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MID-TECH CONTROL SYSTEM

- What does it do?
- How does it work?

What does it do?

Based on Operator and Sensor inputs, the console targets application rate by controlling the speed of the bed chain/belt, accounting for changes in:

- Speed
- Application Rate
- Swath/Boom width

Operator Inputs

- Application Rate – Enter Rate per Acre
- Density of the Product - lbs/cubic ft.
- Gate Height - Calibration #
- Swath Width
- Product Volume - Amount of loaded product
- Clear Totals - Acres (2), Total Applied

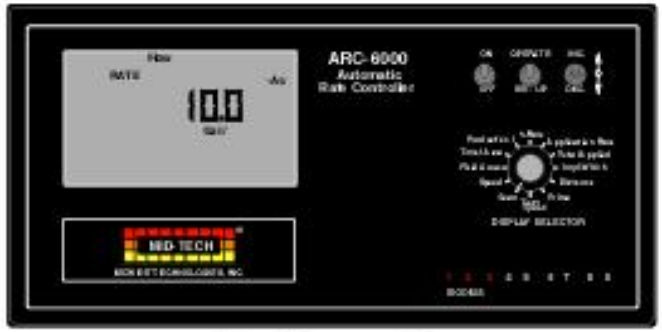
Sensor Inputs

- Ground Speed - mph
- Boom Status - Off/On/Width
- Rate Sensor - Output volume

System Components

- Console
- Hydraulic/Flow Control Valve
- Rate Sensor for Bed Chain Speed
- Ground Speed Sensor / Radar
- Conveyor/Boom Switch Box
- Integrated Power & Flow Control Cable

ARC 6000, Granular, Single Conveyor Wiring Diagram



ARC 6000 Console
#75-01003 (Console only)

Compact Radar
#120-000-KIT

5 Ft

5 Ft

Sw. Box,
Single Conveyor
Interface
#405-0075

Black

White

Fuses,(5, 10 amp)

Harness,
Power/FlowControl
#405-0074

Vehicle Battery
(12 Volts)

1 Ft

15 Ft

2 Ft

18 Ft

20 Ft

30 Gal. Hydraulic Valve
#879-2030

Rawson Gear Sensor
#16-05004

ARC 6000

- Single product - Liquid or Granular
- Liquid - Flow meter or Pressure transducer
- Granular - Single or split belt/chain

ARC 6000 Display Features

- Application Rate
- Total Applied
- Implement Width
- Distance
- Prime
- Test Speed
- Scan
- Speed
- Field Area
- Total Area
- Product Volume
- % Rate

Set Up Mode - Granular

- Prime - Mode selector
- Distance - Distance calibration #
- Implement Width - Swath width in inches
- Total Applied - Rate sensor calibration #
- Application Rate - Product Density
- % Rate - Rate change increment

Set Up Mode - Continued

- Product Volume - Full load default amount
- Total Area - “Err” indicating no function
- Field Area – Area alarm
- Speed - Ground Speed Override
- Scan - “Err” indicating no function
- Test Speed - Simulated speed for stationary test/operation

Fine Tuning Accuracy

For the console to accurately measure output in terms of Rate per Acre, it must know:

- What is a Pound?
- What is an Acre?

Pounds

- Gate Height Calibration - Pulses/cubic ft.
- Density - Pounds/cubic ft.

Calibrate Volume Output

(Indicated Amount ÷ Actual Amount)

X

Beginning Calibration #

=

New Product Volume Calibration #

Calibration Example

Indicated Total Applied: 2,200 lbs.

Actual volume spread: 2,000 lbs.

2,200 lbs ÷ 2,000 lbs = 1.10

1.10 × 174.5 = **191.9**

Change spreader constant # to **191.9** for a more accurate measurement of pounds.

Acres = Length x Width

- Distance/Radar Calibration
- Proper Swath Width
- Driving habits - Actual swath width driven vs. Programmed width

Calibrate Distance

(Measured Distance ÷ Accumulated Distance)

X

Beginning Calibration #

=

New Distance Calibration #

Distance Calibration Example

Actual Measured Distance: 400 feet

Indicated distance on Console: 412 feet

$400 \div 412 = 0.97$

$0.97 \times 1{,}000 = \mathbf{970}$

Adjust distance cal. # to **970** for a more accurate measurement of distance and speed

Error Messages

- Error message system indicates misapplication and identifies problem source
- Control console alerts the operator by signaling a visual and audible alarm

Error Messages

- Error 1 - Too fast
- Error 3 - No pulses from Rate Sensor
- Error 5 - Over application
- Error L - Low Voltage

MID-TECH Policies

- **30** month warranty on Consoles
- 12 month warranty on Lightbars/GPS Receivers/Valves/Flowmeters/Cables
- 3 year, Extended Warranty available on Lightbar Guidance systems