USERS MANUAL

STUDENT RESPONSE SYSTEM

WITH   Aclick HANDSETS MODEL;   SRSCA1

ConVA Student Response (CSR)

Version – 1
Status – Draft

FCC AND IC NOTIFICATIONS

FCC ID: A95-SRSAC1

"This device complies with Part 15 of the FCC Rules. 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."

Please note that changes or modifications not expressly approved by the Dukane Corp. could void the user's authority to operate the equipment
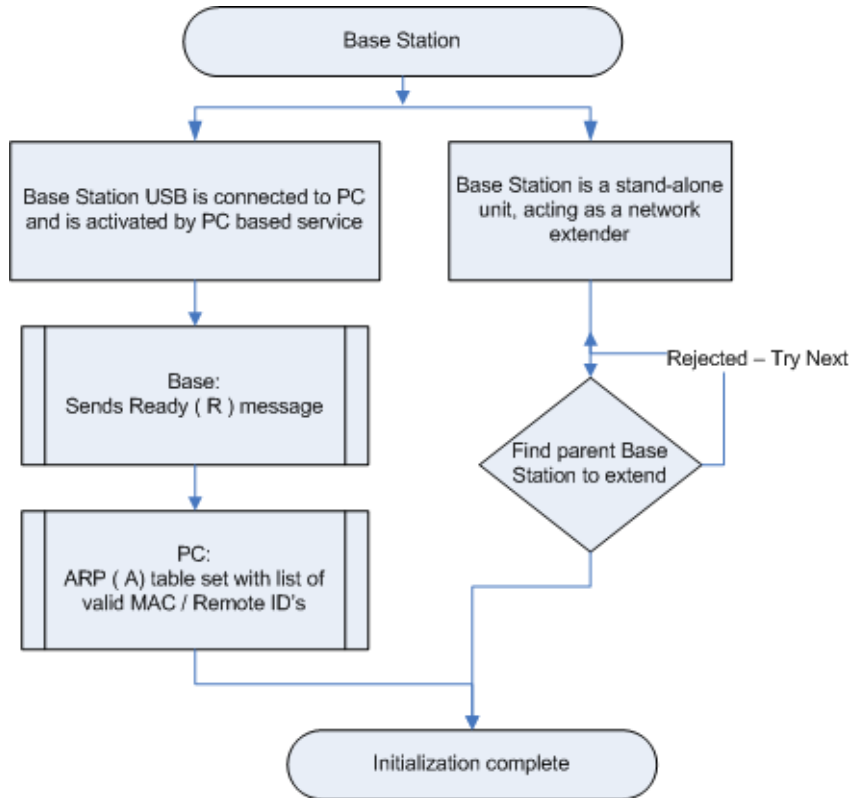
Industry Canada

"Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device."

7

1. Base Station Initialization

[*Placeholder for additional information – items to be worked out …*]
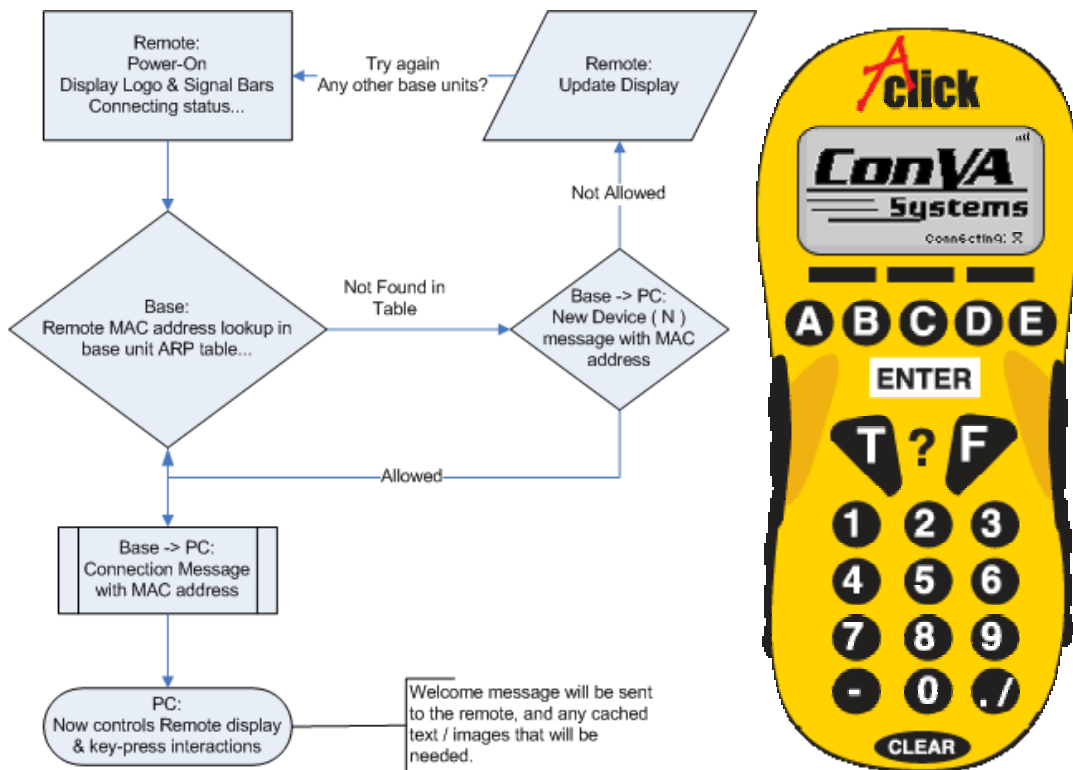

2. Remote – Base Station Handshake

2.1.　　Simple Connection

After a Remote unit powers up – it should attempt to connect with any base stations it finds, until all attempts (i.e. available units) have been exhausted.

The Base stations will validate any given remote connection attempt using the unique Remote MAC address and our custom ARP (Address Resolution Protocol) look-up table. If the MAC address is not found within the station look-up table, a New Device (N) message will be sent to the PC, and the Remote connection will be accepted or denied based on the output status of the PC's return message. The following flowchart and remote image detail this process:
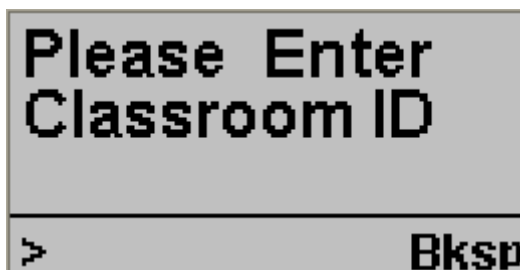
Upon a successful connection, the PC would typically begin communication with the remote with a Welcome Message. Depending on the mapping of the remote-to-student, the student ID and/or Name might also be displayed within the welcome screen, or Login Prompt for the user will be used to request the student identity. An example of such a welcome message follows, as well as a denied message:

Denied connections would result in a failure message displayed on the remote, with the ability to "Retry" the connection process again.

2.2. *Complex Connection*

In the case where multiple base units are within range – can base units broadcast value/pair data in such a way that the remote can ask the user for a Host ID – and allow the user to login to that host?

In this case, the Host ID (Classroom ID) would come from the Base unit initialization steps from section 1. Upon each base station initial configuration, a user defined ID could be entered as a validation / password that would be know only to the participants within the respective classroom.

3. Remote – Student Mapping

Three basic modes of student response mapping / relationship are currently pictured as:

Add-Hoc hand-out per/class…

- *Where students randomly acquire a Remote Unit – no student pre-assignment or mapping.*

Assigned hand-out per/class…

- *Where instructors maintain a predefined list of student/remote IDs – with each student using the same physical remote for any future session.*

Permanent / Bookstore assignment per/campus…

- *Where students are assigned a physical Remote to be used throughout a campus setting over a period of time.*

While every remote will have a unique ID (MAC address), we will also have logical ID (e.g. 001 thru 999) that can be assigned to any remote. Two methods can be used to indicate the logical number to any user, with the preference being the latter:

- Power-on unit – and read the logical number (if it has been assigned).

- A user applied sticker to the outside case of every remote (via a supplied sticker sheet perhaps?) in order to quickly identify the remote (without powering on the unit).

3.1.   Add-Hoc Hand-Out

Requires:
- List of remotes that will be used (Unique MAC ID's stored within ARP table)
- Student roster with some form of ID and/or PIN for identification & recognition.

In this mode, a given room will maintain a unique list of Remotes to be used within that room alone. ConVA Presentation Manager will (initially) be required to build and maintain the collection of remotes that will be used, with the remote unique ID's stored in the ARP table. This could be done through a couple of options, such as "Open Enrollment", or "Prompted Response":

> Open enrollment could automatically accept any remote request, and assign a logical remote id based on a running sequential list. Normal maintenance could then handle removal / additions after the fact.
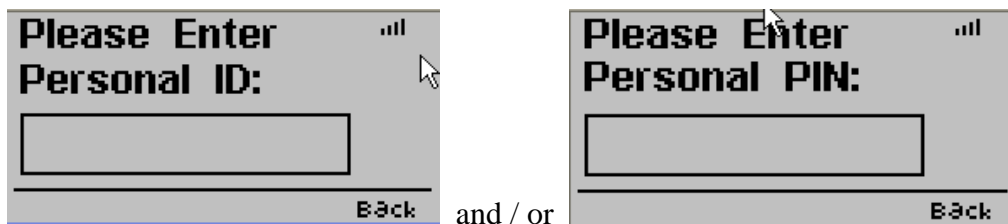
> Prompted response could alert the instructor that a remote wishes to connect, and given a screen to accept or deny the request.

If assessments will be recorded in an anonymous mode, no other setup would be required.

However, in order to map users to a remote selected, some form of a login process must be completed by each user in order to build a student/remote relationship.

Prior to a Login Session, a student roster must be available (or on the fly editable) that contains (at a minimum) a student number, logical remote id, and optionally a student PIN.

Before the start of the assessment, the Login Session will initiated, and each Remote will prompt the users to enter their Student ID (and if applicable, their PIN)

 and / or

Other considerations (?):
- Ability of students able to "login" (age appropriate)?
- Student number viability (non S.S., usable, integration from grade book etc)?
- Maintenance of student PIN #'s (Reset, change etc)?
- Any other methods of identifying user via short key code combinations?

3.2.   Assigned Hand-Out

Requires:
- List of remotes that will be used
- Student roster mapped with logical Remote ID's
- Diligent re-use of the same Remote by each and every individual in the class.

In this mode, a given room will maintain a unique list of Remotes to be used within that room alone. ConVA Presentation Manager will be (initially) required to build and maintain the collection of remotes that will be used, with the remote unique ID's stored in the ARP table. This could be done through a couple of options, such as "Open Enrollment", or "Prompted Response":

Open enrollment could automatically accept any remote request, and assign a logical remote id based on a running sequential list. Normal maintenance could then handle removal / additions after the fact.

Prompted response could alert the instructor that a remote wishes to connect, and given a screen to accept or deny the request.

A student roster must be available that will maintain the assigned logical Remote ID to Student mapping.

Other considerations (?):
- Repeatability of student / remote combination.
- Maintenance of lost/replacement remotes.
- Maintenance of incoming / outgoing students.

3.3. Permanent / Bookstore Hand-Out

Required:
- Campus wide availability & maintenance of student roster & Remote ID.
- Personal PIN?

In this configuration, a given room will not require or maintain any Remotes itself. Student rosters must be available and current for all students, and will be used as the inclusion list for any given session.

Other considerations (?):
- Availability, current, and maintenance of global student rosters
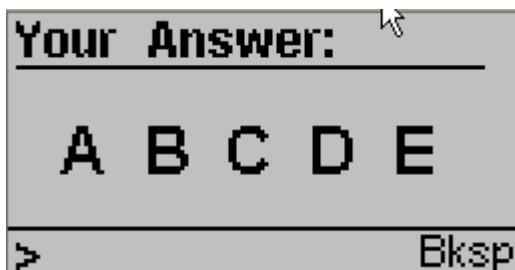- Requirements and maintenance of PIN's (passwords)

4. Remote User Modes

Overall, the use of the remote 'Enter' is an option setting for each text/response 'session'. Depending on the type of response expected [*True/False, A thru E, Numbered (0-9), Numeric (multiple digits), or Alphanumeric (A123.0)*] the user may or may not be required to use the 'Enter' key to transmit the desired response.
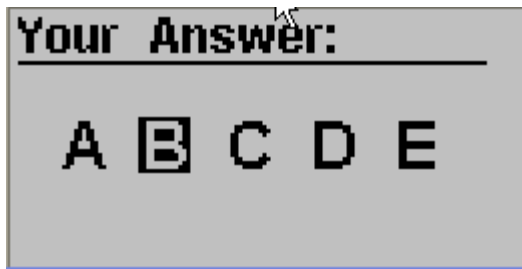
4.1. Answer Mode

In this mode, the primary use of the display is the answer options, and obtains the student response.

When the 'Enter' key is used to transmit the desired response, the footer area will be used to hold the answer selection.
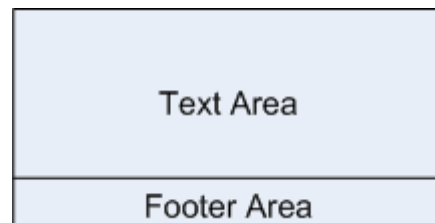

When the 'Enter' key is not required, and a valid key press is used – the answer option in the text area will be highlighted & momentarily flashed (reversed image) to indicate the selection made.

4.2.   Text Mode

In this mode, the primary use of the display is assessment text (question and answer), and student response.

The screen will operate in three basic modes: Line, Page, and Answer, with the bottom section of the screen used as a Footer. Soft key text will indicate the Line or Page mode, and Up/Down scroll options, as well as Backspace while in Answer mode.

The typical display contents will be comprised of multiple paragraphs, with the Remote handling line breaks dependent on font size and line length.

For example, the following mode is "Line", where the entire text could be scrolled up or down – one line at a time. "Page" represents blocks of text as units.

The sample assessment question/answer would be sent as follows:

```
#1: "This is a long section of text that could not all fit on the
display at one time, but would scroll off the bottom of the
display."
#2: "A) George Washington"
#3: "B) George Clooney"
#4: "C) George Harrison"
#5: "D) George Lucas"
```

```
This is a long section
of text that could not
all fit on the display
at one time, but
‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾
Line        Up      Down
```

Pressing "Down" in our example would result in the first line of text scrolling off-screen:

```
of text that could not
all fit on the display
at one time, but
would scroll off the
‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾
Line        Up      Down
```

This example is the same but in "Page" mode…

```
This is a long section
of text that could not
all fit on the display
at one time, but …
‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾
Page        Up      Down
```

The "Page" mode places the ellipses at the end of the last word able to fit on the display. As Up or Down is selected from the soft keys – the text area is filled with next (or previous) section contents - up to the point where they fit.

Pressing Down in our "Page" example would result in the following:

```
A) George Washington


‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾
Page        Up      Down
```

As the user begins to enter a response, and the remote requires the "Enter" key for transmission, the Footer area changes to show the user entry:

The left and center soft keys become disabled; with the right most soft key becoming a backspace key (erase the last character one-by-one).

5. Game Play

Sample games are shown in the following sections, and represent our initial offering of game play.

5.1.   Chalkboard (a.k.a. Jeopardy)

This game would be modeled after the game show Jeopardy – where students could play against each other, or in groups.

A simple screen layout such as following could easily be populated with heading and answers / questions via a user interface wizard, or imported from say an Excel spreadsheet template:
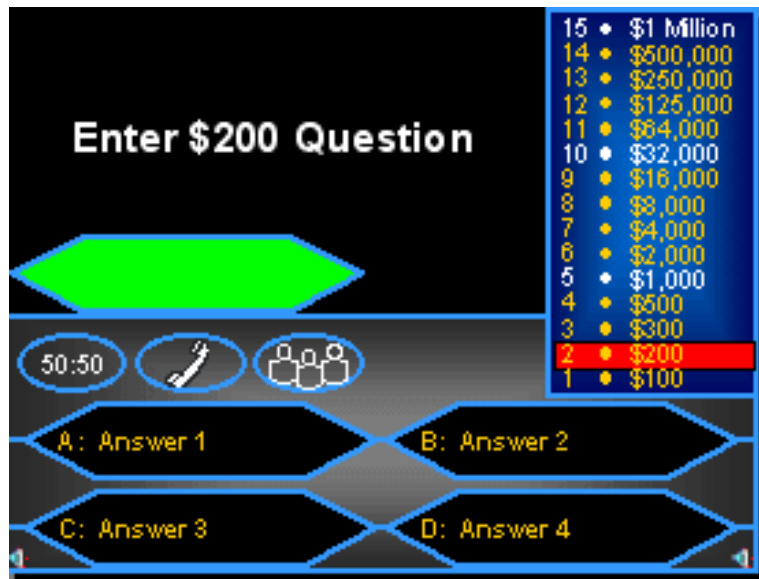

The cell selection could be done with our A->E keys, and numeric entry:

E3 [Enter] to select "*Rocks for 300 Alex*". Upon the cell selection, a larger cell would open with multiple choice, true/false, or numeric entry assessment item entry.

Scoring could be done on individual remotes, the screen, or some other combination to be decided upon.

5.2. Millionaire

The "Who Wants to be a Millionaire" game could also be implemented in a similar fashion as the Chalkboard game – where students could play against each other, or in groups:

The 50:50, Phone, and Audience Poll could be presented as soft keys on the remote, with the typical A->D keys representing the answer options.

Audience poll could be interesting in the fact would could actually "poll" the students or groups not "in the hot seat", for real-time answer percentages display.

6. Diagnostics

Run-Time status display options:

- Signal strength
- Low battery indicator
- Other?