## SIERRA AUTOMATED SYSTEMS

# I N S T A L L A T I O N   N O T E S

# INTERFACING THE AIRTOOLS 6100 DELAY TO THE SAS 32KD

2005 October 11
V1.0

## OVERVIEW

Increasingly, Rubicon users are controlling their AirTools® 6100 Delay with the SAS Rubicon™ system. This allows control and tally via Rubicon's programmable buttons and turret panels. This installation note presents what SAS' systems engineers and Rubicon users have found to be the most useful control interface.

## RUBICON PUSHBUTTON PANEL RPB-5

Where the delay device is not readily accessible to the board operator, a Rubicon Pushbutton Panel is used. The most common model is the RPB-5, which has, on one Rubicon module, five buttons at the top of the panel:

| RAMP UP | Button press: Initiates delay Ramp Up |
| | LED: Flashes while delay is ramping up |

| 100% | Button press: *no function* |
| | LED: Lights when the delay time is at the preset maximum delay |

| 50% | Button press: *no function* |
| | LED: Lights when the delay time is at the half or greater of the maximum delay |

| RAMP DOWN | Button press: Initiates delay Ramp Down |
| | LED: Flashes while delay is ramping down |

| DELAY DUMP | Button press: Initiates delay Dump |
| | LED: Flashes once to indicate delay dump action initiated |

## RUBICON TURRET PANEL TP-4

The 6" high turret panel is typically installed for operation by a studio hosts, co-hosts, and screeners. For them, DUMP is the most important control. They are also given status indication of HALF and FULL delay.

Typically, control of delay ramp up (delay in) and delay ramp down (delay out) are reserved for the board operator; these controls are left off of the talent control panels.

| DELAY DUMP | Button press: Initiates delay Dump |
| | LED: Flashes once to indicate delay dump action initiated |

| 100% | Button press: *no function* |
| | LED: Lights when the delay time is at the preset maximum delay |

| 50% | Button press: *no function* |
| | LED: Lights when the delay time is at the half or greater of the maximum delay |

| DELAY DUMP | Button press: Initiates delay Dump |
| | LED: Flashes once to indicate delay dump action initiated |

## SIERRA AUTOMATED SYSTEMS

## WIRING

The AirTools interfaces to the SAS system through optos and relays. These can be on the RIOLink, or on a GPI-1600 connected to a RIOLink or the 32KD's DRC Serial Control Module. A complete interface utilizes three relays and five optos:

| Relay Alpha | AirTools Function | Description | AirTools DB25 pins |
|---|---|---|---|
| xx DyR+ | START | Initiates gradual increase of delay time to the preset maximum delay. | 1 – 13 |
| xx Dy R- | EXIT | Initiates gradual reduction of delay time until zero delay is achieved. Electrically, the 6100 remains in the circuit. | 4 – 13 |
| xx DyDmp | DUMP | Erases a user-determined portion of the delay memory. The delay will then ramp up to the pre-determined delay time. | 7 - 13 |

*"xx" indicates a designator for the control room or station*

| Opto Alpha | AirTools Function | Description | AirTools DB25 pins |
|---|---|---|---|
| xx DyR+ | START | Flashes indicating that the delay is ramping up. At full delay time, the start indicator will go out. | 9 – 8 |
| xx Dy R- | EXIT | Flashes indicating that the delay time is decreasing. At zero delay, the exit indicator will go out. | 12 – 11 |
| xx DyDmp | DUMP | Flashes once indicating that the delay dump was initiated. | 16- 15 |
| xx Dy50 | HALF | Lights when the delay time is 50% or greater than the preset maximum delay. | 3 – 2 |
| xx Dly100 | FULL | Lights when the delay time is at the preset maximum delay. | 6 - 5 |

*"xx" indicates a designator for the control room or station*

## PROGRAMMING

### Optos and Relays

Determine the opto and relay number range for the RIOLink or GPI-1600 that you will be connecting the delay to. On the Relays Alpha screen, in the range determined above, enter the above three relay alpha names for the delay. On the Optos Alpha screen, in the range determined above, enter the above five opto alpha names for the delay. Leave the opto "Type" as None.

### Turret Programming

Program each button as a type "Relay Pulse". Enter the assigned relay and opto number. For those buttons with only opto control (50% and 100%), leave the relay field blank.

## BYPASS

The AirTools has a function called BYPASS. This is a hard-relay bypass for both the analog and digital I/O. We do not recommend remote control of BYPASS for two reasons: (1) It is confusing for the operator, in that it will not ramp down, but simply switch the delay out; and (2) when the delay is wired AES/EBU, BYPASS in or out will result in a short-duration dropout of the audio while the AES receiver re-clocks to the switched input signal.