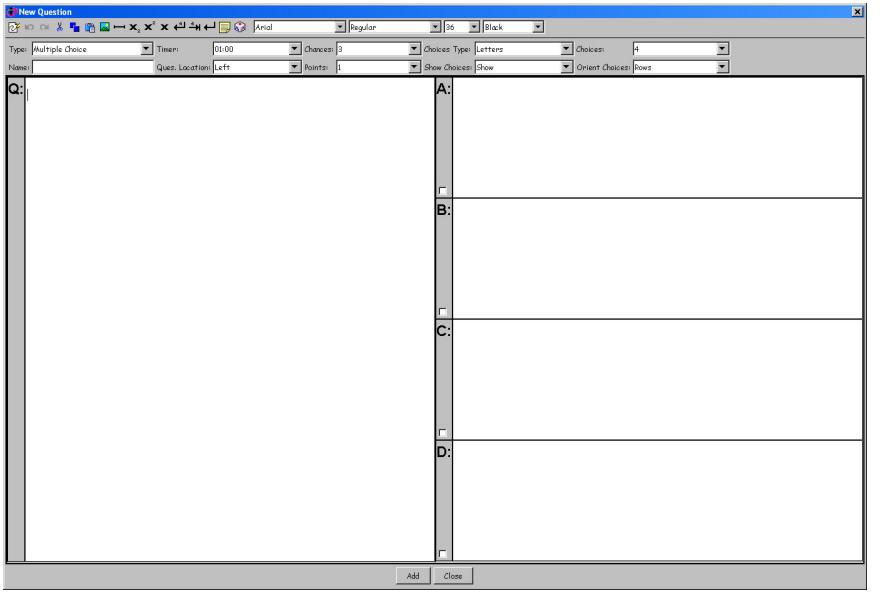
Question Types

You can choose from among five Question Types:

- Multiple Choice
- Numeric
- Answer Series
- True/False
- Short Answer

The Question Editor interfaces changes to accommodate the different Question Types. Following are some notes about what those differences mean when you are profiling the different Question Types.

Multiple Choice Question Type



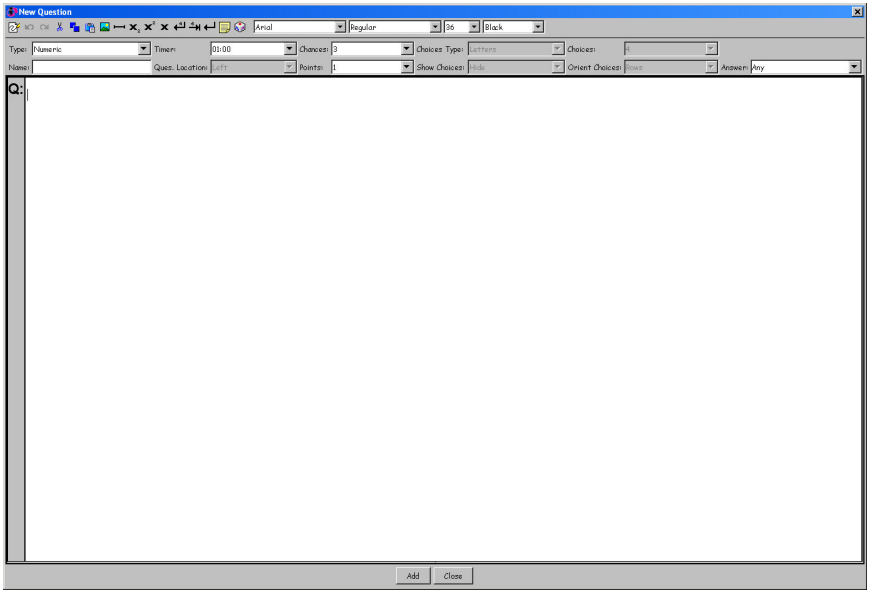
First, review your default settings to make sure they apply to the way you want to profile and present this Question. Then, decide whether you want the Choices to be *lettered* or *numbered*. When you begin entering your question in the window pane labelled **Q**, you will see that what you are entering is reflected in the **Name** field. This *name* will appear in the Question List Window, identifying the Question. You can edit this field, if you prefer a different way of naming the Quesstion.

Typically, Multiple Choice Questions provide a set number of Response **Choices** (two to five) from which one Choice is selected as the correct one. When you are profiling a traditional Multiple Choice Question, you

will click on the checkbox of the correct Response. When you do, the bar along the left side of the correct Question Choice will display as blue.

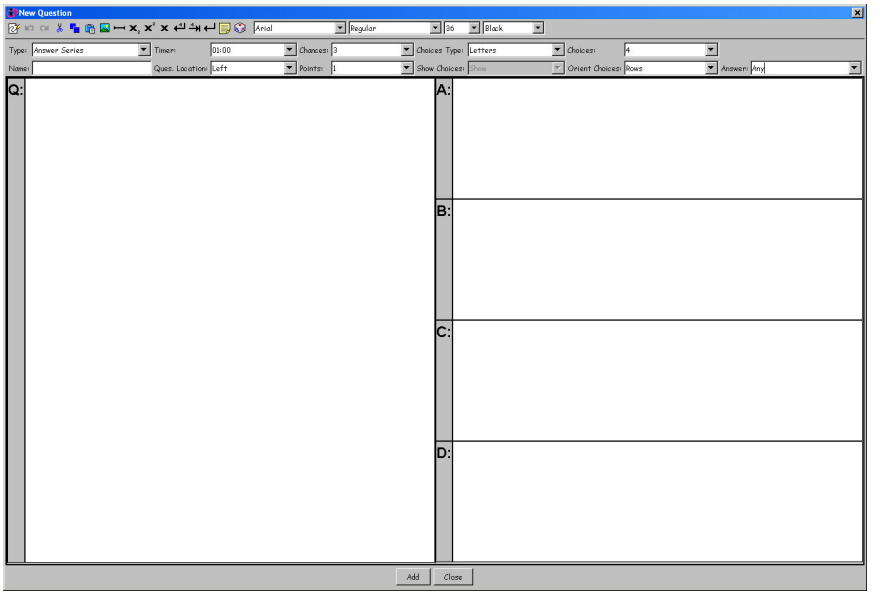
Multiple correct Multiple Choice Questions are also an option. Simply click on the checkboxes of the correct Choices. Each selected Choice will display the blue bar.

Numeric Question Type



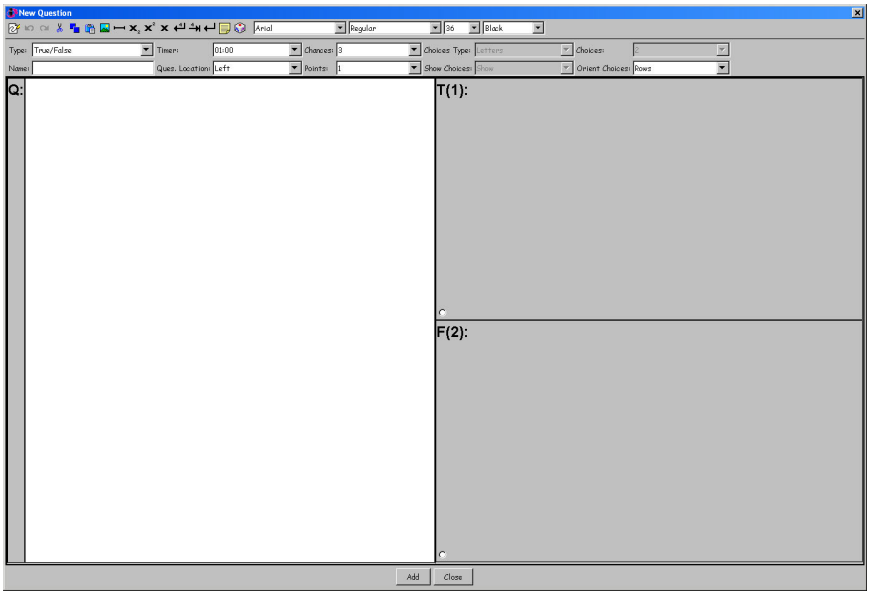
Numeric Questions are fairly straightforward – enter the numeric question in the **Q** window pane and enter the correct Response in the **Answer** field. Numeric Responses can contain up to 11 numeric characters, including the decimal point and minus sign. RF Clickers have both a Decimal Point key and a Minus Sign key. However, IR Clickers do not. In addition, IR Clickers must go through a fairly complicated series of key presses when transmitting numeric Responses. Instructions for transmitting Responses to Numeric, Multiple Correct Multiple Choice, True/False, Answer Series, and Short Answer Question Types when using IR Clickers can be found on the **Help Menu**. You can display the instructions for IR Clicker users, or create a handout for each IR Clicker.

Answer Series Question Type



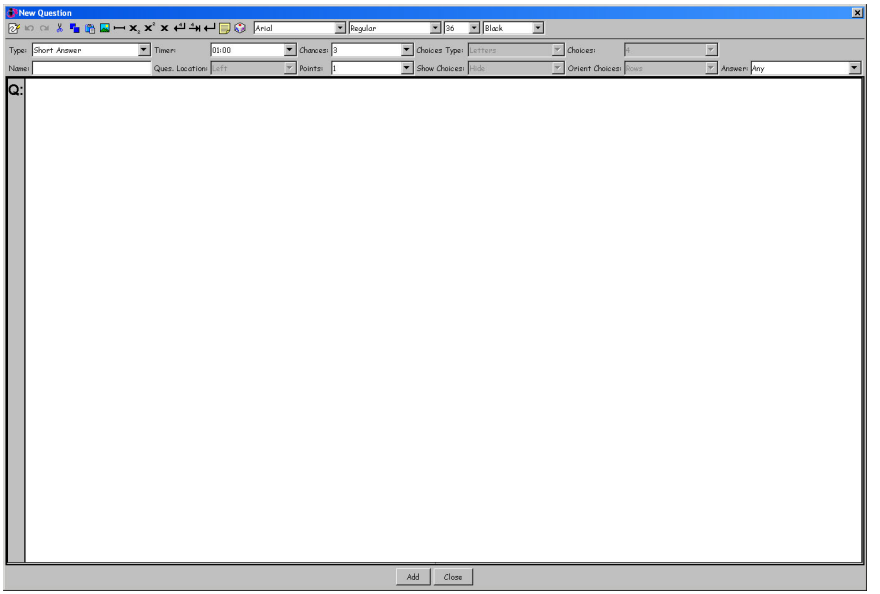
The Answer Series Question expects Responses in which the Answers are arranged in a predetermined order. For example, each Response might be a specific historical event and the Question would instruct the student to put the events in order from earliest to most recent. Students with RF Clickers would enter the letters or numbers in order and send the string in one transmission, while students with IR Clickers will send the ordered Responses as individual key presses, one after the other, waiting between key presses for the Clicker LED to stop flashing.

True/False Question Type



Enter the statement in the **Q** window pane and indicate whether it is true or false by clicking on the radio button in the appropriate Response pane. RF Clickers have a T key and an F key, IR Clickers do not. That's why there is a (**1**) and a (**2**) next to the **T** and **F**, respectively. IR Clickers can respond to True/False Questions by pressing the **1** key for a *True* Response and the **2** key for a *False* Response.

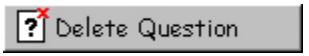
Short Answer Question Type



Short Answers can contain up to 11 alphanumeric characters. You will enter the correct Response in the **Answer** field. Students with RF Clickers will enter all the characters in the Short Answer Response and then press to *send* the answer. Alpha characters *A* through *F* and *T* are entered by pressing the respective keys. For other alpha characters, students should be instructed to press one of the alpha keys to go into *Alpha Mode* and use the and keys to scroll to the letter they want to enter.

Students with IR Clickers must press each character in the *Short Answer* Response and wait between key presses until the LED on the Clicker stops flashing, indicating it is ready to transmit another key press. In addition, Short Answer Responses coming from IR Clickers are limited to the numbers *0* through *9* and the letters *A* through *J*.

In the Lesson Tree, select the Lesson that contains the Question you want to edit. The Lesson's Questions will display in the Question List Window in the right pane. Select the Question you want to edit. Click on the **Edit Question** Function Button to display the Question Editor. You can change any Question setting, add or change *Instructor's Notes*, and use the Question Editor's tools to edit or change the Question and the Responses. Click on the **Previous** and **Next** buttons to move to other Questions in the Question Set you want to edit. Click on the **Update** button at the bottom of the dialog when you have made your edits and are ready to return to the ***Lessons*** main screen.



In the Lesson Tree, select the Lesson that contains the Question(s) you want to delete. The Questions for the selected Lesson will display in the Question List Window. Select the Question you want to delete, or using the *Shift* key, select a block of Questions you want to delete. Click on the **Delete Question** Function Button. You will be prompted to verify you want to delete the Question(s).

Use the **Copy Question** Function Button to copy a Question from one Lesson to another. Select the Question in the List Window. Click on the **Copy Question** Function Button. In the pop-up Lesson Tree dialog, select the Lesson you want to copy the Question to. The copied Question will be appended to the list of Questions in the List Window. Use the two directional **Move** Function Buttons, described below, to position the copied Question where you want it in the Lesson.

Select a Question in the Question List Window and click on the **Move Up** Function Button to move the Question up one position in the list of Questions. If the selected Question is at the top of the Question List, this function will not be available.

Select a Question in the Question List Window and click on the **Move Down** Function Button to move the Question down one position in the list of Questions. If the selected Question is at the bottom of the Question List, this function will not be available.

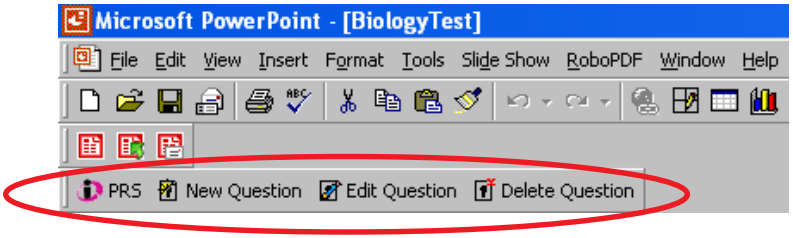
Click on the **Select All** Function Button to select all the Questions in the List Window. Each Question will have a green checkmark in the checkbox to the left of the Question to indicate it is selected. All selected Questions are included when this Lesson is presented during a Session.

Click on the **Unselect All** Function Button to clear the checkboxes next to all the Questions. You can then click on individual checkboxes to select a subset of the Questions for presentation during a Session.

PowerPoint Lessons

A Microsoft PowerPoint Slide Show can be easily turned into a PRS Lesson. When InterWrite PRS is installed on your Windows computer, the PRS PowerPoint Add-in automatically creates a PRS Toolbar in PowerPoint that provides the functionality to turn any PowerPoint slide into a PRS Lesson Question.

On the Mac, the PRS PowerPoint Add-in must be installed manually. The instructions for installing the PRS PowerPoint Add-in on the Mac can be found at the end of this chapter. Once installed, the PRS PowerPoint Add-in works the same on both Windows and the Mac.



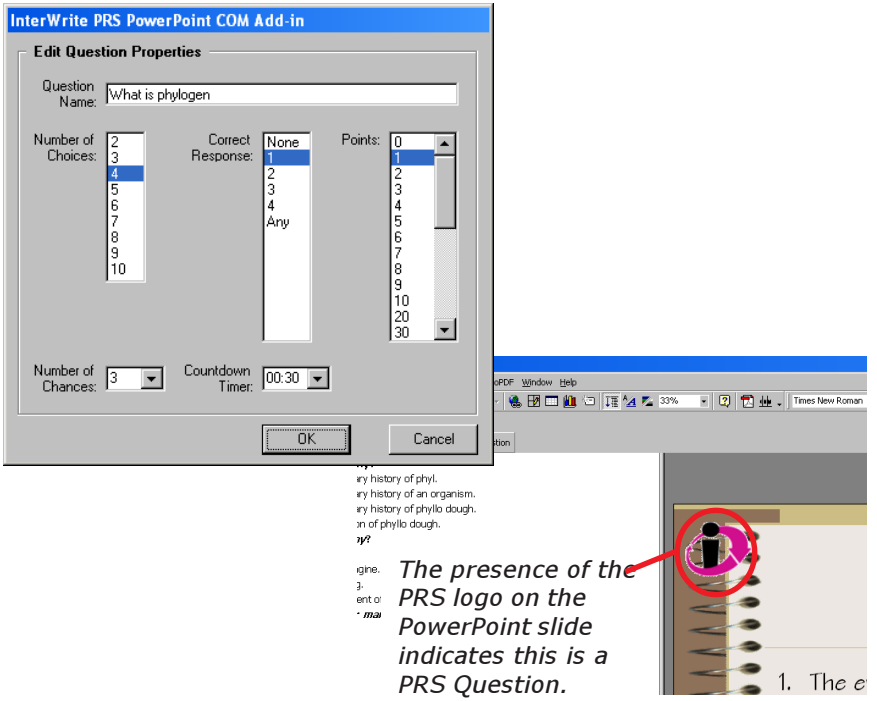
In an IR environment, when a PowerPoint Slide Show with PRS Question Slides is run, PRS views this as a *PRS Session* and a **New Session** dialog displays, allowing you to configure the Session and indicate whether you want to display a *Response Grid* or *Attendee List* in the *Response Area* when a PRS Question Slide is encountered.

In an ***RF*** environment, an RF Class is started and the students join the Class before the PRS PowerPoint Slide Show is started. When the PRS PowerPoint Slide Show is begun, a New Session dialog is displayed. It is not necessary to display either the Response Grid or Attendee List in RF.

At the end of the PRS PowerPoint Session, Responses are recorded in a standard PRS Session file. PowerPoint-based Sessions are displayed in the Sessions List Window as a *PowerPoint* Lesson. You can then *mark* it as you would any other Session.

Crafting a PowerPoint Slide as a PRS Question

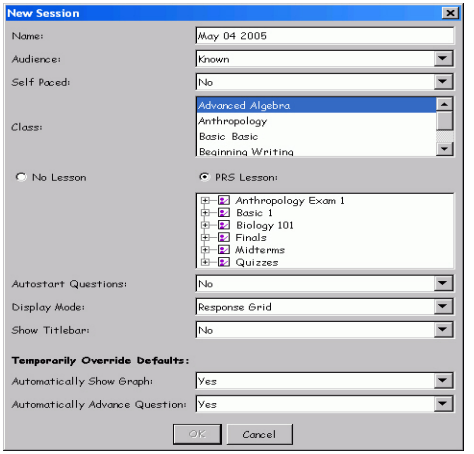
Click on the **New Question** Function Button on the PRS Add-in Toolbar in PowerPoint when you want to turn the currently selected PowerPoint slide into a PRS Question slide. The following **InterWrite PRS Power-Point COM Add-in** dialog displays. You will recognize some of the New Question Settings options. The settings you choose here will be saved with this PowerPoint slide, and the InterWrite PRS logo will display on the slide to identify it as a PRS PowerPoint Question Slide. The logo can be moved to any location on the Question slide.



Note **Animation effects cannot be used on PowerPoint PRS Question Slides.**

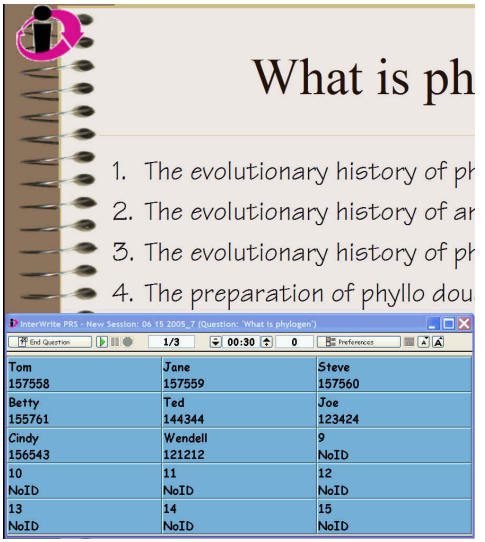
Running a PowerPoint Slide Show with PRS Question Slides

When you run a PowerPoint Slide Show with PRS Question slides, InterWrite PRS is launched, if it isn't already running, and the following PRS **New Session** dialog displays.

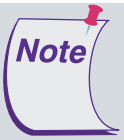


Define the Session Profile here just as you would for any PRS Session (*Chapter Five*). In addition to the absence of the *PRS Lesson* selection option, there are differences in the last two settings on the dialog. You can *Automatically Advance the Slide*, rather than the Question, and you can *Ask Questions Only Once*. During the Slide Show, you may have reason to go back a slide or two. If a PRS Slide is among the slides you go back through, and you don't want to re-ask the Question, leave this setting at the default *Yes*. On the other hand, you may have set up your presentation in such a way that PRS Slides further on in the Slide Show might reveal something that will hint at the correct answer in an earlier slide. You may want to go back and re-ask that Question to see how many students picked up on the correct answer. In that case you would set this option to *No*.

As you go through the Slide Show, when a PRS Question Slide is encountered—identified by the PRS logo—a Response Grid or Attendee List, depending on the **Display Mode** chosen, will display in a *Response Area* across the lower portion of the Slide. You can size and move the Response Area to an optimal placement over the PRS Question Slide. PRS remembers the size and position of the Response Area for each Question Slide in the Slide Show.

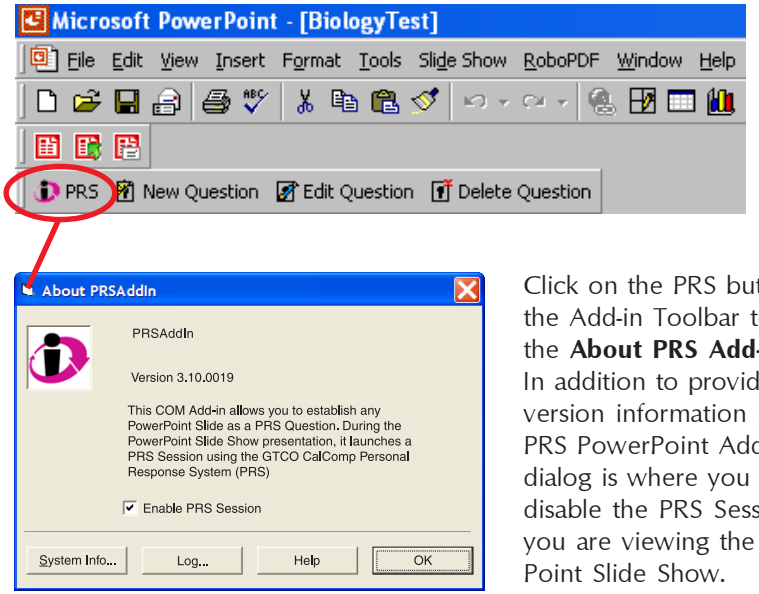


Depending on your Session settings, either the Countdown Timer will *autostart*, or you will have to click on the **Start Question** button to start the Countdown Timer. If you set up the **Show Results Graph** option to automatically display the Results Graph, it will pop up over the Response Area when the Countdown Timer runs down to zero.



While the PRS PowerPoint Session is running, the PowerPoint slide is switched into *Annotation Mode*, so you can write notes on the slide. This also prevents you from accidentally advancing to the next slide while the Session is running.

About PRS Add-in



Click on the PRS button on the Add-in Toolbar to display the **About PRS Add-in** dialog. In addition to providing version information about the PRS PowerPoint Add-in, this dialog is where you can disable the PRS Session while you are viewing the PowerPoint Slide Show.

By default, the *Enable PRS Session* option is checked so that when you run this PRS PowerPoint Slide Show, PRS will automatically launch and the **New Session** dialog will display. If you want to run the PRS PowerPoint Slide Show so you can review the PRS Question Slides without launching PRS, clear the *Enable PRS Session* checkbox.

Installing the PRS PowerPoint Add-in on the Mac

The following steps describe how to install the PRS PowerPoint Add-in on the Mac.

1. Open PowerPoint and select the **PowerPoint** Menu.
2. Select the *Preferences...* menu option.
3. Click on the **View** tab and uncheck the *Project Gallery at startup* option. Click on the **OK** button.
4. Select the **Tools** Menu.
5. Select the *Add-ins...* menu option.
6. Click on the **Add...** button. Navigate to the folder in which PRS is installed. By default, PRS is installed in the **InterWrite PRS** folder.
7. Select the *PRS AddIn.ppa* file and click on the **Open** button.
8. The PRS Add-in file will be listed in the **Add-in List**. Click on the **OK** button.
9. Restart PowerPoint.

By default, the PRS Add-in Toolbar displays along the left side of the PowerPoint window. You can move it by grabbing the spot next to the **Close** button and dragging it to the top of the window where the other Toolbars are located. Click and drag the **Resize** button to change the PRS Toolbar's orientation.

On the Mac, there may be some lag time between when a Question Slide is accessed and when PRS is displayed. Remember, patience is a virtue.

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Appendix

PRS Hardware Specifications

IR RECEIVER SPECIFICATIONS

Dimensions:	2.4 x 4.7 x 1.6 inches (60 x 120 x 41 mm)
Weight:	3.8 ounces (108 grams)
Power:	8-15V DC (via signal cable)
Reception Cone Angle:	Approximately 90 degrees

IR CLICKER TRANSMITTER SPECIFICATIONS

Dimensions:	2.25 x 4.25 x 1 inch (56 x 107 x 25 mm)
Weight (without batteries):	2 ounces (55 grams)
Power:	Two AAA (1.5V) Alkaline Batteries*
Signal:	Infrared
Effective Distance:	21 yards (20 meters) minimum

*Replace the batteries when the LED Light becomes dim.

RF RECEIVER HUB SPECIFICATIONS

Dimensions:	4.25 x 3.25 x .875 inches (108 x 83 x 23 mm)
Weight:	3 ounces (85 grams)
Power:	200 mAmps
Signal:	2.46 GHz ISM Band
Effective Distance:	>50 Meters

RF CLICKER REMOTE SPECIFICATIONS

Dimensions:	6.0 x 2.56 x 0.7 inch (152 x 65 x 18 mm)
Weight (with batteries):	4 ounces (138 grams)
Power:	Three AAA (1.5V) Batteries*
Signal:	2.46 GHz ISM Band
Effective Distance:	>50 Meters

*Replace the batteries when the *Low Battery* message displays on the LCD screen, indicating about 15% Battery Life remaining.

These devices comply with part 15 of the FCC Rules. Operation is subject to the following two conditions:

1 These devices may not cause harmful interference, and

2 These devices must accept any interference received, including interference that may cause undesired operation.

Note: This equipment has been tested and found to comply with the limits of a Class B digital device, pursuant to Part 15 of the FCC rules.

These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee the interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures.

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced Radio/TV technician for help.

This device complies with Part 15 of FCC rules and with RSS-210 of Industry Canada. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) This device must accept any interference received, including interference that may cause undesired operation.

The radiated output power is far below the FCC Radio Frequency exposure limits. Nevertheless, this device should be used in such a manner that the potential for human contact during normal operation is minimized.

Canada

Industry Canada Class B emission compliance statement. This Class B digital apparatus complies with Canadian ICES-003.

Avis de conformité á la réglementation d'Industrie Canada. Cet appareil numérique de classe B est conforme á la norme NMB-003 du Canada.

Declaration of Conformity

PRS IR Receiver Declaration of Conformity

The "CE" mark on this device indicates compliance under the EMC 89//336/EEC Directive.

Declaration of conformity according to ISO/IEC Guide 22 and EN 45014

Manufacturer's Name: GTCO CalComp,Inc.

Manufacturer's Address: 7125 Riverwood Drive
Columbia, MD 21046 U.S.A.

declares, that the product

Product Name: InterWrite PRS IR Receiver

Model Numbers: RX-02

Product Options: All

conforms to the following product specifications:

EMC: EMC Directive 89/336/EEC and amendment 92/31/EEC

Emissions Testing:
EN 55022:1998 Class B
EN 61000-3-2 Harmonics Class A
EN 61000-3-3 Flicker

Immunity Testing:
EN 55024:1998 including:
EN 61000-4-2;ESD
EN 61000-4-3;Radiated Immunity
EN 61000-4-4;EFT/B
EN 61000-4-5;Surges
EN 61000-4-6;Conducted Immunity
EN 61000-4-11;Voltage Dips

Supplementary Information

Supplementary Information

The product herewith complies with the requirements of the Low Voltage Directive 73/23/EEC and the EMC Directive 89/336/EEC.

Scottsdale, Arizona, U.S.A.	4-30-2004	Dana Doubrava
Location	Date	Engineering Mgr

PRS IR Clicker Transmitter Declaration of Conformity

The "CE" mark on this device indicates compliance under the EMC 89//336/ EEC Directive.

Declaration of conformity according to ISO/IEC Guide 22 and EN 45014

Manufacturer's Name: GTCO CalComp,Inc.

Manufacturer's Address: 7125 Riverwood Drive
Columbia, MD 21046 U.S.A.

declares, that the product

Product Name: InterWrite PRS IR Clicker Transmitter

Model Numbers: TX-01A, TX-02A

Product Options: All

conforms to the following product specifications:

EMC: EMC Directive 89/336/EEC and amendment 92/31/EEC

Emissions Testing: EN 55022:1998 Class B

Immunity Testing: EN 55024:1998 including:
EN 61000-4-2;ESD
EN 61000-4-3;Radiated Immunity

Supplementary Information

Supplementary Information

The product herewith complies with the requirements of the Low Voltage Directive 73/23/EEC and the EMC Directive 89/336/EEC.

Scottsdale, Arizona, U.S.A.	4-30-2004	Dana Doubrava
Location	Date	Engineering Mgr

PRS RF Receiver Hub Declaration of Conformity

The "CE" mark on this device indicates compliance under the EMC 89//336/EEC Directive.

Declaration of conformity according to ISO/IEC Guide 22 and EN 45014

Manufacturer's Name: GTCO CalComp,Inc.

Manufacturer's Address: 7125 Riverwood Drive
Columbia,MD 21046 U.S.A.

declares, that the product

Product Name: InterWrite PRS RF Receiver Hub

Model Numbers: H1

Product Options: All

conforms to the following product specifications:

EMC: EMC Directive 89/336/EEC and amendment 92/31/EEC

Emissions Testing: EN 55022:1998 Class B
EN 61000-3-2 Harmonics
EN 61000-3-3 Flicker

Immunity Testing: EN 55024:1998 including:
EN 61000-4-2;ESD
EN 61000-4-3;Radiated Immunity
EN 61000-4-4;EFT/B
EN 61000-4-5;Surges
EN 61000-4-6;Conducted Immunity
EN 61000-4-11;Voltage Dips

Supplementary Information

Supplementary Information

The product herewith complies with the requirements of the Low Voltage Directive 73/23/EEC and the EMC Directive 89/336/EEC.

Scottsdale, Arizona, U.S.A. 1-1-2006 Dana Doubrava

Location Date Engineering Mgr

PRS RF Clicker Remote Declaration of Conformity

The "CE" mark on this device indicates compliance under the EMC 89//336/ EEC Directive.

Declaration of conformity according to ISO/IEC Guide 22 and EN 45014

Manufacturer's Name: GTCO CalComp,Inc.

Manufacturer's Address: 7125 Riverwood Drive
Columbia, MD 21046 U.S.A.

declares, that the product

Product Name: InterWrite PRS RF Clicker Remote

Model Numbers: R1

Product Options: All

conforms to the following product specifications:

EMC: EMC Directive 89/336/EEC and amendment 92/31/EEC

Emissions Testing: EN 55022:1998 Class B

Immunity Testing: EN 55024:1998 including:
EN 61000-4-2;ESD
EN 61000-4-3;Radiated Immunity

Supplementary Information

Supplementary Information

The product herewith complies with the requirements of the Low Voltage Directive 73/23/EEC and the EMC Directive 89/336/EEC.

Scottsdale, Arizona, U.S.A.	1-1-2006	Dana Doubrava
Location	Date	Engineering Mgr

European Contact

European Contact:

GTCO CalComp GmbH
European Headquarters
Kreiller Strasse 24
81673 Muenchen
Germany
Tel: +49 (0) 89 370012-0
Fax: +49 (0) 89 370012-12

European Union Emission Directive

This product is in conformity with the protection requirements of EU Council Directive 89/366/ECC on the approximation of the laws of the Member States relating to electromagnetic compatibility.

This product has been tested and found to comply with the limits for Class B Information Technology Equipment according to CISPR 22/European Standard EN55022. The limits for Class B equipment were derived for typical industrial environments to provide reasonable protection against interference with licensed communication devices.

European Union WEEE Directive

The manufacture of this equipment required the extraction and use of natural resources. It may contain hazardous substances that could impact health and the environment.

- In order to avoid the dissemination of the hazardous substances into the environment and to diminish the pressure on our natural resources, we encourage you to return this product to the appropriate take-back system facility. These facilities reuse or recycle most of the materials in this equipment in a responsible way.
- The crossed-out wheeled bin symbol below invites you to use these take-back systems.
- If you need more information about the collection, reuse and recycling systems in your area, please contact your local or regional waste authority.
- Further information about the responsible end-of-life management of this and other GTCO CalComp products is available on our Web site at **www.gtcocalcomp.com**.

Limited Warranty

Limited Warranty for InterWrite PRS Receivers and Clickers

GTCO CalComp Corporation warrants these products to be free from defects in material and workmanship under the following terms. Complete and return the enclosed warranty registration card to ensure that your products are covered by this warranty.

Coverage

Parts and labor are warranted for one (1) year from the date of the first consumer purchase for the InterWrite PRS Receivers and Clickers. This warranty applies to the **original consumer purchaser only**. This warranty does not apply to any product purchased outside the United States or Canada. For warranty information outside the United States or Canada, contact your local dealer or distributor.

Warranty is valid only if original consumer's purchase or lease date is less than or equal to six months from the original GTCO CalComp sale date. This information will be captured by the system serial number and confirmed by the reseller's purchase order.

Conditions

Except as specified below, this warranty covers all defects in material or workmanship in the products. The following are not covered by the warranty:

1. Any product on which the serial number has been defaced, modified, or removed (if applicable).
2. Damage, deterioration, or malfunction resulting from:
   - **a** Accident, misuse, abuse, neglect, fire, water, lightening, or other acts of nature, unauthorized product modification for any purpose, or failure to follow instructions supplied with the product.
   - **b** Repair, or attempted repair, by anyone not authorized by GTCO CalComp.
   - **c** Any damage in shipment of the product (claims must be presented to the carrier).
   - **d** Any other cause which does not relate to a manufacturing defect.
3. Any product not sold or leased to a consumer within six months of GTCO CalComp's original sale date.
4. Consumable parts, *e.g.*, batteries.

GTCO CalComp will pay all labor and material expenses for covered items, but will not pay for the following:

1. Removal or installation charges.
2. Costs for initial technical adjustments (set up), including adjustments of user controls.
3. Certain shipping charges. (Payment of shipping charges is discussed in the next section of this warranty.)
4. Packaging costs. (Customers should keep their boxes.)

Warranty Service Procedures

1. To obtain service on your GTCO CalComp product, call the Service & Support Department at (410) 312-9221 (EST), or (480) 443-2214 (MST) to obtain a Return Material Authorization Number (RMA#) and shipping instructions.
2. Ship the product to GTCO CalComp with the RMA# marked clearly on the outside of the box. GTCO CalComp reserves the right to refuse the shipment, if not properly marked.
3. Although the consumer must pay any shipping charges to ship the product to GTCO CalComp for warranty service, GTCO CalComp will pay the return shipping charges for ground shipment. Other shipping options are available at an additional fee.
4. Whenever warranty service is required, the original dated sales invoice (or a copy) must be presented as proof of warranty coverage, and should be included in shipment of the product. In addition, please include your name, address, telephone number, fax number, email address, and a description of the problem.
5. If GTCO CalComp determines that the unit is not defective within the terms of the warranty, the consumer shall pay the cost of all freight charges, as well as any repair charges.

Technical Support

Web-based Technical Support is available free of charge at:

www.gtcocalcomp.com

where current driver releases, as well as comprehensive technical support, troubleshooting, Technical Bulletins and FAQs can be found.

Telephone Technical Support is available by contacting our Service & Support Department at (410) 312-9221 (EST), or (480) 443-2214 (MST). You can also fax your request to (410) 290-9065 (EST), or (480) 948-5508 (MST). Our toll-free numbers in the U.S. are: 800-344-4723 for our East Coast customers and 800-856-0732 for our West Coast customers.

Disclaimer of Unstated Warranties

The warranty printed above is the only warranty applicable to this purchase. ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. Assuming the warranty above stated is otherwise applicable, it is expressly understood and agreed that GTCO CalComp's sole liability, whether in contract, tort, under any warranty, in negligence, or otherwise, shall be for the repair or replacement of the defective parts, and under no circumstances shall GTCO CalComp be liable for special, indirect, or consequential damages. The price stated and paid for the equipment is a consideration in limiting GTCO CalComp's liability.

Notice

Some states and provinces do not allow the exclusion or limitation of incidental or consequential damages, so the above exclusion may not apply to you. This warranty gives you specific legal rights, and you may have other rights, which vary from state to state, or province to province.

To obtain service on your GTCO CalComp product, call our Service & Support Department at (410) 312-9221 (EST), or (480) 443-2214 (MST), fax us at (410) 290-9065 (EST), or (480) 948-5508 (MST). We can also be contacted through our Web site at www.gtcocalcomp.com.

Important! All products returned to GTCO CalComp for service must have prior approval in the form of a Return Merchandise Number (RMA#), which can be obtained by calling the Service & Support Department.

GTCO CalComp
PERIPHERALS

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