

# Ultra•Post 6 CE Configurator Help Guide



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# Release Notes

## ADS4 Platform Configurator

This Ultra•Post 6 CE Configurator Help Manual (8200-0057-11, Rev A) describes Version 7.00 Build 668 of the ADS4 Platform Configurator software. The executable file for the configurator is AdsCeConfig-665.exe.

The ADS4 Platform Configurator software supports several different systems. This Help Manual discusses only the Ultra•Post 6 interface.

### New Features

- Support for the Ultra•Post 6 product.

## Ultra•Post 6 firmware

This Help Manual describes the configurator when it is connected to an Ultra•Post running Version 0.1122 of the Ultra•Post 6 firmware. The firmware executable file is Upost6-01122.hex.

### Features


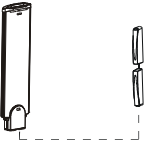
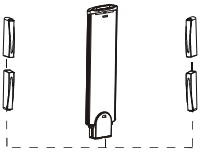
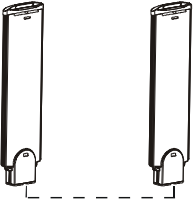
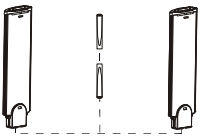
This is the initial release of this firmware to the field. This firmware supports the following features:

- Configurations with a primary pedestal, secondary pedestal, and up to two auxiliary receivers.
- Several operating modes: Primary Transceiver Only, Secondary Transceiver Only, Primary-Secondary Dual, Dual-Alternating Mode, Primary-Secondary, Primary-Secondary (Backfield), Prim-Sec Alternating (Backfield), Transceiver-Ferrite, Ferrite-Transceiver-Ferrite, Ferrite-Primary-Secondary-Ferrite, Primary-Ferrite-Secondary, Primary-Ferrite (Backfield). See “System Configurations and Operating Modes” for more information about this topic.
- Jammer Detection – The pedestal can detect a nearby jamming device and initiate a special alarm to alert store personnel.
- Tags Too Close - If this feature is enabled by the configurator, the pedestal will flash a unique alarm pattern when a non-deactivated label or tag remains in the detection field of the detector for one minute. See “Tags Too Close” for more information about this topic.
- Adjacent Transmitter Interference Trimming – decreases the impact of electronic noise from some competitor’s nearby anti-theft systems. See “WG Tx Trim (Adjacent Transmitter Interference Trimming)” for more information on this topic.
- Alarm Mapping – when the system detects a non-deactivated label or tag in the area, the system can be configured to alarm in many different ways: relays, audio alarms, visual alarms, remote alarms, etc.
- Auto Sync – if another EAS system is nearby, the pedestal will synchronize its transmitter to the other systems to avoid false alarms.
- Wired Sync – a nearby Ultra•Post 6 primary pedestal can be wired to the primary pedestal of this system so the two systems can synchronize their operation.
- Ringdown cancelling – the firmware profiles stationary tags in the field, thus preventing the system from alarming on a stationary tag.
- Tx Inhibit – the transmitter can be turned off by the Tx-Inhibit switch under the top cap or by an external device connected to the connector at TB1 on the main board.
- People Counting (also referred to as Traffic Flow) – if the system is equipped with the people counting option, the pedestals can keep track of how many people enter and leave the store. Other features that the people counting option provides are described below.
- Directional Alarms – if the system is equipped with the people counting option, the pedestals can be configured to alarm only when someone leaves the store with a tagged item, enters the store with a tagged item, or both. This can reduce the occurrence of false alarms by allowing alarms only when people are entering or leaving. See “Directional Alarms” for more information on this topic.
- Power Save – if the system is equipped with the people counting option, the transmitter in the pedestal can be turned off to reduce power usage when no people have passed between the pedestals in a amount of time specified by the customer.

# Ultra•Post 6 Firmware Features

## System Configurations and Operating Modes

Because the Ultra•Post 6 has two Tx/Rx channels and two connectors for auxiliary connectors that are separate from the connector for the secondary pedestal, the system can operate in a number of different system configurations and operating modes. The table below summarizes these configurations and the possible operating modes for each configuration. The table also shows what the Tx/Rx sequence is for each operating mode so that the difference between the modes is apparent.

Physical Configuration	Description	Possible Operating Modes	TmSlt	Pri	Sec	AuxA	AuxB
	Single	Primary Transceiver Only	0	Tx/Rx			
	Single with one receiver	Transceiver Ferrite	0	Tx/Rx	-	Rx	-
		Primary-Ferrite (Backfield)	0	Tx	-	Rx	-
			1	-	-	-	-
	Single with two receivers	Ferrite-Transceiver-Ferrite	0	Tx/Rx	-	Rx	-
			1	-	-	-	-
			2	Tx/Rx	-	-	Rx
	Dual <sup>†</sup>	Primary-Secondary Dual	0	Tx/Rx	Tx/Rx	-	-
		Primary-Secondary Dual (Simult. and Alternate)	0	Tx/Rx	Tx/Rx	-	-
			1	Tx/Rx	-	-	-
			2	Tx/Rx	Tx/Rx	-	-
			3	-	Tx/Rx	-	-
		Primary Secondary	0	Tx/Rx	Rx	-	-
			1	Rx	Tx/Rx	-	-
		Primary-Secondary (Backfield)	0	Tx	Rx	-	-
		Primary-Sec-Alternating (Backfield)	0	Tx	Rx	-	-
			1	Rx	Tx	-	-
	Dual with one middle receiver	Primary-Ferrite-Secondary	0	Tx/Rx	-	Rx	-
			1	-	Tx/Rx	Rx	

Physical Configuration	Description	Possible Operating Modes	TmSlt	Pri	Sec	AuxA	AuxB
	Dual with one side receiver	Split (Rx-Xcvr-Xcvr)	0	Tx/Rx	-	Rx	-
			1	Rx	Tx/Rx	-	-
	Dual with one side secondary	Split (Rx-Xcvr-Xcvr)	0	Tx/Rx	-	Rx	-
			1	Rx	Tx/Rx	-	-
	Split (with wired sync)	Primary Only (Split) <sup>2</sup>	See note <sup>2</sup> below				
		Primary Only (Split Alternating) <sup>3</sup>	0	Rx	-	-	-
	Split (without wired sync)	Primary Only (Split) <sup>4</sup>	0				
			1				
	Dual with two receivers	Ferrite-Primary-Secondary-Ferrite	0	Tx/Rx	-	Rx	-
			1	-	Tx/Rx	-	Rx

- 1 Dual configurations have two additional possible operating modes, Primary Transceiver Only and Secondary Transceiver Only, which on dual systems are used primarily for testing.
- 2 Primary Only (Split) is the operating mode of the primary antenna that is connected by wired synchronization to the primary pedestal of the dual system. The primary of the dual system must be configured as "Primary-Secondary Dual". The Simultaneous and Alternating checkbox must be in the same state, checked or unchecked, on both systems.
- 3 Primary Only (Split Alternating) is the operating mode of the primary antenna that is connected by wired synchronization to the primary pedestal of the dual system. The primary of the dual system must be configured as "Primary-Secondary Alternating (Backfield)". This mode reduces the backfield compared to "Primary Only (Split)" mode in a split system.
- 4 Primary Only (Split) mode can be used without wired synchronization in the same way as previous Ultra•Post versions. As in previous versions of Ultra•Post, the performance can be affected if the primary antennas are too close to each other.



## WG Tx Trim (Adjacent Transmitter Interference Trimming)

### What is WG Tx Trim (Adjacent Transmitter Interference Trimming)?

In some cases the transmitters in a competitor's AM system are incorrectly phased and they may interfere with the receiver window of Sensormatic AM systems. In these cases the detection performance of Sensormatic's systems may be greatly reduced, or the system may false alarm at a higher than normal rate.

The new Transmitter trimming algorithm reduces the interference from out of phase transmitters by trimming unwanted interference from these systems.

### When is it not Appropriate to use Trimming?

It is not appropriate to use the trimming algorithms in the following situations:

- When there are multiple out of phase systems, in which case there is not enough receiver windows left to detect a tag.
- When the system gets received transmit patterns with constant transmit rep rates over 37.5Hz.
- When the noise floor is higher than the selected trimming threshold.
- When the transmitter amplitude of an adjacent antenna is too close to the tag amplitude. In this case the system may trim valid tag amplitudes.

### How does Trimming Work?

Trimming is done using the Individual Noise Averages screen. The Transmitter trimming can be performed in one of two ways:

- **Transmitter Sequence Trimming:** The Sensormatic system will track/detect specific transmit patterns from competitor systems and trim (remove) those received windows (tag and/or noise) which are identified as part of the competitors transmit pattern. The system will only look for patterns above a user selectable trimming threshold. Given the fact that competitor transmitters may phase flip and figure 8 transmit amplitudes may be lower than the selected threshold, the algorithm will track figure8-aiding patterns and aiding only patterns at the same time.

If no pattern is detected the system will automatically perform the Energy trimming algorithm as specified below.

- **Transmitter Energy Trimming:** The Sensormatic system will trim (remove) any received window (tag and/or noise) which energy amplitude exceeds a predetermined trimming threshold. Care must be taken when setting up the trimming threshold since tag amplitudes may be trimmed also.

This functionality may also help in trimming interference due to sporadic noise sources.

### What Competitor Systems can be Trimmed?

The algorithm has only been tested with the following competitor systems which transmit the pattern below:

- WG Multiguard
- WG Proguard
- WG Uniguard

Note: The algorithm may not be able to trim any adjacent transmitter with constant repetition rate of 37.5Hz or higher. For example Sensormatic transmitters can't be trimmed.

The Transmitter Sequence Trimming algorithm will only track transmit patterns as shown below.

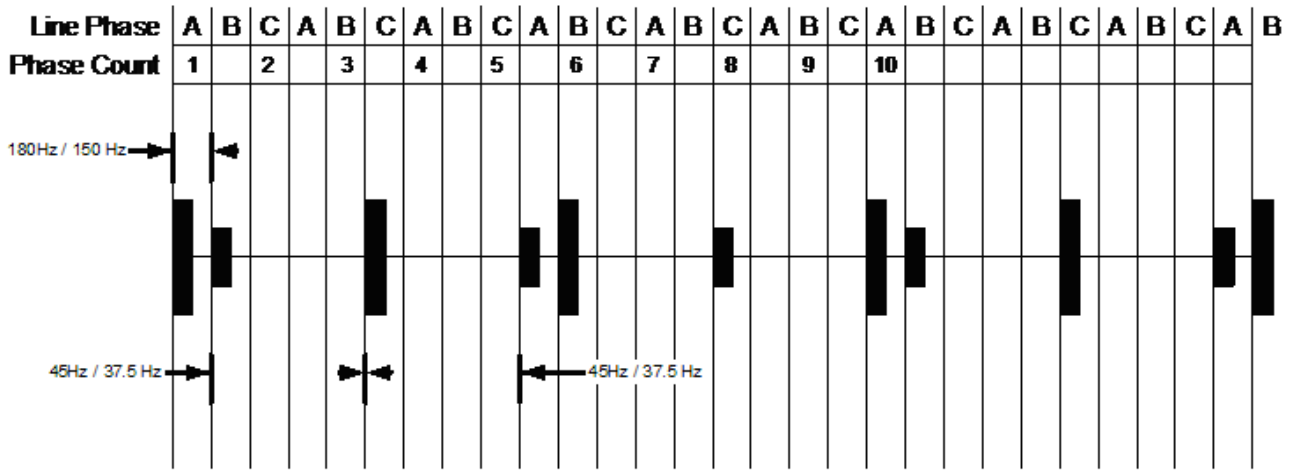


Figure 1. Competitors Transmitter pattern

## Tags Too Close

The Tags Too Close (TTC) feature alerts store personnel that a tag or undeactivated label has been left near an antenna for over a minute. When this feature is enabled and a tag is left within the detection range of the system, the system will flash a normal Tag Detected alarm for one minute. After one minute, the pedestal will start to silently blink in the Tags Too Close pattern, which is different from the Tag Detected alarm pattern.

- The Tag Detected alarm pattern is blink, pause, blink, pause...
- The TTC pattern is blink, blink, pause, blink, blink, pause...

A system does not have to alarm for every second of the one minute period for the TTC alarm to start. In fact, the tag can be on the fringes of the tag detection area and never set off the Tag Detected alarm and the TTC can still go off.

A TTC alarm is almost always caused by a Tag in the detection field. It is not usually caused by other factors.

Once an antenna enters TTC mode, it will flash the TTC alarm for one minute. If the offending tag is removed during this time, the TTC alarm will continue to alarm for the rest of the minute but will not restart when the TTC alarm is over. If the tag is not moved from the area, the system will resume a cycle of Tag Detected alarm for one minute and TTC alarm for one minute until all tags in the area are removed

The distance that tags must be moved from the antenna depends on the number of tags. Keep single tags at least 1.8m (6ft) away to prevent alarming. Multiple tags, such as on a display rack, may need to be kept further away.

## Directional Alarms

With the Directional Alarms feature enabled, an Ultra•Post 6 system sounds an audible alarm only when the system detects a tag and receives a people count. This feature eliminates two sources of false alarms: customers entering the store with tagged merchandise from other stores and people with tagged items walking near the pedestals inside the store. In these two cases, the system can be programmed to flash a silent visual alarm or give no alarm indication at all.

The Directional Alarms feature is not related to the Tags Too Close feature. The Tags Too Close feature detects when a tag has been left motionless in the detection field for one minute; the system flashes a silent visual alarm in a distinct pattern. Because the Tags Too Close feature prevents alarms from occurring while the tag remains in the detection field, this feature should be disabled when the Directional Alarms feature is enabled. All descriptions of system behavior in this Guide assume the Tags Too Close Feature has been disabled unless indicated otherwise.

### How Directional Alarms Work

A customer gets the Directional Alarms feature by purchasing a new Ultra•Post 6 system with version 0.1122 or later firmware and the People Count (also known as Traffic Flow)- option. The system is then configured for the customer's requirements. A customer can decide the Alarm Direction for the system; Alarm Direction determines whether the system should alarm only on tags exiting the store, entering the store, or both. The customer can also choose whether or not tags that enter the detection field of the zone but haven't passed between the pedestals should be indicated with a silent visual alarm (called a Directional Visual Alarm).

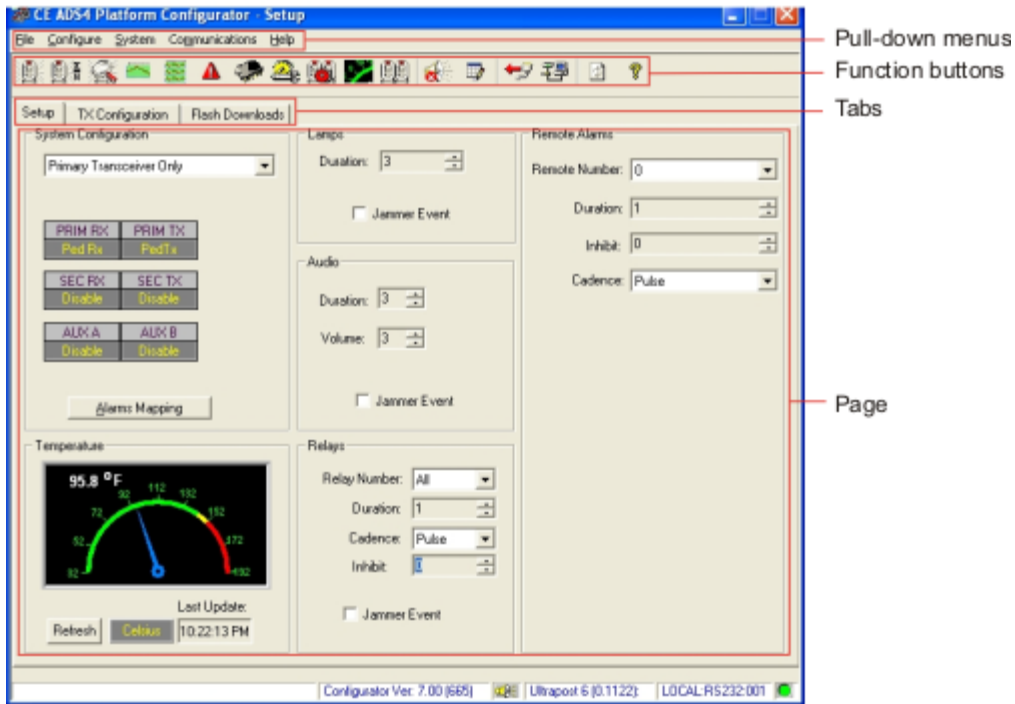
If a zone is configured to alarm on exiting tags and Directional Visual Alarms are enabled, the system will work as follows. A person with a tagged item approaches two Ultra•Post 6 pedestals at an exit. When the tag enters the detection field, the system will start an internal three-second countdown timer and flash a silent visual alarm. What happens next depends on whether someone passes between the pedestals.

- If no one has passed through the system after three seconds but a tag is still detected in the vicinity, it will keep opening a window every three seconds. If it does not detect a tag at the end of a three-second window, it waits an additional two seconds to make sure the tag is gone and then records one indeterminate alarm.
- If the person passes between the pedestals, they will interrupt the two infrared beams of the people-counting option in a way that indicates they are leaving the store. The system will then sound an audio alarm in addition to the LED lights. Note that the system cannot be defeated by waiting in front of the pedestals for three seconds because the system will keep re-initiating the three-second timer as long as a tag is in the detection field.

# Ultra•Post 6 Configurator Interface

## Introduction

The Ultra•Post 6 CE service configurator interface consists of function buttons, pull-down menus, pages (identified by tabs), and windows.



## System Function Buttons

System function buttons provide access to configurator functions. These buttons are along the top of the service configurator.

**Note:** Below system function buttons may be other buttons for specific configurator functions; these buttons are not discussed here but under the specific page/window they apply to. System function buttons are disabled when specific page/window buttons appear.

System function buttons from left to right:

- **System Noise Averages.** Accesses the System Noise Average window. This window contains an antenna display showing tag and noise levels, and detector and zone detect settings. Tx transmitters can also be enabled/ disabled using this window.
- **Individual Noise Averages.** Accesses the Individual Noise Averages window. This window is used to troubleshoot an antenna that is not operating to specification.
- **Noise Canceling Antenna.** Accesses the Noise Canceling Antenna window. This window is used to monitor the effect of noise cancellation antennas.
- **Frequency Analyzer.** Accesses the Frequency Analyzer window. This window is used to monitor the frequency of noise sources in the system environment, whose data can be used to decide if advanced techniques can be helpful like nulling and noise canceling coils.
- **Time/Phase Graph.** Accesses the Time/Phase Graph window. This window is used to display time/phase data recorded when the controller is rebooted.
- **System Errors.** Displays a list of system errors indicated by alert codes.
- **Advanced Settings.** Accesses the Advanced Settings window. Use this window to configure firmware in the controller.
- **Diagnostic Tests.** Accesses the Diagnostic Tests window. This window is used to run internal diagnostic tests and display results.
- **Zone Mapping.** Accesses the Alarms Mapping window. This window is used to assign alarms to zones and configure people counters and directionality.
- **Tx Current.** Accesses the TX Current window. Use this window to view current dials for up to four antennas, disable transmitters, and set parameters for European standards.
- **Synchronization.** Accesses the AC Synchronization window. This window is used to check if the system PLL is locked, set Tx synchronization (auto sync or wired sync), and adjust auto sync threshold and zero crossing delay.
- **Turn Sound Off.** Turns off alarms or messages emitted through the laptop.
- **Show Packet Monitor.** Shows command and control data packets between the laptop and the controller. Only used for debugging.
- **Reset and Restart Communications.** Restarts communications and refreshes configurator data.
- **Connect Using a TCP/IP Network.** Use to connect the configurator to many controllers at once.
- **Refresh.** Refreshes configurator data without restarting communications.
- **Display Help.** Displays the service configurator help file.

## Pull-Down Menus

### File

**Load.** Click to load site configuration settings and network name and address settings.

**Save.** Click to save configurator settings and the network name and address to a file on a computer.

**Print Setup.** Click to display window that enables you to adjust printer settings.

**Print.** Click to display a window that enables you to print the current page.

**Exit.** Click to exit the configurator.

### Configure

**Note:** Available only when the Setup, Tx Configuration, or Flash Downloads pages are displayed.

**Change Network Address.** Click to select to change the address of the RS-485 network port. Default address is 1.

**Device Address List.** Lists device names and addresses previously set up. Names and addresses can be entered or edited here.

### System

Provides shortcuts to most functions. See System Function Buttons for explanations of these functions.

**Note:** Available only when the Setup, Tx Configuration, or Flash Download pages are displayed.

**System Noise Averages.**

**Individual Noise Averages.**

**Noise Canceling Antenna.**

**Frequency Analyzer.**

**Time/Phase Graph.**

**Error & Run Time (System Error, Reset Error).** Click "Error" to access the System Errors window. "Reset Error" resets the error count.

**Advanced Settings.**

**Sequence Table.**

**Diagnostic Tests.**

**Tx Current.**

**Synchronization.**

**Alarm Mapping**

**Traffic Flow Mapping**

### Communications

**Local.** Click to select type of connection: RS-232, RS-485, or comm. port used.

**Modem.** Click to connect to or hang-up from a modem.

**Network.** Click to select a device on an Ethernet, RS-485, or RS-232 port.

**Select Device.** Click to select a device on an RS-485 network.

**Reset.** Click to reset and restart communications on the port selected.

**Offline Tone Enabled.** Click to enable the offline tone.

**Sound On.** Click to turn on and off sound on a computer.

## Help

**About.** Click to display the version and build number of the configurator.

**Contents and Index.** Click to bring up the help file.



## How to Use the Configurator

### Typical Setup

Select the task below you want to perform. Tasks are listed in the order they are typically used.

1. Check antenna and alarm configuration (see Setup Page).
2. Setup the detection system (see Setup) and adjust transmitter configuration (see Transmitter Configuration).
3. Map alarms (see Alarms Mapping page)
4. Synchronize the system to nearby 58kHz transmitters (see Synchronization).
5. Verify system performance (see “Verifying Performance” below).
6. Adjust performance for improved tag detection (see “Adjusting Performance” below).

Once you locate the page (indicated by tabs) or window that performs the function desired, select parameter(s) and special considerations that may apply. Default parameters are underlined.

### Verifying Performance

The following windows can be used to verify performance:

- Synchronization
- Tx Current
- System Noise Average
- Individual Noise Averages
- Frequency Analyzer
- Time/Phase Graph

### Adjusting Performance

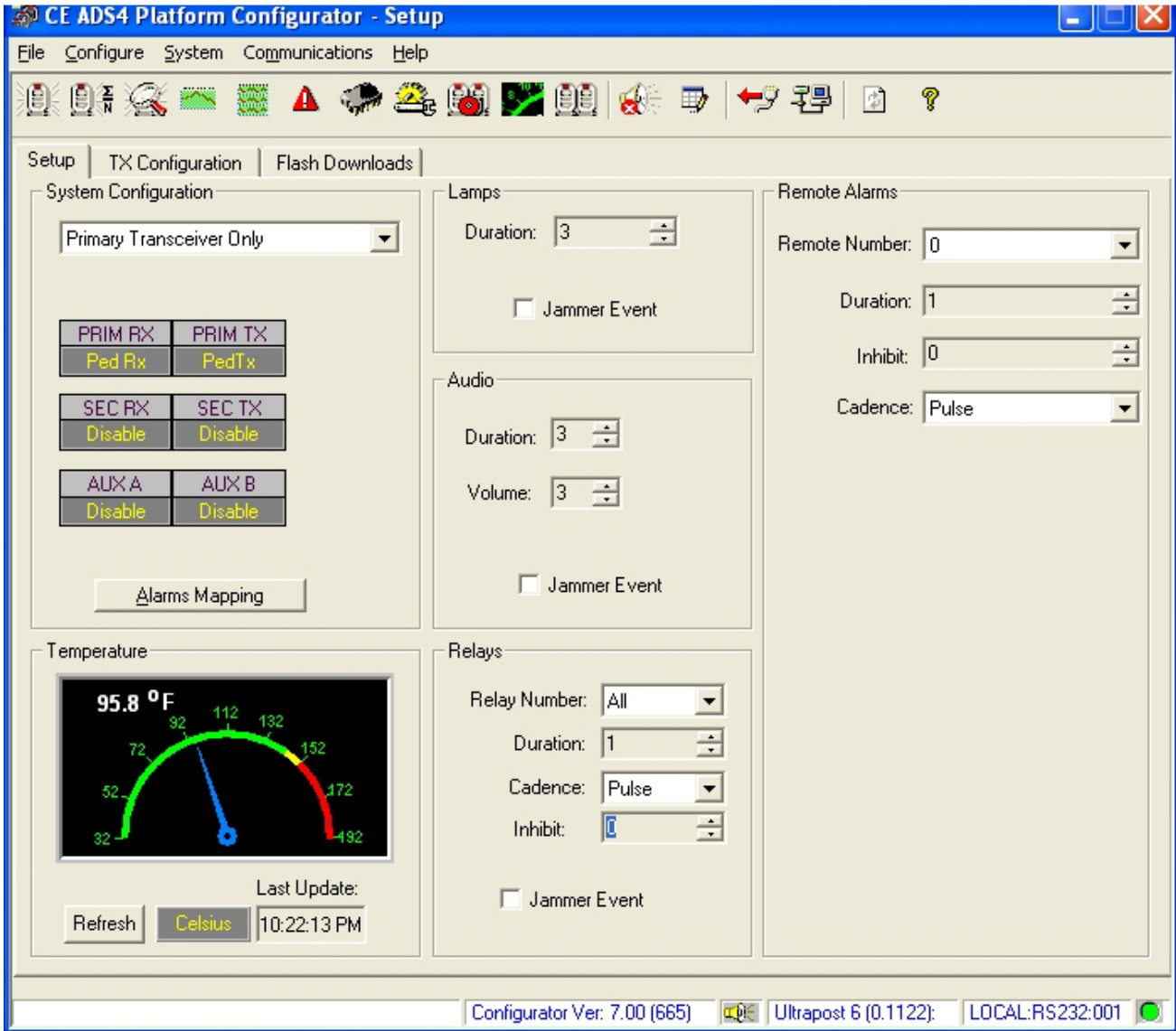
The following windows can be used to adjust performance:

- Flash Downloads
- Tx Current
- System Noise Average
- Individual Noise Averages
- Frequency Analyzer
- Time/Phase Graph
- Diagnostics Tests



# Ultra•Post 6 Screens

## Setup



Use this page to:

- Check antenna and alarm configuration.
- Set alarm parameters. **Tip:** If performing repeated pick testing, set alarm durations to the lowest setting; otherwise, the pick testing process will be slow.
- Check the controller's internal temperature.

### Readings and Settings

The laptop reads the settings from the controller each time the page is opened. Changes are sent to the controller immediately.

**System Configuration** - When the pedestal is turned on or when it reboots, this parameter determines how to configure the antennas. The various choices are described below and are summarized in a table in the topic "System Configurations and Operating Modes":

- **None** - no pedestals will transmit or receive.
- **Primary Transceiver Only** - the primary pedestal will be a transceiver.
- **Secondary Transceiver Only** - the secondary pedestal is a transceiver; the primary pedestal is disabled. This mode can be used during installation of a system with two pedestals to diagnose problems with the environment or the systems.
- **Primary-Secondary Dual** - both the primary and secondary are transceivers simultaneously. To get this mode, you must select the Primary-Secondary Dual mode in the drop-down box and ensure the Simultaneous and Alternate checkbox that appears below it is unchecked.
- **Dual-Alternating Mode** – the primary and secondary pedestals will alternate between simultaneous transmit-receive and individual transceivers. This mode will provide the highest level of detection. This mode didn't appear on the drop-down list. To get this mode, you must select Primary-Secondary Dual mode and then check the Simultaneous and Alternate checkbox that appears below the System Configuration drop-down box.
- **Primary-Secondary** - the primary and secondary pedestals alternate being a transceiver. This configuration does not have the same level of detection as either Primary-Secondary Dual or Dual-Alternating Mode.
- **Primary-Secondary (Backfield)** - the primary pedestal only transmits and the secondary only receives. This configuration reduces the backfield the most of any dual pedestal configuration but it also reduces the exit coverage the most.
- **Prim-Sec Alternating (Backfield)** - same as Primary-Secondary Backfield, but the transmitter and receiver alternate between timeslots. This configuration reduces the backfield less than Primary-Secondary (Backfield) mode but does not reduce the exit coverage as much.
- **Transceiver-Ferrite** - the primary pedestal is a transceiver and the single auxiliary antenna only receives.
- **Ferrite-Transceiver-Ferrite** - the primary pedestal is a transceiver and the auxiliary receivers on either side alternate acting as receivers.
- **Ferrite-Primary-Secondary-Ferrite** - in one time slot the primary pedestal is a transceiver and auxiliary receiver next to it (A) is a receiver; in the second time slot the secondary pedestal is a transceiver and the auxiliary receiver next to it (B) is a receiver.
- **Primary-Ferrite-Secondary** - an auxiliary receiver is placed between a primary and a secondary pedestal. In one time slot the primary pedestal is a transceiver and the auxiliary receiver is a receiver; in the second time slot the secondary pedestal is a transceiver and the auxiliary receiver is a receiver.
- **Primary-Ferrite (Backfield)** – the primary pedestal only transmits and the auxiliary receiver only receives.
- **Primary Only (Split)** – in a split configuration, which is a three pedestal system with two primary pedestals), this mode can be selected for the primary pedestal that is not connected to a secondary. This mode should be used whether or not the two primary pedestals use wired synchronization. If the primary pedestals are wired synch, the dual system must be configured as “Primary-Secondary Dual”. The Simultaneous and Alternating checkbox must be in the same state, checked or unchecked, on both systems.
- **Primary Only (Split Alternating)** – if the site has a split configuration that uses wired synchronization and needs to reduce its backfield, this mode can be used instead of Primary Only (Split). This mode is for the operating mode of the primary antenna that is connected by wired synchronization to the primary pedestal of the dual system. The primary of the dual system must be configured as “Primary-Secondary Alternating (Backfield)”. This mode reduces the backfield compared to “Primary Only (Split)” mode in a split system.

**Note:** for configurations above that have two pedestals transmitting during the same time slot (for example, Primary-Secondary Dual), any adjustments to Tx Polarity and Current affect both transmitters. For example, if you change the polarity of one pedestal to Figure 8, the other pedestal will also be changed.

**Configuration Display.** The grid displays how various connectors on the pedestal main circuit board are configured. PRIMRX and PRIMTX correspond to how the Top and Bottom Coil connectors are configured. SECRX and SECTX correspond to how antennas connected to P4 are configured. AUXA and AUXB correspond to how antennas at the auxiliary connectors P6 and P7 are configured.

### Audio

**Duration (0–15, 1).** The time (in seconds) that antenna audio is on when an alarm event occurs. Selecting “0” turns the audio alarm off.

**Volume (0–15, 15).** Audio volume for the antenna(s).

**Jammer Event (Enabled, Disabled).** When the system detects a 58kHz jamming device and this function is enabled, the pedestal emits a special audio alarm (double the normal alarm rep rate) that notifies store personnel a jammer is in use.

### Relays

**Relay Number (1–2, All).** Use to activate relay(s) connected to the controller. **Use of “All”:** “All” applies subsequent relay settings to all relays. If a change is made to an individual relay thereafter, when “All” is selected again, the setting’s selection box just changed will be blank and all other settings will remain unchanged. Any changes to a blank box when “All” is selected will again apply the setting to all selections.

**Duration (0–15, 1).** The time (in seconds) that the relay(s) is on when an alarm event occurs. Selecting “0” turns the relay off.

**Cadence (Pulse, Toggle).** Cadence is the relay operating sequence when triggered by an alarm event. In pulse mode, the relay momentarily closes once for each alarm event per the duration set. In toggle mode, the relay closes and opens in 200ms intervals (useful for lamps with no flashers).

**Inhibit (1-15).** Inhibit selects the number of seconds after a relay is triggered before another relay can be triggered.

**Jammer Event (Enabled, Disabled).** When the system detects a 58kHz jamming device and this function is enabled, selected system relay output(s) can trigger a security device (such as a camera) that notifies store personnel a jammer is in use.

### Lamps

**Duration (0–15, 1).** The time (in seconds) that the lamp(s) are on when an alarm event occurs. Selecting “0” turns the lamp off.

**Jammer Event (Enabled, Disabled).** When the system detects a 58kHz jamming device and this function is enabled, the alarm on top of the primary pedestal will flash in a special sequence that notifies store personnel a jammer is in use.

### Temperature

Displays the temperature inside controller and when the last update occurred. Updates occur when temperature deviates  $\pm 0.5$  degrees or when the refresh button is pushed. A Fahrenheit/Celsius button changes the units of measure. Excessive temperature above 72°C causes the controller’s transmitter to shutdown; however, the rest of the controller remains operational.

### Remote Alarms

**Remote Number (1–2, All).** Use to activate remote alarm(s) connected to the controller. **Use of “All”:** “All” applies subsequent remote alarm settings to all remote alarms. If a change is made to an individual remote alarm thereafter, when “All” is selected again, the setting’s selection box just changed will be blank and all other settings will remain unchanged. Any changes to a blank box when “All” is selected will again apply the setting to all selections.

**Duration (0-15, 1).** The time (in seconds) that the alarm(s) is on when an alarm event occurs. Selecting “0” turns the remote alarm off.

**Inhibit (1-15).** Inhibit selects the number of seconds after an alarm is detected before another alarm can be triggered.

**Volume (0–15).** The loudness of the remote alarm when an alarm event occurs. Selecting "0" mutes the alarm.

**Audio Mode (Voice, Tone).** The mode of the tag-detected audio alarm on the remote alarm, which can be tone or voice.

**Jammer Event (Lamps and Audio, Lamps only, Disabled).** When the system detects a 58kHz jamming device, this parameter determines the response of the remote alarm. If the value is set to Disabled, the remote alarm does nothing. If the value is set to Lamp only, the LED on the remote alarm flashes silently in a unique pattern. If the value is set to Lamp and Audio, the remote alarm emits a unique audio alarm and flashes a unique pattern on its LEDs.

**LED Intensity (Minimum, Low, Medium, High).** The intensity of the alarm counter LEDs on the remote alarm.

**Count Mode (0-Alarm Counts, 1-People Counts, 2-Toggle Counts) - 0 - Alarm Counts:** Displays EAS alarm counts. People counts are tracked but not displayed. **1 - People Counts:** Displays people counts. EAS alarm counts are tracked but not displayed. **2 - Toggle Counts:** Displays people counts until EAS alarm is triggered, during which the display changes to EAS alarm counts for the duration of the alarm.

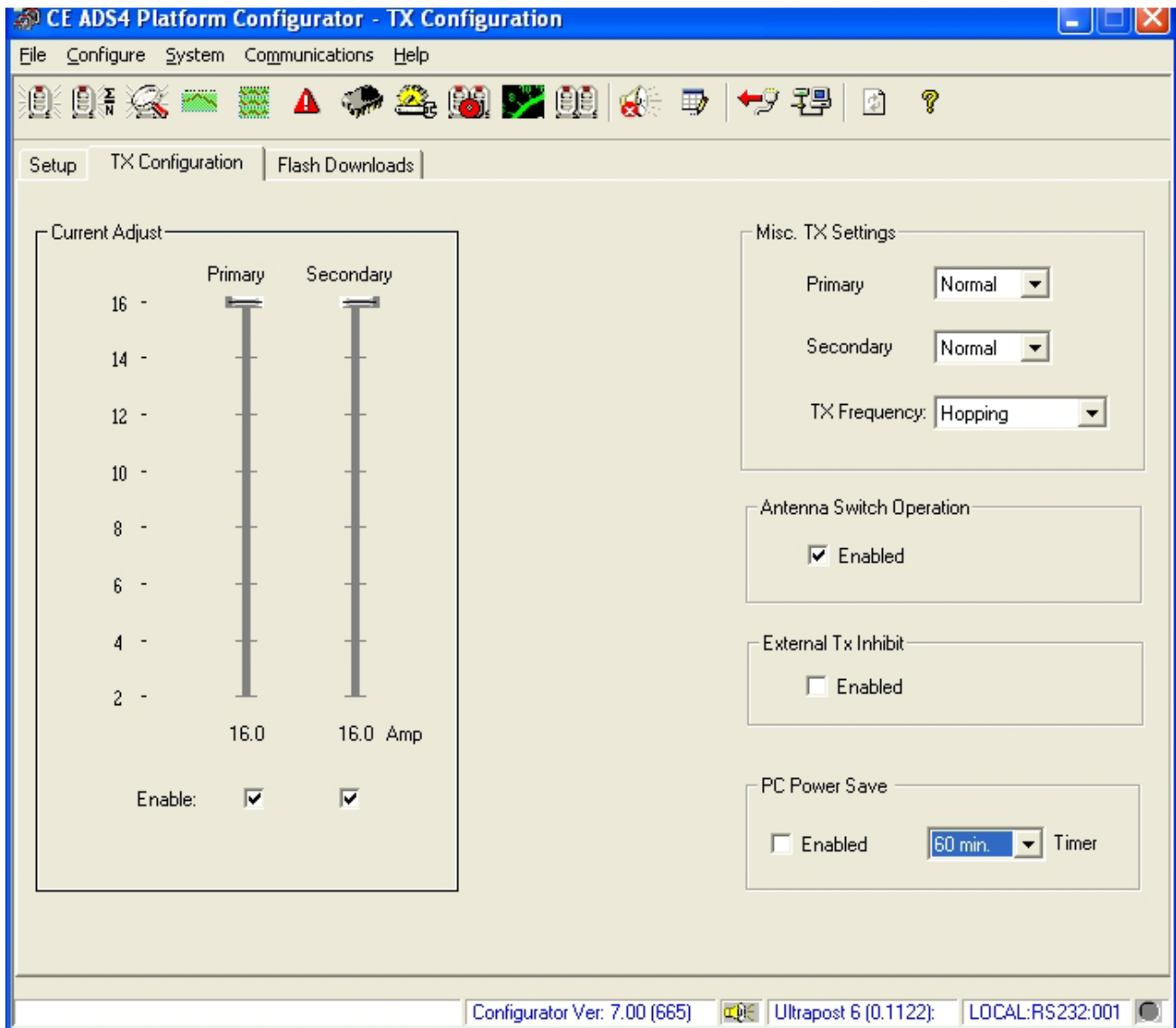
**PC Chime Volume** – controls the volume of the PC Chime feature. See below for PC chimes description.

**PC Chimes (Enabled, Disabled)** – if enabled, the system chimes whenever an IN count occurs, an OUT event occurs, or a Blocked Sensor event occurs. Note: PC Chimes uses the first four seconds of an 18 second interval allowed for voice messages. If using a voice message with PC Chimes, you must load a new voice message that is up to 14 seconds in length. If “PC Chimes” is de-selected and a voice message is still being used, you must reload the voice message.

**Remote Control (Disabled, Enabled with Passcode, Enabled with Cnt Clr Only).** Controls the level of security available for the AMC-1060 by its remote control: Disabled – the AMC-1060 ignores all remote control commands, Enabled With Passcode – the AMC-1060 can be controlled by a remote control, but only if the correct passcode is used. When you select the Enabled with Passcode option, a passcode box with the current passcode appear next to the Remote Control Security dropdown box. Each AMC-1060 connected will have a unique passcode automatically generated. If all Remote Alarms onsite require the same passcode, contact your local Sales representative. Enabled with Cnt Clr Only – the remote control is enabled but can only be used to clear the alarm count on the AMC-1060.

**Cadence (Pulse, Toggle).** Cadence is the relay operating sequence when triggered by an alarm event. In pulse mode, the relay momentarily closes once for each alarm event per the duration set. In toggle mode, the relay closes and opens in 200ms intervals (useful for lamps with no flashers). This parameter only appears if a Digital Remote Alarm is not connected.

## Transmitter Configuration



Use this page to:

- Select transmit frequency control and polarity.
- Inhibit the transmitter (if the antenna is to behave only as a receiver).
- Adjust transmitter current.

The laptop reads transmitter settings from the controller each time the page is opened. Changes are sent to the controller immediately.

### Readings and Settings

#### Tx Controller Settings

**Current Sliders.** Use to set transmitter current from 2–16A. The sliders for the primary and secondary cannot be set to different values if the system configuration that has been selected has the two pedestals transmitting during the same time slot (for example, Primary- Secondary Dual).

**Tx Enable/Disable.** Click to turn the corresponding transmitter off or on. This selection must be turned on for controller-assisted tuning. Redundant selections are also found on the Tx Current and System Noise Average windows.

### **Misc. Tx Settings**

Selects the polarity of the transmitter to be normal, aiding, or figure 8. In normal polarity (phase flipping mode), the transmitter switches between aiding and figure 8 polarity.

**Primary (Normal, Aiding, Figure 8).** Use to select the coil configuration for the primary antenna.

**Secondary (Normal, Aiding, Figure 8).** Use to select the coil configuration for the secondary antenna. Note that the polarity for the secondary cannot be set to a different value than the primary if the system configuration that has been selected has the two pedestals transmitting during the same time slot (for example Primary-Secondary Dual).

**Tx Frequency (Nominal, Hopping, High, Low).** Use for detecting tags whose frequency response is difficult to detect. “Nominal” is 58kHz, “High” is 58.2kHz, and “Low” is 57.8kHz.

### **Antenna Switch Operation**

Enables operation of the Tx Inhibit switch under the top cap on the primary antenna.

### **External Tx Inhibit**

Enables operation of the Tx Inhibit connector at TB1 on the main circuit board. If an external switch is connected to this connector, a closure of the switch will turn off the pedestal transmitter.

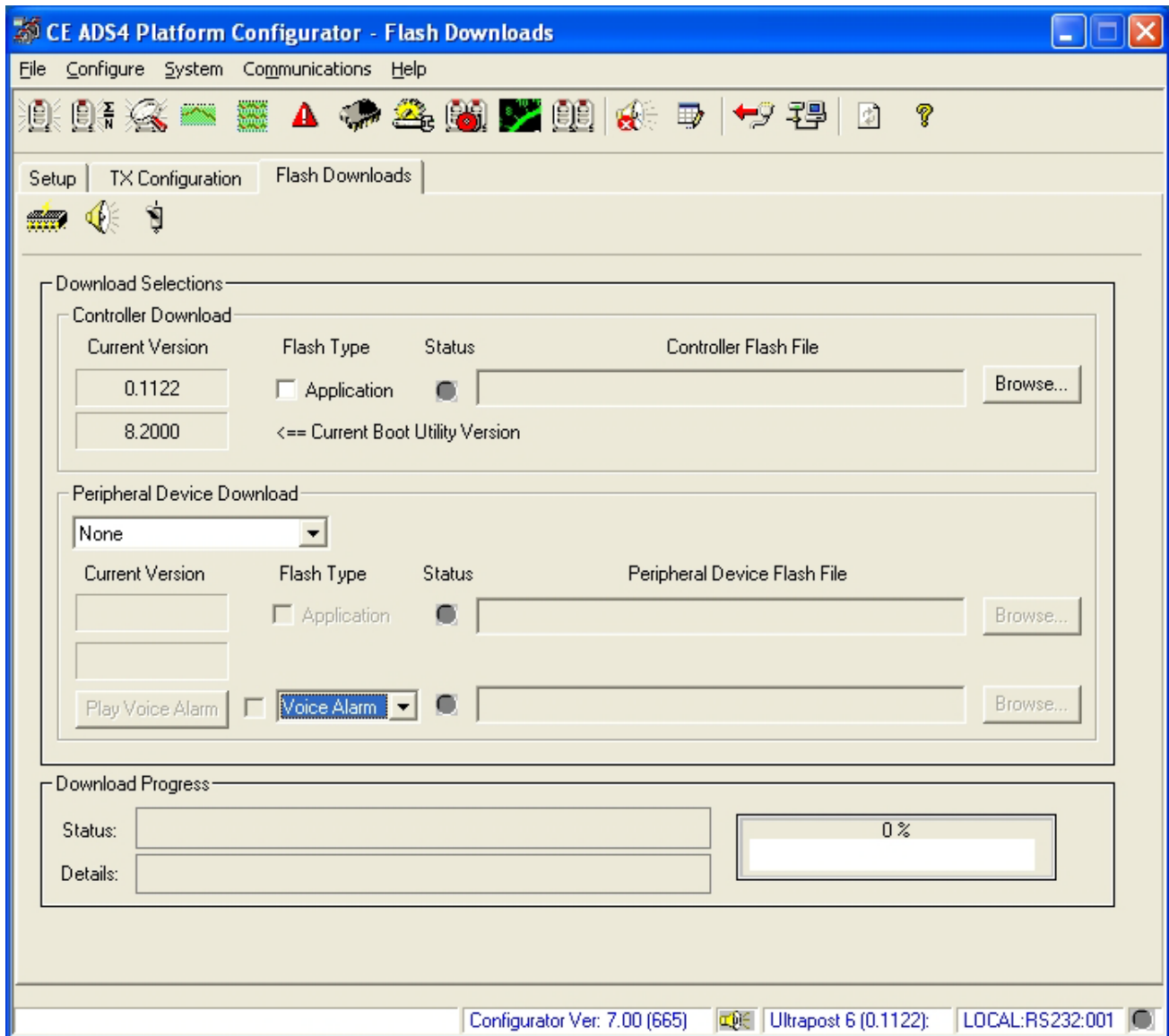
### **PC Power Save**

**PC Power Save (Enabled, Disabled).** If enabled, the pedestal will go into low-power mode (the transmitter is turned off) when no people counts have occurred in the amount of time specified in the Timer parameter. This function requires the People Counting option.

**Timer (15, 30, 45, 60, 75, 90, 105, 120).** The amount of time that no people counts occur before the pedestal goes into low-power mode.



## Flash Downloads



Use this page to download an application other than the one in use to the controller.

### Function Buttons for this Page

From left to right:

- **Start Flash Download.** Click to start the flash download.
- **Play Audio File.** Click to play the sound or message to be downloaded to the antenna from a file on the laptop.
- **Reset Pack.** Click to reboot the controller.

## Settings

### Download Selections

#### Controller Download

- Shows the current version of program and data files in the controller to be downloaded, the flash type, and the download status of the controller flash file once downloading has begun.
- Multiple files are downloaded sequentially.
- Enabling Flash Type displays a browser window you can use to find the file. A browse button is also provided.

#### Peripheral Device Download.

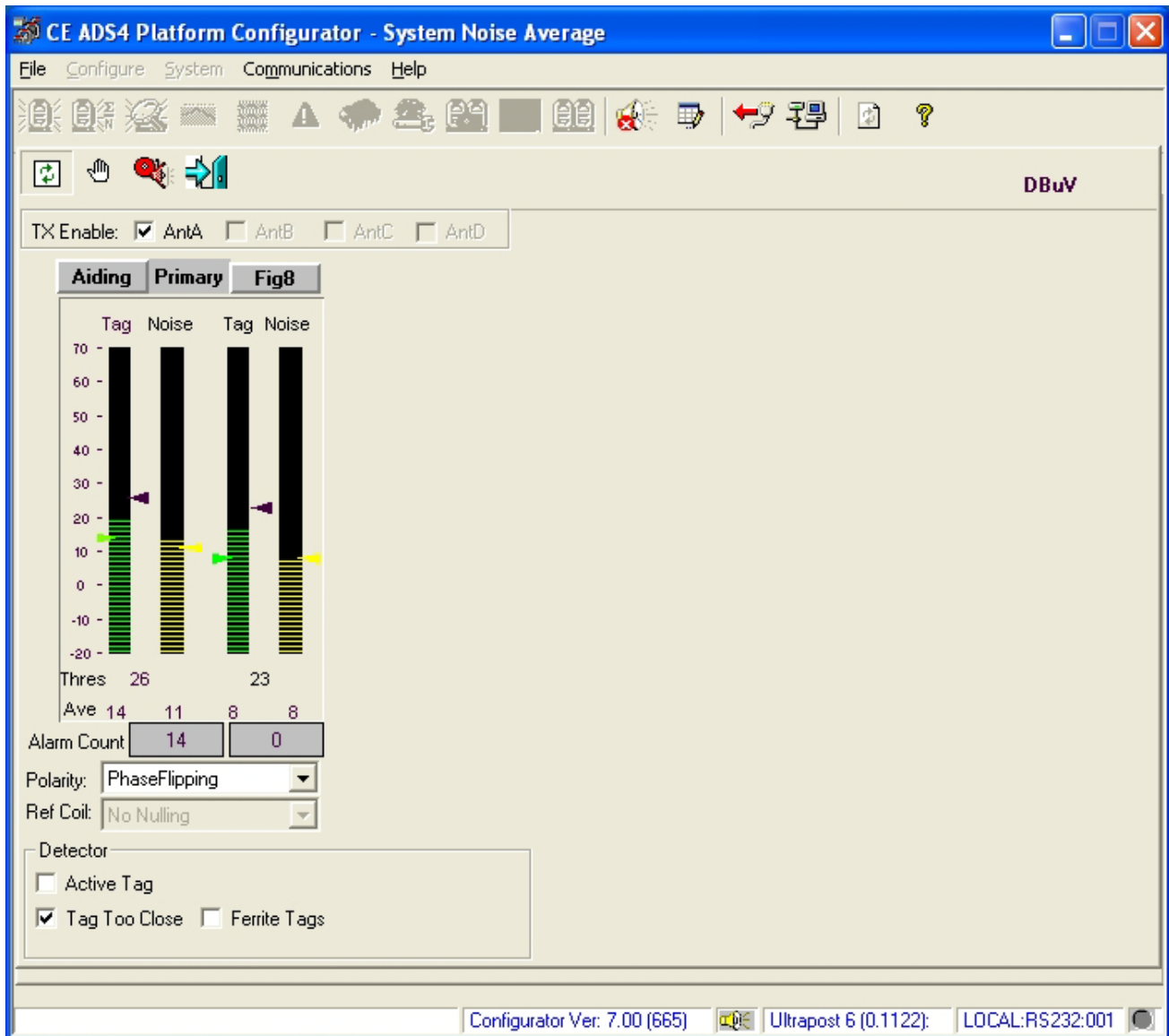
- A selection field enables device selection depending on the inventory.
- Shows the current version of program and data files in the controller to be downloaded, the flash type, and the download status of the device flash file once downloading has begun.
- Multiple files are downloaded sequentially. A browse button is provided.

**Play Voice Alarm.** Plays the alarm out of the antenna speaker after the download.

#### Download Progress

Status, details, and progress of each download are displayed.

## System Noise Average



This window contains an antenna display showing tag and noise levels, and detector and zone detect settings. Transmit channels can also be enabled/ disabled using this window.

### Function Buttons for this Window

From left to right:

- **Request System Noise Averages Data.** Click to resume receiving noise averages data the window.
- **Stop Receiving System Noise Averages Data.** Click to stop new data from being sent; the display freezes with a display of the last values received.
- **Set Alarm Type.** This sets the alarm type (alarm, siren, or bell) for the configurator, not the pedestal.
- **Close System Noise Avg/Phasing Dialog.** Click to close the page.

### Readings and Settings

**TX Enable.** Check to enable the transmitters for individual antennas.

**Level indicators.** Display tag and noise levels of antennas (in dB) on a logarithmic scale. The tag and noise means, as well as the threshold, are numerically displayed. Levels from up to four antennas can be displayed.

- Receiver outputs for tag (green) and noise (yellow) levels are shown in real time.
- Green and yellow arrows show the average value of the tag and noise levels.
- A black arrow indicates the current signal threshold for tag detection.

**Alarm counter.** This counter shows the number of alarms that have occurred at an antenna since the controller was installed or the last time the alarm reset button was pushed, whichever was most recent. The counter turns red and increments when an alarm occurs.

**Polarity (Phase Flipping, Aiding, Figure 8, Coil 1-2, Nulling).** Selects the receiver polarity of each antenna displayed.

Selecting the correct receiver polarity can reduce effects of noise on the system. To select the proper setting, look at noise levels, and ask the following questions.

1. Are noise levels normal or high?

- Normal – Leave the setting at phase flipping.
- High – Go to step 2.

2. Is the noise between the top and bottom coils unbalanced? This usually happens when the floor is transmitting a lot of noise. Observe noise levels for antennas in figure 8 and aiding modes.

If noise is balanced between the two coils, noise levels in figure 8 mode will be lower than in aiding mode because the system is rejecting some common-mode noise.

If noise is unbalanced, noise levels in figure 8 and aiding are roughly equivalent.

- If figure 8 levels similar to aiding, set the receiver polarity to Coil 1-2. This causes the controller to process the receive data from the top and bottom coils separately, which keeps the noise in the bottom (noisy) coil from corrupting the top coil. This setting can result in reduced detection performance near the bottom coil.
- If figure 8 noise levels lower than aiding, go to step 3.

3. Set the receiver polarity setting to figure 8 first, check noise levels, and then set the receiver polarity setting to nulling. Use the better-performing setting.

- Setting the receiver polarity control to Figure 8 causes the controller to subtract the common-mode noise in hardware before it gets to the amplifiers in the front-end. This can be useful if the noise-levels are so high that receiver inputs are clipping.
- Setting the receiver polarity control to nulling enables the controller to use software algorithms to balance noise before subtracting out the common-mode noise, similar to the noise canceling diff amps. You can either compare the upper and lower coils in one antenna (vertical nulling) or compare coils in neighboring antennas (horizontal nulling). The only way to verify the effectiveness of this noise canceling technique is to conduct a formal pick test after the comparison antenna is selected.

Alternately, you can use the following table to tune the system.

Tag Mean	Noise Mean	Action
High	Low	<ul style="list-style-type: none"> <li>• Turn TX off; if Tag average drops, look for tags.</li> <li>• Check Time Phase graph for ring down, move Tag window, recheck</li> <li>• Check Time Phase graph, check for TX out of phase</li> <li>• Check Frequency analyzer for spikes, lower Notch threshold and Guard band</li> </ul> <p>* repeat steps for all affected coils, then try alternate RX Polarity settings.</p>
Low	High	<ul style="list-style-type: none"> <li>• Possible out of phase system, check Time Phase graph</li> <li>• On Time Phase graph check Noise window and adjust position</li> <li>• Check Frequency analyzer for spikes, lower Notch threshold and Guard band</li> </ul> <p>* repeat steps for all affected coils, then try alternate RX Polarity settings.</p>
Low within 3dB of Noise	Low within 3dB of Tag	<ul style="list-style-type: none"> <li>• Check TX for proper current and B-field.</li> <li>• Remove Ringdown Canceller and enable Coil 1-2 polarity, then continue troubleshooting</li> <li>• In Loops make sure RX are not wired correctly, in pedestal make sure they are facing towards or away from each other.</li> </ul>
High within 3dB of Noise	High within 3dB of Tag	<ul style="list-style-type: none"> <li>• Possible multiple out of phase system, check Time Phase graph</li> <li>• Check Frequency analyzer for spikes, lower Notch threshold and Guard band</li> <li>• Check Frequency analyzer for spikes, lower Notch threshold and Guard band</li> <li>• Remove Ringdown Canceller</li> <li>• Enable Noise canceling, with or without noise canceling antenna connected.</li> </ul> <p>* repeat steps for all affected coils, then try alternate RX Polarity settings.</p>

**Ref Coil (No Nulling, Nulling).** This drop-down box allows you to select a coil as the reference coil when an antenna is put in nulling mode.

#### Detector Settings

**Active Tag (Enable, Disable).** Enable when battery operated EAS tags are used.

**Tag Too Close (Enable, Disable).** Enables the tag too close feature. If a tag is left near an antenna the LEDs flash silently twice and then pause for 5 seconds before repeating.

**Ferrite Tags (Enable, Disable).** Enable when ferrite EAS tags are used. Ferrite tags have a unique 'signature', for them to be recognized correctly. Verify with your local Sales representative whether the site is using Ferrite tags.

## Individual Noise Averages

The screenshot displays the 'Individual Noise Averages' window in the CE ADS4 Platform Configurator. The window title is 'CE ADS4 Platform Configurator - Individual Noise Averages'. The interface includes a menu bar (File, Configure, System, Communications, Help) and a toolbar with various icons. The main area is divided into several sections:

- Tabbed Interface:** 'Prim' is selected, with other tabs for 'Sec', 'Aux A', and 'Aux B'. There is an 'All Receiver' checkbox and a 'Polarity' section with 'Aiding' (selected) and 'Fig8' options.
- Noise Average:** A bar chart titled 'Prim - Aiding' showing 'Tag' and 'Noise' levels. The y-axis ranges from -20 to 70 dBuV. 'Tag' is at 14 dBuV and 'Noise' is at 9 dBuV. A 'Threshold' is set at 24 dBuV.
- Detection Criteria:** A grid of checkboxes for various criteria: SNR, Freq Mean, Freq Range, Demod Amp, Demod Phase, Q Amp, Q Phase, SNR Noncoh, FTD, and Alarm. Freq Mean, Freq Range, Demod Phase, Q Phase, and FTD are checked.
- Receiver Controls:** Includes a 'Ringdown Canceller' checkbox, 'MinThreshold: 21 dB', 'Sensitivity: 9', and 'Rx Gain: Enable AGC'. There is also a 'Notches After Noise Canceller' dropdown.
- WG Tx Trim:** Includes 'Tx Seq Trim' and 'Energy Trim' checkboxes, a trim slider (26 to 76), and a 'Trim Level: 62.99 dBuV' display.
- Alarms:** Shows 'Count: 16'.
- Frequency and Sensitivity:** A frequency display shows '58.99 kHz'. An 'FTD Criteria Sensitivity' display shows '1.65'.

The status bar at the bottom indicates 'Configurator Ver: 7.00 (665)', 'Ultrast 6 (0.1122)', and 'LOCAL:RS232:001'.

Use the Individual Noise Averages window to troubleshoot an antenna not operating to specification.

### Function Buttons for this Window

From left to right:

- **Request Individual Noise Average Data.** Click to manually refresh the window.
- **Set Alarm Type.** Click to bring up a dialog box that enables you to test the alarm sound, siren sound, or bell sound.
- **Change to SystemEnv Screen.** Click to select the System Noise Average window.
- **Close Individual Noise Averages Dialog.** Click to bring up the Setup page.

### Readings and Settings

#### Polarity

Use buttons to select the polarity or coil selected on the System Noise Average window.

## Noise Average

Displays real-time receiver outputs for tag (green) and noise (yellow) levels (in dB) on a logarithmic scale. The tag and noise means, as well as the threshold, are numerically displayed.

- Green and yellow arrows show the average value of the tag and noise levels.
- A black arrow indicates the current signal threshold for tag detection.
- A red arrow next to the Noise Average bar chart indicates the Trimming Threshold, which is part of the Adjacent Transmitter Interference Trimming function. Any amplitudes over this threshold will be used to detect/track an adjacent transmitter pattern and/or trim the received window using the Energy Trim option.

## Alarms

This counter shows the number of alarms that have occurred at an antenna since the controller was installed or the last time the alarm reset button was pushed, whichever was most recent. The counter turns red and increments when an alarm occurs.

## Detection Criteria

The eight tag detection criteria are enabled (default), but any criteria except FTD can be disabled to improve tag detection when the signal fails detection criteria. Indicators are green when the incoming signal passes detection criteria, red when it fails, and gray when disabled. Arrows indicate when SNR (signal-to-noise ratio) is too high or too low. The alarm indicator lights when all “enabled” criteria are met.

## Receiver Controls

**Ringdown Cancellor (Enabled, Disabled).** Enabling the ring down canceller causes software to profile stationary tags in the field, thus preventing the system from alarming on a stationary tag. This places the Antenna Coil for which it is enabled into a fixed gain. This can limit performance as well as create cases where false alarms are created.

- This setting is useful in sites that put tagged merchandise near antennas. It may also be useful at sites where nearby metal causes ringdown into the tag window.
- A side effect of leaving this function enabled is a customer may alarm the system when moving tagged merchandise within the detection zone. Explain this to the customer before leaving the field site.
- It is normal to get two to three alarms when you enable this function if tags or metal is in the area of the antenna as the controller profiles the environment. This parameter should only be enabled when no other solutions are available.
- The threshold for the ring down canceller can be adjusted using the Advanced Settings window.

**Min. Threshold (0–45, 9).** Adjusts minimum noise average in 3dB increments. Defaults vary by antenna types, lowering the minimum threshold will not enhance detection. It can be increased in accounts where alarms are generated overnight by nearby merchandise, too high and performance will be reduced during the day as well.

**Sensitivity (0–15, 9).** Adjusts the sensitivity of the receiver to tag signals. The black arrow on the tag level indicator moves up or down with this setting. The default setting of 9 is adequate for the vast majority of situations. Raising the value will increase chances of false alarms, lowering will reduce performance.

- For good performance (good pick with few false alarms), a difference of about 15dB is usually needed between the values for tag threshold and mean. Environments that are very quiet or very noisy may need slightly more or less than 15dB.
- If the environment has a lot of noise and it cannot be compensated adequately, you can use the receiver polarity controls or the Advanced Settings window to restore performance.
- If adjusting the sensitivity slider does not seem to change the tag threshold, ensure the minimum threshold parameter hasn't been changed from its default.

**Rx Gain (Enable AGC, Low Gain, +10dB Gain, +20dB Gain, +30dB Gain).** You can select a fixed gain or set the AGC.

When running Ringdown Canceller, Nulling, or Noise hunting your RX coil will be placed in fixed gain. The gain levels are opposite, Low gain has the most gain, while +30dB is really adding a Negative 30dB of gain. The controller will automatically choose a gain level, based on the closest value being used by the AGC, when RDC, Nulling, or Noise Hunting is enabled.

Once you are running Nulling, RDC, or Noise hunting you will not be able to choose gain levels for the RX coil. To force a change, you must return to Coil 1-2, and/or disable RDC. Choose a gain level (repeat for all desired coils), then choose RDC, Nulling, or Noise hunting. Note; gain is returned to AGC when these modes are deselected.

**Notches Before/After (Notches Before Noise Canceller, Notches After Noise Canceller).** Determines whether notches are applied before or after noise cancellation. This is referring to the LMS Canceller, it is a software filter run by the DSP in the controller. In some cases it may improve performance/reduce noise to enable Notches after or before the LMS Canceller.

### **WG Tx Trim**

**Tx Sequence Trim (Disabled).** Enables the Tx Sequence trimming Algorithm. This setting is used in a per Polarity /Coil Basis.

**Energy Trim (Disabled).** Enables the Tx Energy trimming Algorithm. This setting is used in a per Polarity /Coil Basis.

**Trimming Threshold Slider (63 dBuV).** Use to select the Trimming threshold to use with Tx Sequence or Energy Trimming. This setting is used in a per Polarity /Coil Basis.

**WG Sequence LED (63 dBuV).** If the LED is on, it means that the system is detecting a valid interfering transmit pattern.

**Trim Level.** Represents the value selected with the Trimming Threshold Slider.

### **Frequency**

This level indicator shows the frequency of the incoming tag signal.

### **FTD Criteria Sensitivity**

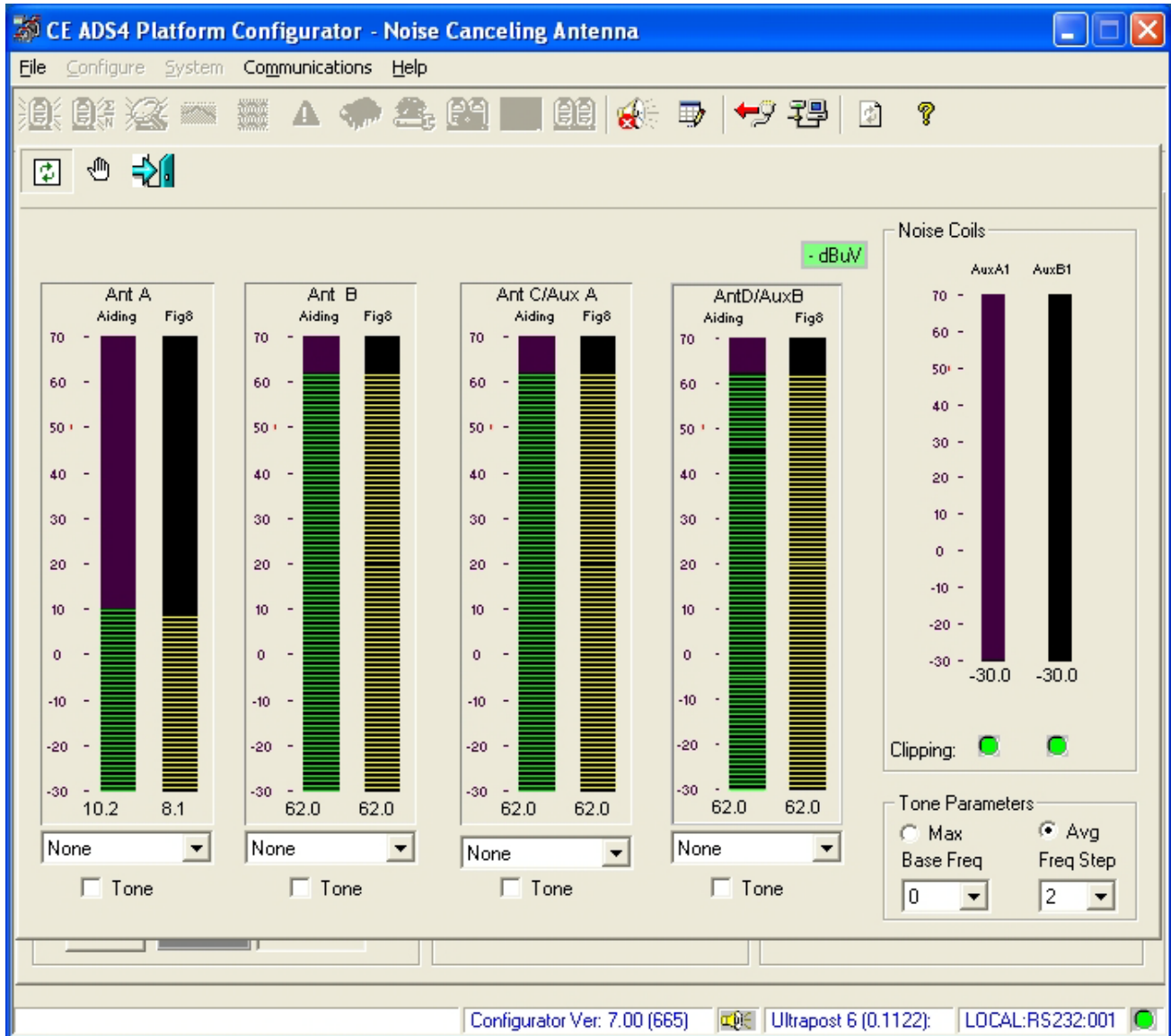
This setting should not be adjusted without referring to Technical Support for guidance.

The FTD (failure to deactivate) Criteria Sensitivity chart displays FTD information. The controller uses this information to reject partially deactivated (“wounded”) labels, which are often caused by improper deactivation. If a site is having problems with wounded labels causing the system to alarm, you can increase the FTD Sensitivity parameter on the Advanced Settings screen. This, however, might allow some non-deactivated (“live”) labels to pass through without alarming. If this happens, reduce the FTD Sensitivity parameter.

On the chart, the red marker is the dynamic FTD Threshold Ratio. The black marker is the default FTD Threshold and is user selectable in the Advance Settings screen.



## Noise Canceling Antenna



If in-band environmental noise occurs, you can install noise cancellation antennas to reduce its effect. Examples of environmental noise sources are: ballast, neon lights, computer monitors, and low-voltage halogen lights.

- Use this window to monitor the effect of noise cancellation antennas.
- Each enabled configuration (aiding or figure 8) is displayed.
- The effectiveness of the selected noise coil and its location can be judged by watching the display.
- Up to four noise coils can be selected to use with any antenna or auxiliary coil detected by the system.
- An indicator lights red to indicate when clipping occurs.
- The system will not alarm when noise canceling is active. Allow 10 seconds for the noise canceller to adapt to the noise antenna position.
- Only noise coils selected as a reference are shown.

## Function Buttons for this Window

At the top of the window are three buttons from left to right:

- **Request Noise Canceling Antenna Data.** Click to read noise canceling data from the controller.
- **Stop Receiving Noise Canceling Antenna Data.** Click to stop reading noise canceling data from the controller.
- **Close Noise Canceling Antenna Dialog.** Click to bring up the Setup page.

## Readings

Antenna and Noise coil barcharts display the noise averages for these antennas. The Clipping LEDs indicate the amount of clipping that is occurring.

## Settings

**Tone (Enabled, Disabled).** To assist you in placing the noise canceling antennas, the laptop emits a tone of varying frequency. The frequency of the tone increases as the effectiveness of the noise cancellation improves. Click to enable the laptop noise canceling tone.

**Tone Parameters.** Controls the sound the laptop makes.

**Max and Avg.** The Max and Avg check boxes control the volume of the search tone. Select Avg instead of Max if the frequency moves around too much while you are placing the antennas.

**Base Frequency (0–1000, 0).** Raises or lowers the frequency of the tone heard in 100Hz increments.

**Frequency Step (2, 4, 6, 8, 10).** Determines how much difference in tone frequency there is as the noise cancellation increases.

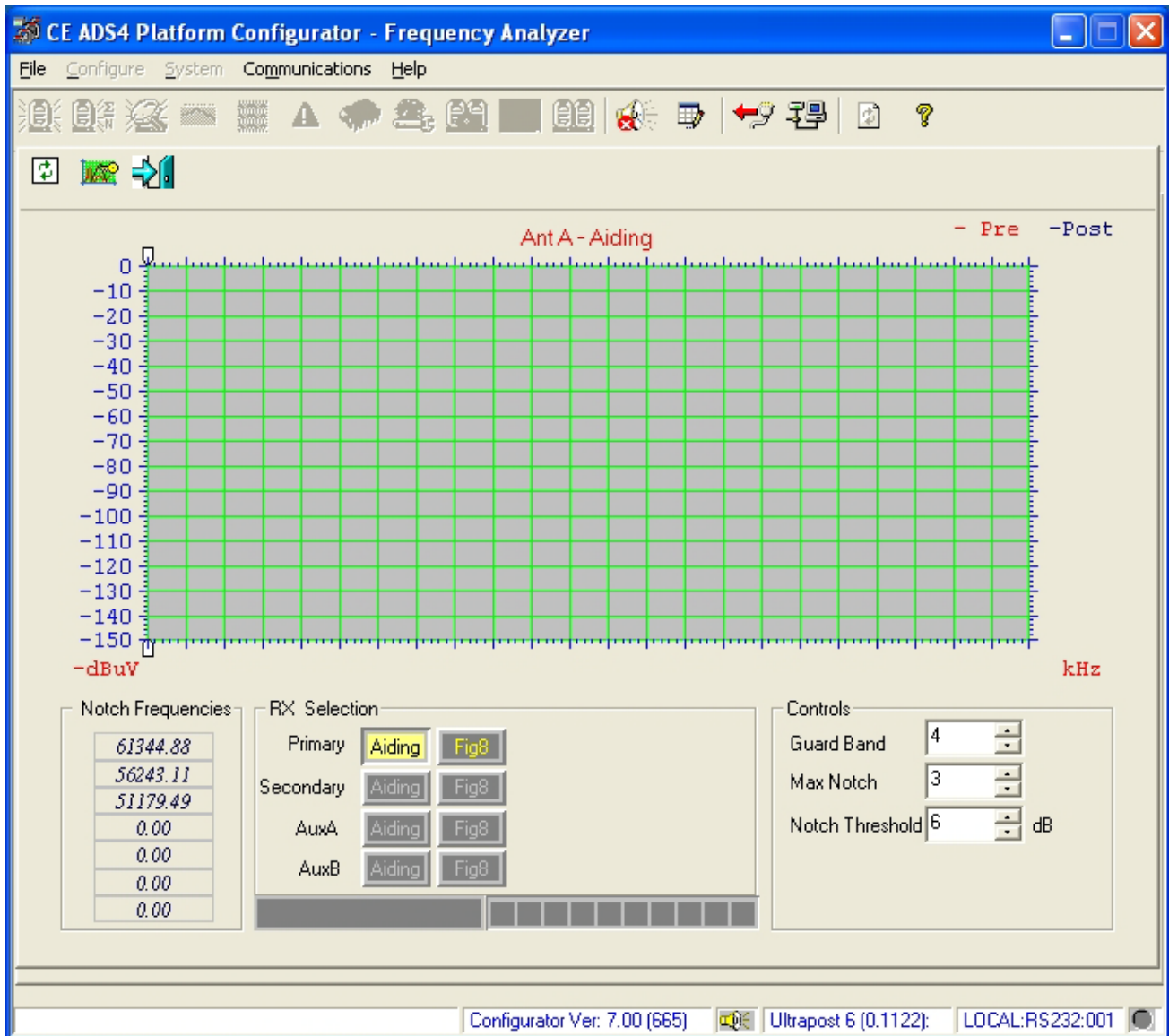
## *NOISE CANCELING PROCEDURE*

To cancel noise, do the following:

1. Connect the noise canceling antennas to the controller. Refer to the Ultra•Post 6 Controller Installation Guide 8200-0367-02. Use Aux A1, B1, C1, or D1 as noise coil inputs. Note: when used as a noise coil input, these coils will not act as receivers for detection.
2. Select the antenna as a reference. A power level appears for each noise coil selected with a numerical display (in dB) just below.  
**Note:** Green/yellow/red indicators show the severity of signal clipping. The clipping indicator is normally green. If the signal is too large (such as when the noise coil is too close to the noise source), the indicator will turn red.
3. Move the noise canceling antenna around and in different orientations until the noise hotspot is found. When the noise canceling antenna is near a noise hotspot, the bar of the level indicator for Noise Coil Aux A will increase and the bar graph on the left for one or more of the Antennas will decrease.  
Keep the antenna in the hotspot for 10 seconds to ensure the location is good.  
**Note:** If you cannot see the laptop screen while moving the antenna, enable the Tone to hear the effect of moving the antenna around through the laptop speakers. The pitch changes according to the amount of noise cancellation.  
**CAUTION:** Do not put the noise canceling antennas in the detection area or the tag signal will also be reduced.
4. If the hotspot is consistent, attach the antenna to its location.
5. Repeat steps 2 to 4 for the next noise canceling antenna, if used.

**Note:** After exiting this screen, it may take several seconds for the noise average screen to respond.

## Frequency Analysis



Use this window to identify the frequency of noise sources in the system environment, whose data can be used to decide if advanced techniques can be helpful like nulling and noise canceling coils. The dashed vertical line indicates the noise at 58kHz. The horizontal display indicates the frequency from 46 to 69kHz.

### Function Buttons for this Window

From left to right:

- **Request Frequency Analyzer Data.** Click to read frequency domain data from the controller.
- **Lock Graph Axis.** The configurator normally changes the scale of the graph to best fit the data displayed. Click to lock the scale from 0 to -70dB.
- **Close Frequency Analyzer Dialog.** Click to return to the Setup page.

## Readings and Settings

### Notch Frequencies

Indicates the filters enabled by the detection software. The total number of notch filters can be changed in the “Controls” section of this window.

### RX Selection

Click the button of the receiver to be monitored. Default: First antenna in inventory (Aiding).

**Upload level indicators.** Indicates status and progress of the upload operation from the controller.

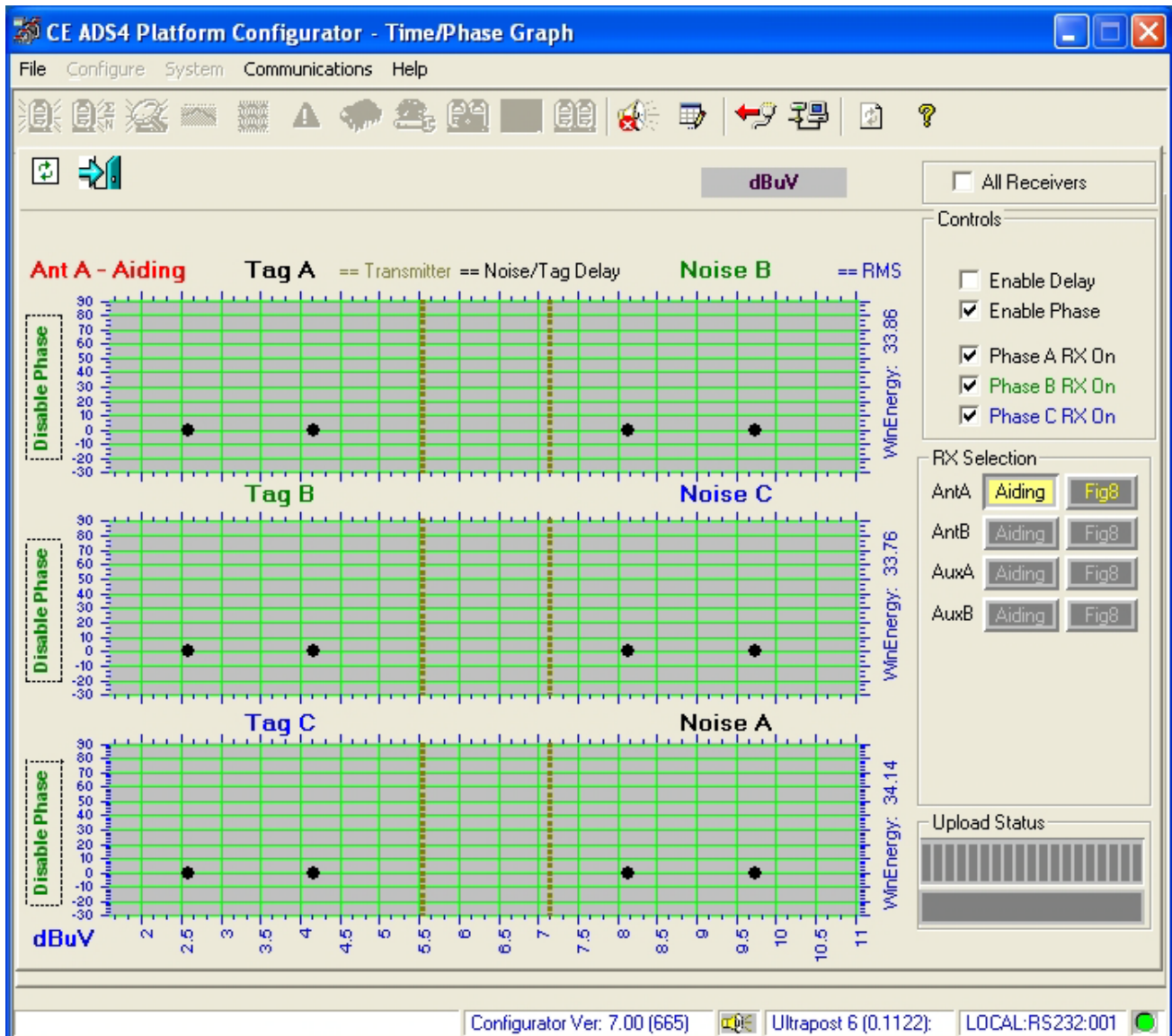
### Controls

**Guard Band (1–7, 4).** Controls how close the notch filters can get to 58kHz in 300Hz increments. Use to block out frequencies close to the tag signal; however, reducing the guard band may also reduce the tag signal. This control applies to all receivers.

**Max Notch (0–7, 3).** The number of notch filters selected to filter out out-of-band noise. Increasing this setting can reduce real time faults (a fault that occurs when the processor runs out of time). This control applies only to the receiver selected.

**Notch Threshold (1–16, 6).** This is the preferred method for reducing the number of notch filters. Increasing the offset (in dB) makes the use of a notch filter less likely. This control applies to all receivers. By decreasing this number, it will create more notches if there are noise spikes, up to the Max Notch setting.

## Time/Phase Graph



This graph displays time/phase data recorded when the controller is rebooted. This data is also recorded periodically (typically every 15 minutes).

### Function Buttons for this Window

From left to right:

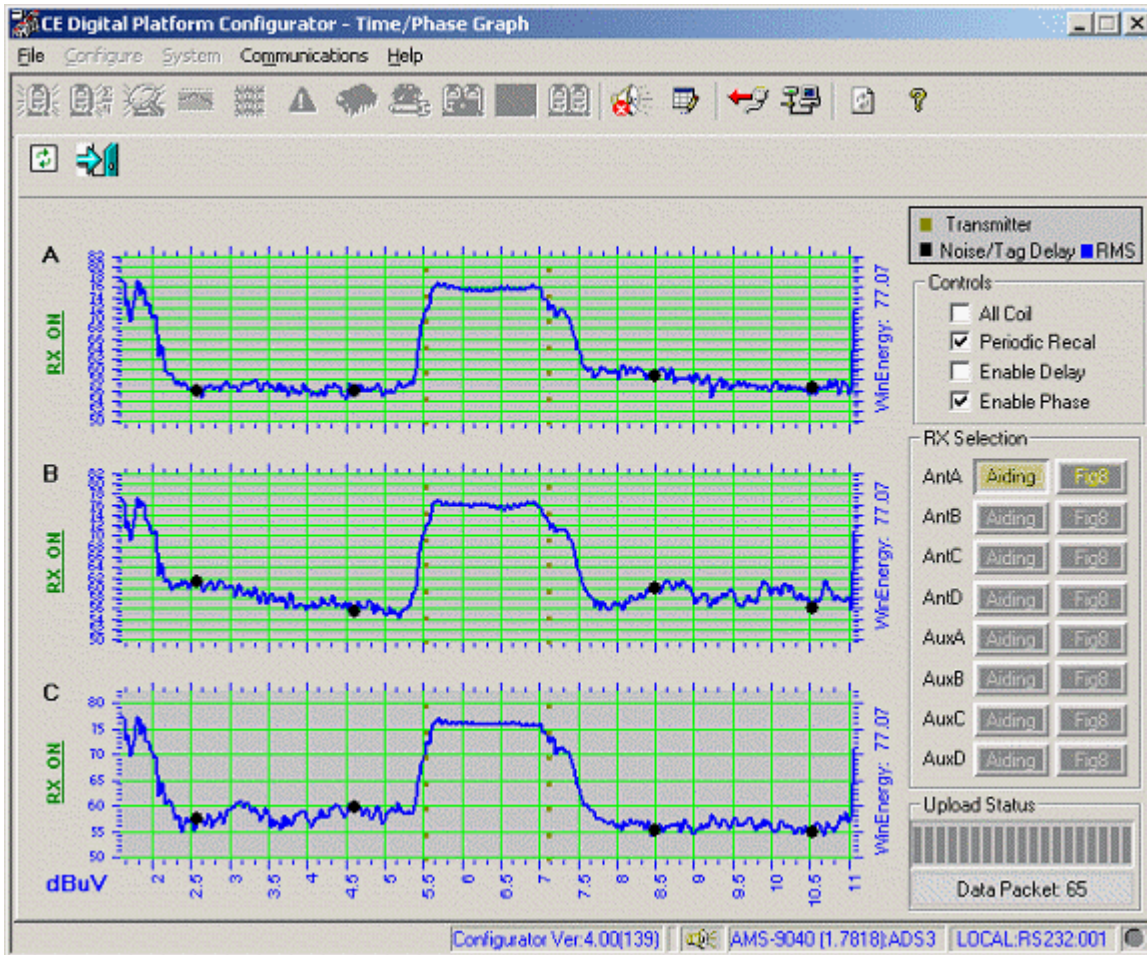
- **Request Time/Phase Graph Data.** Click to read time/phase data from the controller.
- **Close Time/Phase Graph Dialog.** Click to return to the Setup page.



## Adjusting the Graph

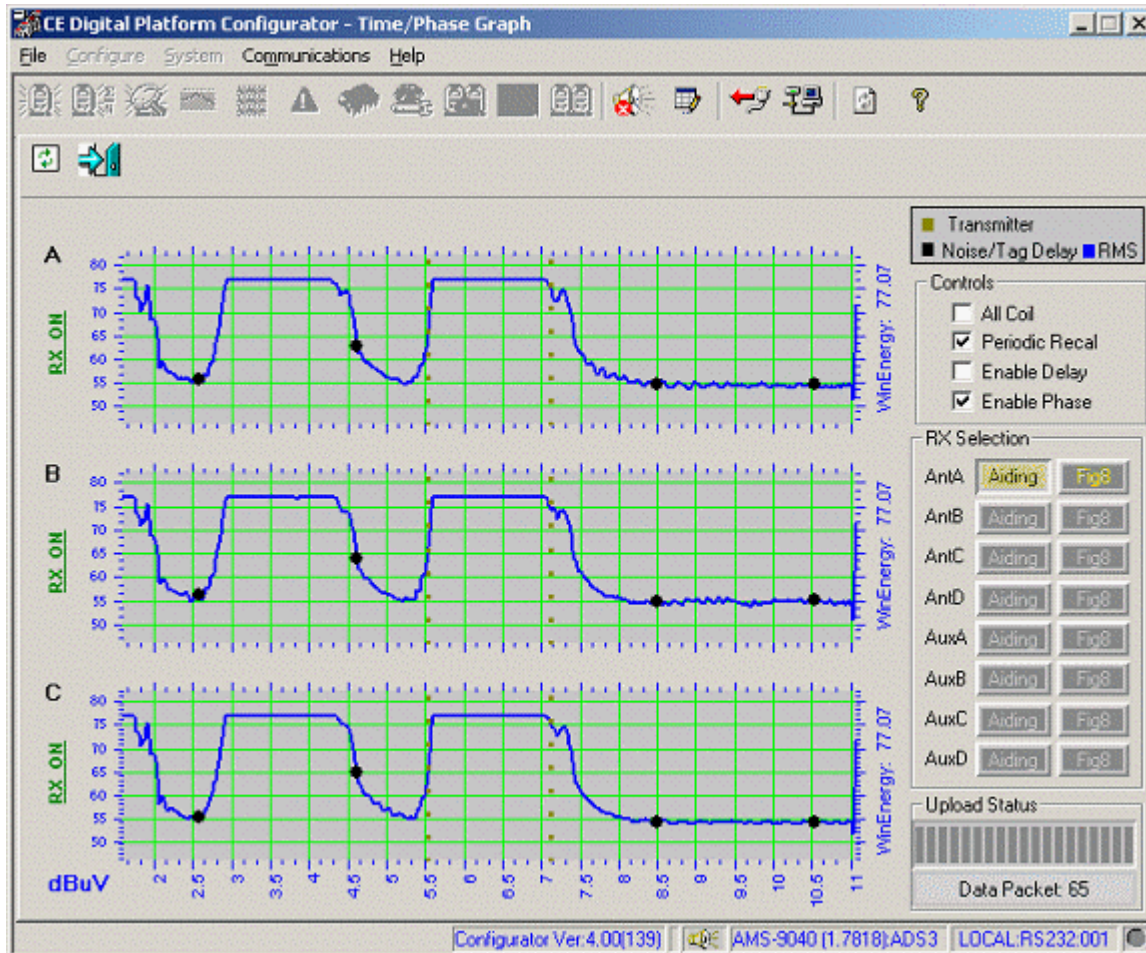
The figure below shows one chart on the time/phase graph of a properly phased system and store environment. The chart starts at the left some time after the end of a transmitter burst, which occurs 1.6ms after the zero crossing for that phase.

By dragging and dropping with your mouse you can adjust the Tag and Noise window locations (within limits). This is useful for working around noise spikes or ring down issues at the leading or trailing edge of those windows. Each RX coil can be adjusted independently.



If you can identify the out-of-phase transmitter, you can remove power from the offending system and then recalibrate and observe whether the plateau effect disappears. See the following screen for an example of an out-of-phase system.

## Example of an Out-of-Phase Transmitter



If the system detects a problem on a particular phase, it can disregard the receiver data for that phase. In that case, the display will show “Disable Phase” to the left of the chart for that phase instead of “Enable Phase”.

Each chart on the page has three areas of interest: the tag listen window, the remote transmitter window, and the noise listen window.

### Tag listen window.

- First and second black dots indicate the start and finish times of the tag listen window (click on a dot to drag and change the timing). During this time, the system listens for the response from an active tag.
- Review the Figure 8 and Aiding charts on all antennas to determine if ring down is occurring in the tag listen window. If it is, either remove the object causing the ring down or delay the start of the tag listen window.

### Remote transmitter window.

- Two vertical dashed lines indicate the start and finish times of the remote transmitter window. If the other Ultra•Max systems in the area are properly phased, their transmitters should transmit only during this window.
- An Ultra•Max transmitter at 58kHz will normally cause the graph to spike upward and stay flat resembling a plateau. For 50Hz line phase systems, the window begins at 6.67 msec. For 60Hz line phase systems, the window begins at 5.56msec.

### Noise listen window.

- Third and fourth black dots indicate the start and finish times of the noise listen window (click on a dot to drag and change the timing). During this time, the system listens to determine how noisy the environment is.

- Review the Figure 8 and Aiding charts on all antennas to determine if other systems are transmitting in the noise listen window.

## Readings and Settings

### Controls

**Enable Delay (Enabled, Disabled).** The controller automatically adjusts the start of the tag and noise listen windows to maximize performance. If enabled, this task runs every 15 minutes. If disabled, this task never runs. This feature is not recommended to be enabled as it can cause erratic performance and occasional false alarms.

**Enable Phase (Enabled, Disabled).** The controller automatically turns phases on and off when this selection is enabled. Otherwise, phases can be turned on and off manually by clicking the button to the left of the graph.

**Phase A/B/C Rx On (Enabled, Disabled).** Check to manually turn the phase on. Uncheck to turn the phase off. This selection functions the same as manually clicking the button to the left of the graph. When you manually disable a phase, make sure you also deselect 'Enable Phase', otherwise the controller may re-enable it at the next recalibration.

### RX Selection

Click the button of the receiver to be monitored. Default: First inventory antenna (Aiding).

### Upload Status

Indicates the progress of the upload operation from the controller.



## Error Report

The Error Report is a Notepad window accessed by pressing the error report function button located in the top row of buttons. This button is identified by the triangle containing an exclamation point.

The error report lists information useful when troubleshooting system problems. Information in the report is listed under three categories: System Information, Runtime Information, and System Errors (also called alert codes). A sample report is shown at the end of this topic.

### System Information

System information lists version and build information about the system and the type of antennas used.

### Runtime Information

Runtime information lists the following:

- **Reset Count.** Displays the number of times power to the controller was cycled off and on.
- **Watchdog Reset Count.** Displays the number of times the controller reset due to the watchdog timer. This number will also increment every time a down load was performed.
- **Soft Re-boot Count.** Not used.
- **Total Run-time (Days, HH:MM:SS).** Displays the time (in days, hours, minutes, and seconds) the controller is running since it left the factory.
- **Run-time Since Last Reset (Days, HH:MM:SS).** Displays the time (in days, hours, minutes, and seconds) the controller is running since the last reset.
- **Total Errors.** Displays the total errors logged since the NVM was cleared using the service configurator.
- **Test Point Configuration.** Displays how test points in the controller are configured. Not used in the field.

### System Errors

The Status LED on the controller displays system status error codes. When an error code occurs, the LED changes color and pattern. Red is used for serious alerts while yellow is used for those less serious. The number of yellow or red flashes identifies a digit in a two-digit error code (for example, four flashes is the number four). The start of an error code is indicated by a long LED interval. Then the first digit of a two-digit error code occurs, followed by a short delay, followed by the second digit. Error codes repeat until the condition is resolved or a timer resets the system.

Most error codes are automatically resolved but some codes can only be accessed by opening the error report in the service configurator. They are not displayed by the Status LED.

Except for fatal errors, error codes are lost when the controller is reset. Fatal errors are errors that cause the controller to reset. These errors are stored in NVM and can only be cleared using the service configurator. Code storage has a time stamp in days, hours, minutes, seconds, and milliseconds of when the system error occurred.

**Log Index.** Lists the sequence number of the error. Up to 64 errors are shown in the first and last error logs; the first 32 (0–31) are listed in the first error log and the last 32 (0–31) are listed in the last error log. The last 32 errors are displayed using the first-in-first-out method.

**Error Number.** Displays the type of error.

**Info.** Displays additional information used for debugging. This criteria is typically not used in the field.

**Time (Days, HH:MM:SS:msec).** Displays the total time (in days, hours, minutes, and milliseconds) the error was displayed.

**Error Description.** Describes the type of error shown.

ERROR REPORT

Date/Time Saved: 09/20/2004 @ 08:38:23

---

SYSTEM INFORMATION:

Power Supply Type ..... AMS-9040  
 Configurator Version ..... 4.00 Build 143  
 Application Version ..... 1.0000  
 Application Build ..... 1.7819  
 Boot Utility Version ..... 6.9000  
 View Name..... ADS3

Antenna C ..... ProMax V3.400, Boot V1.006  
 Antenna D ..... ProMax V3.400, Boot V1.006

---

RUNTIME INFORMATION:

Reset Count ..... 58  
 Watchdog Reset Count ..... 51  
 Soft Re-boot Count ..... 0  
 Total Run-time ..... 21 Days 23:05:300 (HH:MM:SS)  
 Run-time Since Last Reset .. 4 Days 17:02:152 (HH:MM:SS)  
 Total Errors ..... 5783  
 Test Point Configuration ... 0

---

SYSTEM ERRORS:

FIRST ERROR LOG

Log Index	Error Number	Info	Time (Days)	Time (HH:MM:SS.mSec)	Error Description
0	33	0	0	0:00:02.585	Ped C Not Tuned
1	34	0	0	0:00:02.760	Ped D Not Tuned
2	28	0	0	0:00:08.695	AntC Current Sense Fault

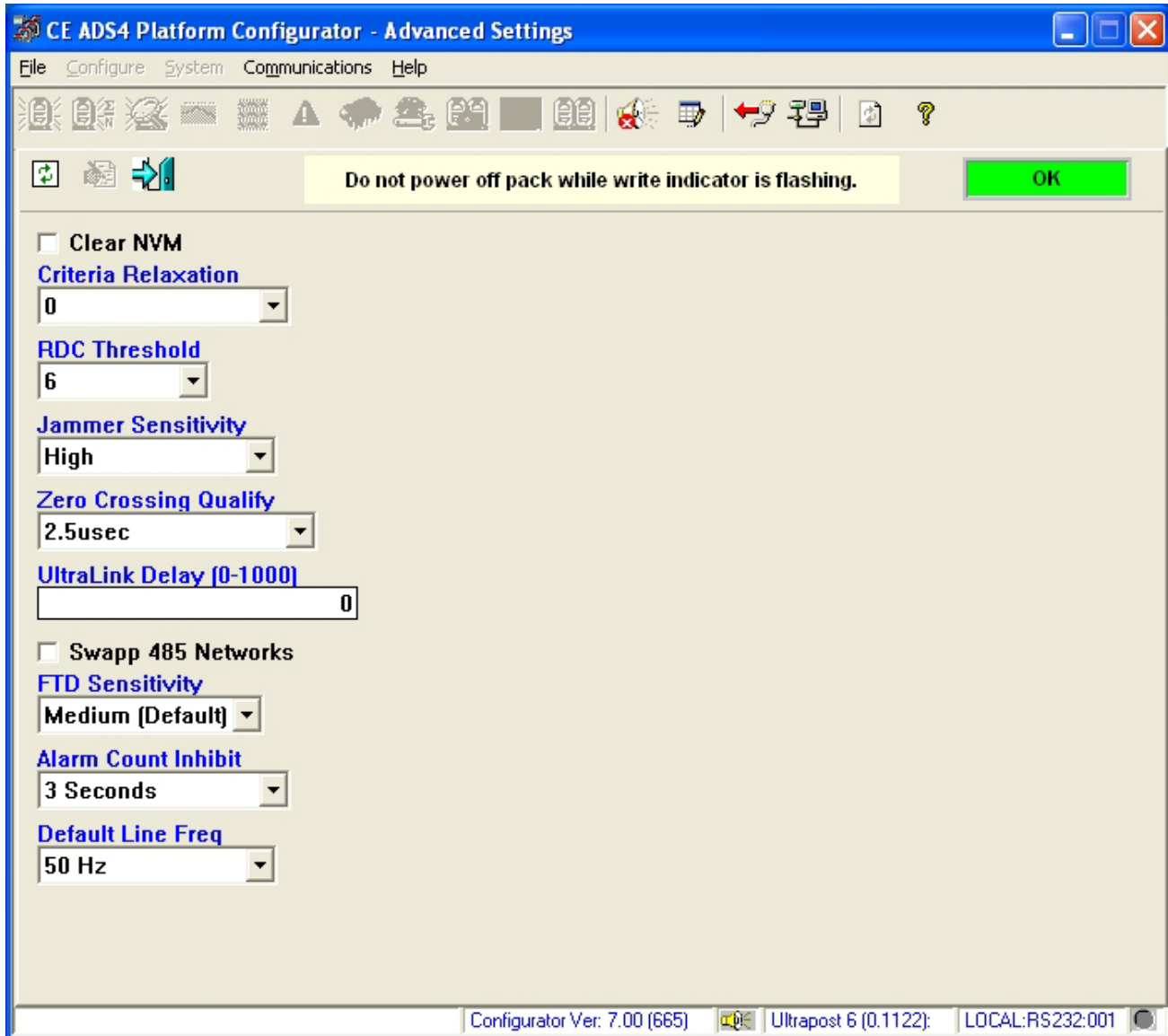
LAST ERROR LOG

Log Index	Error Number	Info	Time (Days)	Time (HH:MM:SS.mSec)	Error Description
0	33	0	0	0:00:02.585	Ped C Not Tuned
1	34	0	0	0:00:02.760	Ped D Not Tuned
2	28	0	0	0:00:08.695	AntC Current Sense Fault

FATAL ERROR LOG

Log Index	Error Number	Info	Time (Days)	Time (HH:MM:SS.mSec)	Error Description
***** No Errors *****					

## Advanced Settings



**WARNING!** Do not power off the pedestal while the “write” indicator is flashing.

**CAUTION:** Not typically used in the field, the Advanced Settings window is used to configure the firmware in the controller. DO NOT USE unless you have a deep understanding of how the system works.

### Settings

**Clear NVM (Enabled, Disabled).** When enabled, sets most configuration settings to factory defaults while maintaining installation-specific settings. The installation-specific settings that will not be cleared are:

- Total Runtime
- Error Counts
- Reset Counts
- Fatal Errors.

Alarm counts will be cleared.

**Criteria Relaxation (0-30).** If, after verifying phasing and performing tuning, performance is still not up to expectations it is recommended to try criteria relaxation. It allows all criteria to stay enabled but loosens the tolerances; it may increase performance at the risk of false alarms. Typically do not exceed 20, start with less and work up.

**RDC Threshold (0–15, 6).** The RDC canceller can be in one of two states: fast or slow. The threshold sets how much tag signal is needed to put the canceller in the fast state.

**Jammer Sensitivity (12, 24, 36, 48dB, 48dB).** Select this adjustment to change the threshold for jammer detection in 12dB increments.

**Zero Crossing Quality (2.5, 5, 7.5, 10µsec, 2.5 µsec).** Use this adjustment to filter the zero crossing signal when a dirty power line is encountered. The higher the number, the more filtering occurs.

**UltraLink Delay (0–1000).** Sets the delay between the controller and the UltraLink device.

**Swapp 485 Networks.** This parameter swaps the host-client relationship for the RS-485 network. For example, if the system is connected to an LDM, the system should be a client. If the system is connected to a Remote Alarm or other peripheral device, the controller should be a host. This parameter is only used on the AMS-1080; do not enable this parameter on the Ultra•Post 6.

**FTD Sensitivity.** If a site is having problems with wounded labels causing the system to alarm, you can increase the FTD Sensitivity parameter. This, however, might allow some non-deactivated (“live”) labels to pass through without alarming. If this happens, reduce the FTD Sensitivity parameter.

**Alarm Count Inhibit.** The system must not alarm for the selected period of seconds before counting the next alarm. This prevents multiple alarm counts for one tag.

**Default Line Frequency (50Hz, 60Hz).** This frequency is what the system uses if it cannot determine the ac line frequency.

## Sequence Table

The screenshot shows the 'CE ADS4 Platform Configurator - Sequence Table' window. The window title bar includes 'File', 'Configure', 'System', 'Communications', and 'Help'. Below the title bar is a toolbar with various icons. The main area contains a 'Table Length' field set to '2'. Below this is a table with two main sections: 'RECEIVERS' and 'TRANSMITTERS'. Each section has columns for 'N/A', 'Aux B', 'Aux A', 'Xcvr B', and 'Xcvr A', each with two sub-columns labeled '2' and '1'. The rows are labeled 'Slots\Coil' with values '0' and '1'. The table contains checkmarks indicating active status for each coil and component. The status bar at the bottom shows 'Configurator Ver: 7.00 (665)', 'Ultrast 6 (0.1122)', and 'LOCAL:RS232:001' with a green indicator light.

Slots\Coil	RECEIVERS								TRANSMITTERS															
	N/A		N/A		N/A		N/A		Aux B		Aux A		Xcvr B		Xcvr A		N/A		N/A		Xcvr B		Xcvr A	
0	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

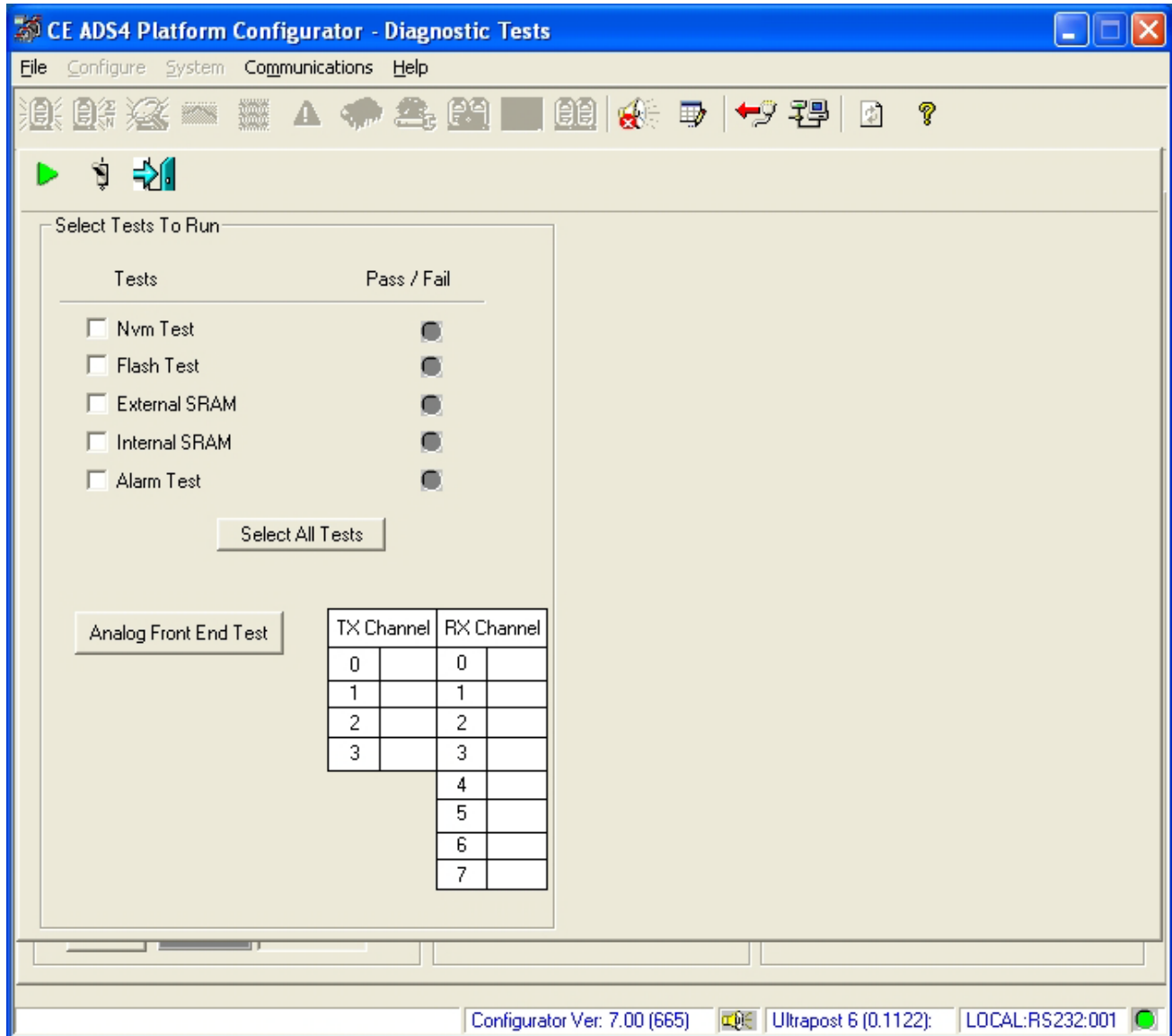
This read only table shows which coils the controller is transmitting and receiving on at a point in time.

### Function Buttons for this Window

From left to right:

- **Update Sequence Table Page.** Reads sequence table data from the controller.
- **Close Sequence Table Dialog.** Brings up the Setup page.

## Diagnostic Tests



Use this window to run internal diagnostic tests and display results. You can select individual or all diagnostics to run. An indicator lamp on the screen lights yellow, green, or red.

- Yellow indicates a test is running.
- Green indicates the test is successful.
- Red indicates the test failed.

### Function Buttons for this Window

From left to right:

- **Run Selected Diagnostic Tests.** Click to run selected tests.
- **Reset Pack.** Click to reboot the controller.
- **Close Diagnostic Tests Screen.** Click to bring up the Setup page.

**Select Tests to Run**

**NVM Test.** The NVM test sends data to the NVM (non-volatile memory) and then reads it back for proper contents.

**Flash Test.** This test checks to make sure that all of the contents of data within FLASH memory are correct.

**External SRAM.** This test writes data to the SRAM and verifies that the address and data is correct.

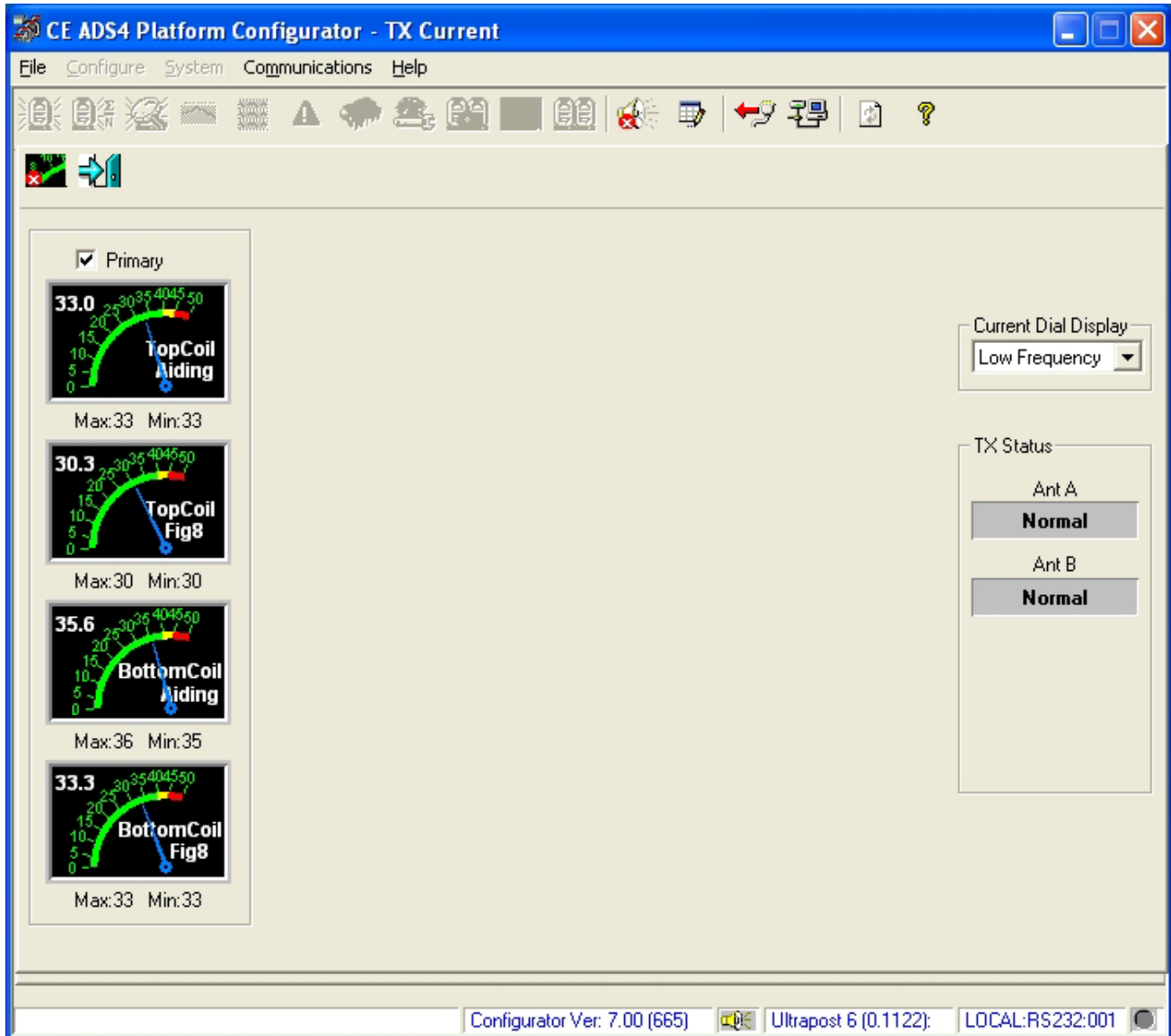
**Internal SRAM.** This test writes data to the internal SRAM of the DSP processor and verifies that the address and data is correct.

**Alarm Test.** This test activates lamps and audio of all antennas.

**Select All Tests button.** Use to select all tests.

**Analog front End Test button.** Performs a diagnostic test on the transmitter and receive channels.

## Tx Current



Use this window to:

- View current dials for up to four antennas.
- Disable transmitters.
- Set control parameters for European standards.

### Function Buttons for this Window

From left to right:

- **Stop Current Reading.** Click to freeze the dials, click again to unfreeze.
- **Exit Tx Current Screen.** Brings up the Setup page.



## Readings and Settings

### Current Dial Display

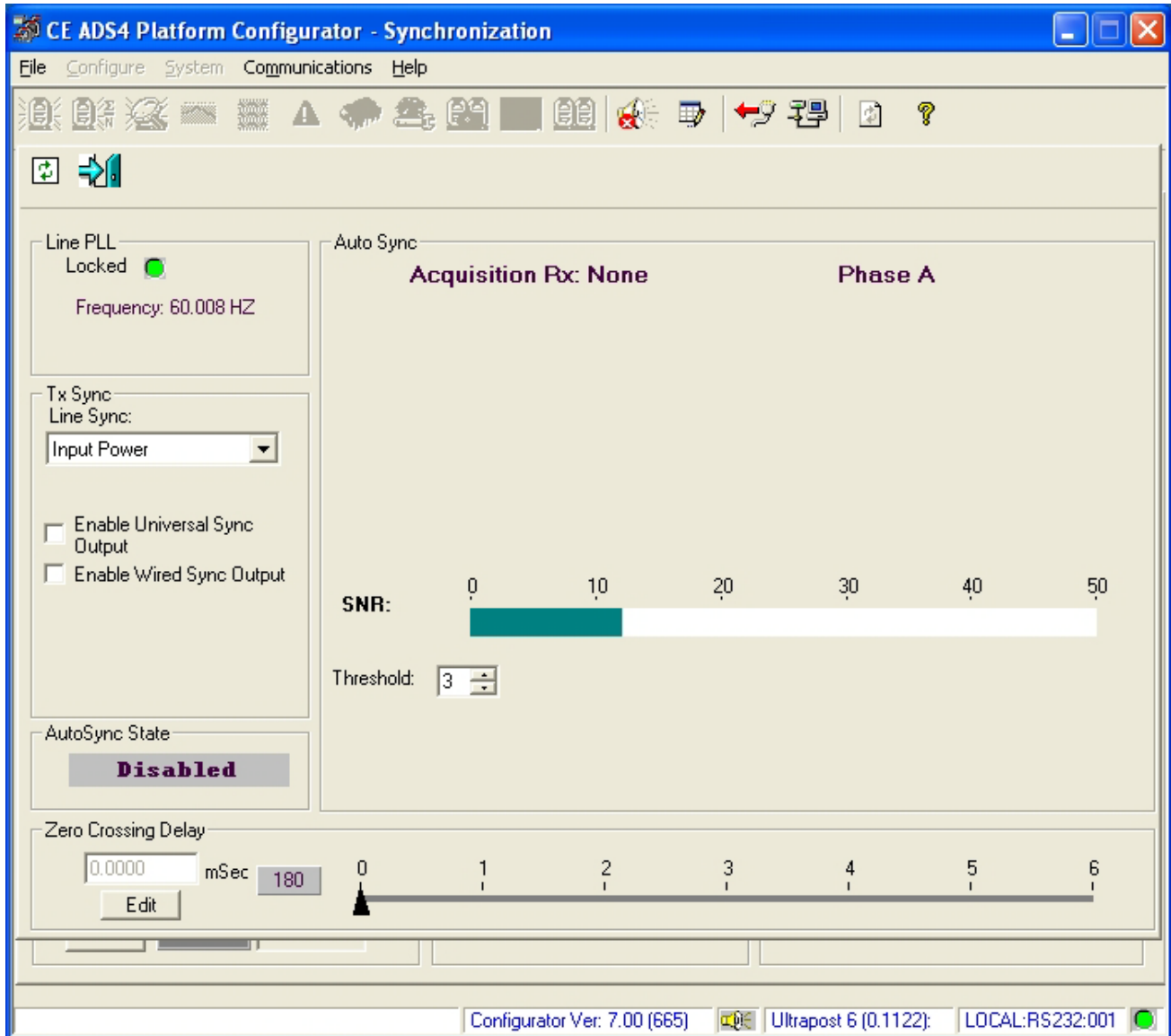
Use Tx Frequency (Low, Nominal, High) to control what frequency the dials display. “Low” is 57.8kHz, “Nominal” is 58kHz, and “High” is 58.2kHz. Also see Transmitter Configuration window.

### Tx Status

Displays operating status of each antenna.

- Line PLL (line PLL is unlocked)
- Tx Fault (transmitter fault)
- Wired Sync (configured as wired sync slave, but there is no wired sync input signal)
- Keyswitch (pedestal key switch)
- Tx Inhibit (Tx off due to external inhibit input)
- Configurator (shut off from configurator)
- Noise Hunt (Tx off because system is in noise hunt mode)
- Auto Sync (Tx off because auto sync is acquiring).

## Synchronization



Use this window to:

- Check if the system PLL is locked.
- Check the state of Auto Sync.
- Set Tx synchronization: input power, auto sync, or wired sync.
- Adjust auto sync threshold.
- Adjust the zero crossing delay.

### Function Buttons for this Window

From left to right:

- **Get AutoSync Data.** Click to manually refresh the window.
- **Exit Synchronization Screen.** Click to bring up the Setup page.

## Readings and Settings

### Line PLL

**Line PLL.** Displays the state of the phased-locked-loop (PLL) circuitry and the line frequency. If the system fails a pick test, always check this indicator first. Loss of PLL can be due to the ac line being off frequency, noisy, or jittery. If this indicator is:

- Green, phase-locked-loop circuitry in the controller is locked onto the ac line frequency (displayed).
- Gray, the PLL is not locked and the controller will not operate.

### Tx Sync

**Line Sync (AutoSync, Wired Sync, Input Power, Universal Sync, Universal Sync with Arm).** Select the type of synchronization required to prevent a nearby 58kHz transmitter from interfering with this system.

**Enable Universal Sync Output (Enabled, Disabled).** Check to make Universal Sync the master source.

**Enable Wired Sync Output (Enabled, Disabled).** Check to make wired sync the master source.

- Use wired sync only when two controllers have identical antenna configurations.
- Wired synchronization requires a cable.
- *Ultra•Post 6 (AMS-1014) Installation Guide 8200-2595-30 or Wired Synchronization Installation Guide 8200-0537-07* shows cable connections for wired synchronization.
- When using Wired/Universal sync, the Master controller is set for Input Power, and then an output mode is selected (Wired or Universal). Then subsequent controllers (secondary) must enable Wired or Universal sync/arm.

### Auto Sync State

Indicates the state of auto synchronization. Indicators are: Disabled, Locked, Acquired, or None. For example, the message “Acquisition Rx: none Phase A” means the system did not detect any other EAS transmitters and is synced to a phase of the AC power line. This is not disabled when Line Sync is set to AutoSync.

### Auto Sync Meter

Use the bar meters to continuously measure signal-to-noise quality.

**Threshold (0–7, 0).** The signal-to-noise ratio required to enable the auto sync function to run. Selection range is 6dB–27dB in 3dB increments (0 is 6dB, 1 is 9dB, 2 is 12dB, and so on).

### Zero Crossing Delay

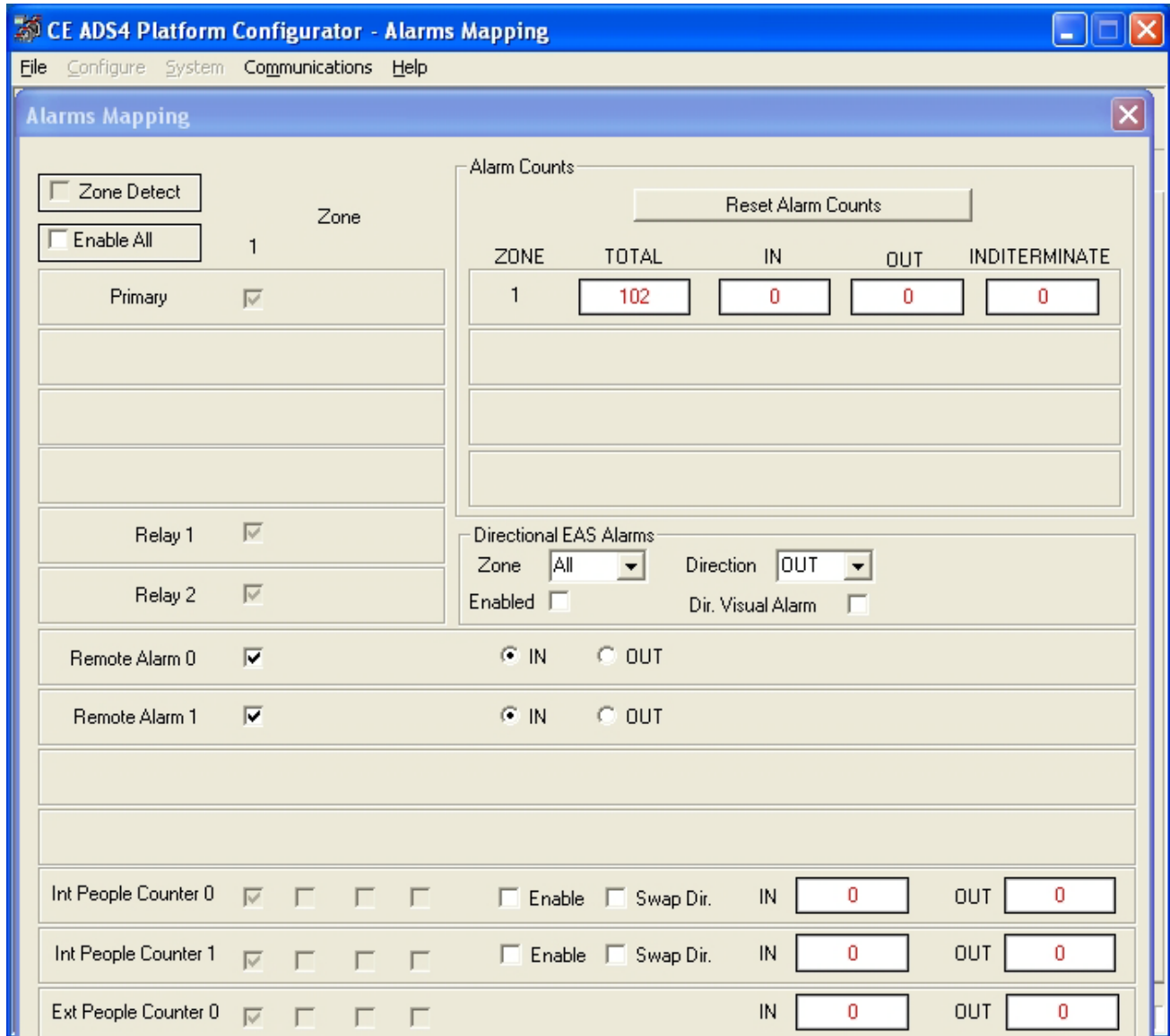
When auto sync is on, the detector attempts to synchronize with adjacent transmitters.

- If the detector can't find adjacent transmitters, the detector synchronizes with the zero crossing of the ac signal.
- If noise interferes with auto sync software to lock to a remote transmitter, the system continues transmitting at the last auto sync time delay.

When auto sync is off, the detector synchronizes with the zero crossing of the ac line. Use the controls to adjust line sync delay.

- A numeric readout of the zero crossing delay is displayed.
- The delay can be manually changed by pressing the Edit button and entering the new delay (in msec) in the window.
- A button beside the readout is used to select 0 or 180. When 180 is displayed, selection sets the line sync delay 180 degrees from 0. When 0 is displayed, selection sets the line sync delay to 0 degrees.
- The slider performs the same function as the edit button, but is less accurate.

## Alarms Mapping



The Alarms Mapping dialog box determines the system response when a tag is detected at one of the antennas. You can do the following:

- Map an alarm to a pedestal, relay, or remote alarm.
- Reset the alarm counts to zero and display the number and type of alarms that have occurred since the last reset.
- Enable and configure the Directional Alarms feature, which allows you to determine whether the system will alarm when someone enters the store with a tagged item, leaves the store, or both.
- Enable people counters

### Mapping Alarms

The alarm mapping section determines which devices will respond when a tagged item has been detected.

**Zone Detect (Enable, Disable)** – if enabled, the pedestals will attempt to determine which zone the tag is in based on the strength of the receiver signals in each pedestal.

**Enable All (Enable, Disable)** – enables the ability of the system to map people counters and alarms to all pedestals, relays, and remote alarms.

**Relay 1/2 (Enable, Disable)** – if enabled, an alarm will cause each selected relay to activate. Note that the two relays on the Ultra•Post 6 main board are single-pole, double-throw, and they can be configured to alarm independently.

**Remote Alarm 0/1 (Enable, Disable) (IN, OUT)** – maps the Digital Remote Alarm (DRA) to zones. The DRA will display the sum of all EAS alarms and traffic flow sensors mapped to the same zone. If multiple zones are mapped to the DRA, it will display the sum of all zones. If the Traffic Flow (People Counting) option is installed, selecting IN or OUT determines whether the DRA will display IN or OUT counts, respectively.

**Int People Counter 0/1 (Zone 1, Zone 2, Zone 3, Zone 4, Enable, Swap Dir., IN, OUT)** – maps the integrated traffic flow (people counting) sensors to a zone. The address of the people counter (0 or 1) is determined by a switch on the people counter board. The Swap Dir checkbox swaps the direction of the people count; that is, if walking between the two beams of the sensor in one direction was resulting in an IN count, clicking on Swap Dir. will now result in that action increasing the OUT count. The IN and OUT counts for each people counter are displayed.

**Ext People Counter 0 (Zone 1, Zone 2, Zone 3, Zone 4, IN, OUT)** - maps the external (remote) traffic flow (people counting) sensors to a zone. The IN and OUT counts for each people counter are displayed.

### Alarm Counts

This section displays the number and type of alarms that have occurred in each zone since the system was reset.

- TOTAL – total number of alarms in each zone since the most recent reset.
- IN – number of IN alarms in each zone since the most recent reset. This is only valid if the Traffic Flow option is installed and directionality is enabled.
- OUT – number of OUT alarms in each zone since the most recent reset. This is only valid if the Traffic Flow option is installed and directionality is enabled.
- INDETERMINATE – number of alarms in each zone that did not have a corresponding people count. These alarms can be caused by someone walking behind or next to the pedestals with a tagged item. This is only valid if the Traffic Flow option is installed and directionality is enabled.

Clicking on the Reset Alarm Counts button resets all the counts to zero. If you want to only reset some of the zones to zero, see the Traffic Flow page.

### Directional Alarms

The Directional Alarms feature is configured with the parameters in the Directional EAS Alarms section.

**Directional EAS Alarms checkbox (Enabled, Disabled).** If this parameter is enabled, the system will only sound an audio alarm if it detects a tag in its field and someone passes through the zone between two pedestals in the direction selected by Directional EAS Alarms Direction parameter. If this parameter is enabled, you must also enable the Directional Visual Alarms parameter for the visual indicators (alarm LED lights) to flash when the system detects a tag in its field.

**Directional EAS Alarms Zone (All, 1,2,3,4).** Selects the zones that will have directional EAS alarms.

**Directional EAS Alarms Direction (IN, OUT, BOTH).** Selects in which direction the tag must be moving for the system to alarm: only when going into the store, only when going out of the store, or both.

## Traffic Flow Mapping

IN COUNT		OUT COUNT		ZONES							
				1	2	3	4	5	6	7	8
<input type="text" value="0"/>	<input type="text" value="0"/>	Traffic Flow Sensor 0		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="text" value="0"/>	<input type="text" value="0"/>	Traffic Flow Sensor 1		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="text" value="0"/>	<input type="text" value="0"/>	Traffic Flow Sensor 2		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="text" value="0"/>	<input type="text" value="0"/>	Traffic Flow Sensor 3		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="text" value="0"/>	<input type="text" value="0"/>	Traffic Flow Sensor 4		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="text" value="0"/>	<input type="text" value="0"/>	Traffic Flow Sensor 5		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="text" value="0"/>	<input type="text" value="0"/>	Traffic Flow Sensor 6		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="text" value="0"/>	<input type="text" value="0"/>	Traffic Flow Sensor 7		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Zone:

The Traffic Flow Mapping dialog box maps the inputs from the traffic flow (People Count) sensors into zones. Traffic flow sensors are an option for the Ultra•Post 6 system. Two types are available: integrated sensors, which are installed under the lens caps of the primary and secondary pedestals, or external sensors, which are mounted overhead or on a nearby wall.

- Select Traffic Flow Mapping from the system menu.  
Note: Traffic Flow Sensor 0 = traffic flow board with its address set to 0.
- Map the Traffic Flow board to a zone. For example:
  - 1-2 dual-pedestal configuration:* Click in the box labeled Zone 1 on the Traffic Flow Sensor 0 line.
  - 1-2-3 split-pedestal configuration:*
    - If you want one count for the whole exit, map Traffic Flow Sensor 0 and 1 to Zone 1.
    - If you want independent counts for each zone, map Traffic Flow Sensor 0 to Zone 1 and Traffic Flow Sensor 1 to Zone 2.
- Reset the Zone Counts to zero by selecting in the Zone drop down box which zone you want to reset and then clicking on the Reset Zone Count button.

- Resets people counts for all devices in the selected zone.
- When counts are reset in any device, the counts of all devices in the same zone reset.





# Troubleshooting

## Troubleshooting

This section explains what you can do to resolve common problems with the system. Select from the following conditions:

- False alarms are occurring
- Poor or no tag/label detection
- Transmitter is Off
- Status LED on the controller is flashing a Status Alert Code

## False Alarms

If false alarms are occurring, use the Tx-inhibit switch under the top cap to disable the transmitter. Do alarms stop?

- **No.** Check for synchronization using the Time/Phase Graph window and correcting using the Synchronization window. Also check for an external noise source.
- **Yes.** The alarms may be caused by tags/labels too close to the antenna, ring down from sources other than tags/labels such as metal doorframes and racks, or nickel-plated items. If there are tagged display items in the backfield, try the steps below:
  1. Set the antenna configuration to one of the backfield configurations, if available.
  2. Try reducing transmitter current using the Tx Configuration page.
  3. Try raising the minimum tag threshold using the Individual Noise Averages window.
  4. Try reducing sensitivity using the Individual Noise Averages window.
  5. Try enabling the ring down canceller using the Individual Noise Averages window.

---

## Poor or No Detection

Ensure the transmitter is on. If it is not, go to the section “Transmitter Off Causes ” for possible reasons.

If the transmitter is functioning, open the System Noise Average window and compare the tag and noise averages.

### If tag and noise averages are roughly equal, but high:

1. Try changing receiver polarity to Figure-8, vertical nulling, or horizontal nulling using the System Noise Average window.
2. Try noise cancellation using the Noise Canceling Antenna window.
3. Try reducing or disabling notch filters using the Frequency Analyzer window.
4. Try adjusting receive window timing using the Time/Phase Graph window.

### If only the noise level is too high:

1. Try adjusting receive window timing using the Time/Phase Graph window
2. Try reducing or disabling notch filters using the Frequency Analyzer window.

### If only the tag level is too high:

1. Try disabling the transmitter using the Tx Configuration page, then
  - Try to find tags close to the antenna(s).
  - Try enabling the ring down canceller using the Individual Noise Averages window.
2. Try reducing or disabling notch filters using the Frequency Analyzer window.
3. Try adjusting receive window timing using the Time/Phase Graph window

### If tag/label detection is still poor:

Using the Individual Noise Averages window:

1. Try increasing sensitivity
2. Try disabling criteria in the following order:
  - a. Frequency Mean and Frequency Range
  - b. SNR Noncoherent
  - c. Q Amplitude
  - d. Q Phase
  - e. Demod Amplitude
  - f. Demod Phase.

## Transmitter Off Causes

The transmitter can be off for several reasons:

- Lack of power to the system. Check the Power On LED at the base of the primary LED board.
- The Tx Inhibit switch under the top cap of the primary antenna is set to off.
- The antenna checkbox on the Tx configuration page is unchecked.
- Auto sync has turned the transmitter off.
- The Tx inhibit switch contact at TB1 has been closed.
- The pedestal is in power save mode.
- On the Setup page, the System Configuration parameter is set to "None".
- A hard fault has occurred. See if the status LEDs are flashing a code or if the System Errors section of the Error Report for any problems.

## Status LED Alert Codes

Alert Code	What it means:	What to do:
21, 22, 23, 24	Software detected a current fault.	Lower Tx current. Check for short circuit at Tx/Rx connectors (P1, P24, P4, & P35) and at the corresponding cap board in the antenna.
25	Hardware detected a current fault.	Lower Tx current. Check for short circuit at Tx/Rx connectors P1, P24, P4, and P35 and at the corresponding cap board.
26, 27, 28, 29	No current feedback signal.	Check connections on Tx/Rx cables P1, P24, P4, and P35 and at the corresponding cap board in the antenna.
31, 32, 33, 34	Pedestal not tuned.	Perform tuning.
36, 37, 38, 39	Corona fault.	Check tuning; check for nearby antennas (within several feet) connected to a controller not using wired sync. When antennas from different controllers are nearby, use wired sync. Call Technical Support if the problem persists.
42	Controller has "Line Sync" set to Wired Sync, but is not receiving a sync signal on input.	Check wire sync connection. Ensure master (sync source) controller has "Enable Wired Sync Output" checked.
43	Temperature fault.	Try to improve air circulation.
44	Software temperature fault	Try to improve air circulation.
46	Fan fault.	Not applicable to Ultra•Post 6.
49	System has more receivers running than real time can handle.	Try reducing the number of notch filters. Try to minimize the use of nulling or coil 1-2 modes. Remove noise cancellation from antennas which do not benefit from this function.



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