

Serial Port Altitude Data Resolution

The default resolution of the ACK A30 Digital Encoder serial data is 100 feet. To enable 10-foot resolution, install the following jumpers on JP1:

Channel 1 – Install jumper 7

Channel 2 – Install jumper 8

Serial Communication Protocol

Serial data protocol is user selectable by configuring jumper JP1 for the following formats:

Trimble Garmin Navigation Devices Protocol

The following jumper settings will configure the ACK A30 Digital Encoder to transmit a protocol compatible with some navigation devices manufactured by Trimble and Garmin.

Channel 1 – Do not install jumpers in position 1, 2 or 3

Channel 2 – Do not install jumpers in position 4, 5 or 6

The Digitizer will send a 10-byte message at 9600bps, 8 data bits, 1 stop bit, no parity.

The following are examples of serial messages for Trimble or Garmin devices:

ALT 10500(cr) - Altitude 10,500 feet

UPS AT/Garmin AT/II Morrow Nav. Devices

The following jumper settings will configure the ACK A30 Digital Encoder to transmit a protocol compatible with UPS devices for the selected channel.

Channel 1 – Install jumper on position 1. Do not install jumpers in position 2 or 3

Channel 2 – Install jumper on position 4. Do not install jumpers in position 5 or 6

The Digitizer will send a 17-byte message at 1200bps, 8 data bits, 1 stop bit, no parity.

The following is an example of the serial message for UPS AT (Garmin AT) (II Morrow) devices:

#AL +00800T+25D9(cr) - +00800 represents the altitude in feet, 25D8 is the checksum value.

Northstar Navigation Devices Protocol

The following jumper settings will configure the ACK A30 Digital Encoder to transmit a protocol compatible with some navigation devices manufactured by Northstar and Garmin.

Channel 1 – install jumper on position 2. Do not install jumpers in position 1 or 3

Channel 2 – install jumper on position 5. Do not install jumpers in position 4 or 6

The Digitizer will send a 10-byte message at 2400bps, 8 data bits, 1 stop bit, no parity.

The following are examples of serial messages for these devices:

ALT 02500(cr) - Altitude 2500 feet.

Magellan Navigation Devices Protocol

The following jumper settings will configure the ACK A30 Digital Encoder to transmit a protocol compatible with some navigation devices manufactured by Magellan.

Channel 1 – install jumper on position 1 & 2, Do not install jumpers in position 3

Channel 2 – install jumper on position 4 & 5, Do not install jumpers in position 6

The Digitizer will send a 17-byte message at 1200bps, 7 data bits, 1 stop bit, even parity.

The following is an example of a serial message for Magellan devices:
\$MGL+02500T+250C(cr) - Altitude 2500 feet.

ARNAV Systems Protocol

The following jumper settings will configure the ACK A30 Digital Encoder to transmit a protocol compatible with ARNAV devices for the selected channel.

Channel 1 – install jumper on position 3. Do not install jumpers in position 1 or 2

Channel 2 – install jumper on position 6. Do not install jumpers in position 4 or 5

The Digitizer will send a 24-byte message at 9600bps, 8 data bits, 1 stop bit, no parity.

The following is an example of a ARNAV serial altitude message:
STX\$PASHS,ALT,+00033*1B(cr)(lf)(etx) – 00033 represents altitude in meters

UPS AT 618 Loran Devices Protocol (IIMorrow)

The following jumper settings will configure the ACK A30 Digital Encoder to transmit a protocol compatible with UPS AT 618 Loran devices for the selected channel.

Channel 1 – install jumper on position 1 & 3. Do not install jumper in position 2

Channel 2 – install jumper on position 4 & 6. Do not install jumper in position 5

The Digitizer will send a 17-byte message at 1200bps, 7 data bits, 1 stop bit, odd parity.

The following is an example of a UPS AT 618 Loran serial altitude message:
#AL +00800T+25D9(cr) - Altitude 800 feet

Microair UAV

The following jumper settings will configure the ACK A30 Digital Encoder to transmit a protocol compatible with Microair UAV for the selected channel.

Channel 1 – install jumper on position 2 & 3. Do not install jumper in position 1

Channel 2 – install jumper on position 5 & 6. Do not install jumper in position 1

The Digitizer will send a 24-byte message at 9600bps, 8 data bits, 1 stop bit, no parity.

The following is an example of a Microair UAV serial altitude message:
[STX]a=02370[ETX] - Altitude 2370 feet