

## Recommended G856AX default settings for typical airborne base mag applications

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### INITIAL SETUP (check before each new job or when new to unit or items replaced)

- **Check fluid level** by shaking & listening for "sloshing" sound like it's about 1cm from the top of the sensor. (if refilling - use Filtered JetA1/Kero + plumber's thread tape). Do not over tighten!
- Sensors to be near survey area (suggest < 120km) and > 100m apart and from sources of local magnetic anomaly (metallic & electrical) ie cars, planes, fences, roads & out of sight of people. Ensure sensor (and cable down pole) will not move in the wind (tight / taped off cable) and metal pegs (if used) are far enough away from sensor head as to not interfere with readings.
- Check Internal G856 Dip switches on PCB:  
Typical DIP SWITCH configuration is...  

1	8
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 \* = 10101111 see chart →
- Set Auto Erase ON  
[AUTO][ERASE] [ENTER]
- Set Auto Store OFF  
[AUTO][STORE] [CLEAR]
- Set Auto Tune OFF  
[AUTO][TUNE] [CLEAR]
- Set Capacitance value appropriate for signal cable length (0.1 per metre) without decimal.  
[AUTO][TUNE][SHIFT] 'mmm' [ENTER]  
Where 'mmm' is cable length to nearest metre. ie USE **005** for ~5m (or 002 for ~2m ...)
- Set Custom field to company preference - usually Base Mag number (ie 1or2) or Operational Day  
[TIME][SHIFT] 'Mag Number' [ENTER] (Do **NOT** leave as 000)
- [READ] Then use first 3 digits of the 5 digit local field value to Tune the device to the Local field  
[TUNE][SHIFT] 'xxx' [ENTER] – where 'xxx' is the first 3 digits of the 5 digit local field
- **Maximise sensors signal strength.** Initially aim the MAG sensor to Magnetic North and take a reading [READ] then after reading press [TUNE] to show signal strength and ensure it is as high above 3.0 as possible. Try sensor orientations to left and right then [READ] wait [TUNE] to maximise signal strength (to find a better LOCAL "North" direction). Ensure mag value still real!
- Set Auto Cycle Time (usual AX default is 6 sec shown here). Note: This starts the 856 logging too!  
[AUTO][SHIFT] '006' [ENTER] – where '006' is cycle time in secs (use slower if non AX model)  
Can stop auto mode by holding down [AUTO] till beep heard then quickly pressing [CLEAR]

These dip switch settings set the unit to: 1 8*	
1 ON	= LONG polarisation time (just under 3 sec)
2 OFF	= Disable short polarisation time
3 ON	= SHORT Read gate count time (460ms)
4 OFF	= Disable 3 reading average
5 ON	= Enable auto display off when left for 5min
6/7/8 ON	= 9600 Baud
*Note: Some consoles have the dipswitch On/Off Up/Down direction reversed	

### BEFORE MORNING'S FLIGHT

- Sensor still pointing best signal strength direction. Wipe over to clean / dry (ensure connectors dry)
- **Connect external battery (correct polarity)** else unit may stop early with a internal flat battery
- Connect sensor cable to 856 console
- **IF SAFE!** Clear previous day's data (Ensure unit was dumped ok and backed up first)  
[RECALL][SHIFT][SHIFT=0][ENTER][ERASE][ERASE] -> "ERASEd"
- Check/Set Julian Day + Sync to GPS Time (adjusted to local time zone offset)  
[AUTO][TIME] [SHIFT] 'LocalJulian' 'LocalTime' - then press [ENTER] when GPS sec = 00
- [AUTO] quickly **check interval correct then** if so press [ENTER] to start auto read/logging
- Watch multiple readings to check: Signal Good, Batt Voltage Ok, Storage location increasing

### BETWEEN FLIGHTS AND END OF DAY (if no planes needing this middle section of data)

- Hold a key down ie [AUTO] until display lights up and ensure **unit still logging?, Signal good?, battery voltage ok? and correct number of readings?** (for the time period it's been logging)

### STOP LOGGING (END OF SURVEY DAY) - Note 856AX base stn memory = 12500 -> 20Hrs

- Stop 856 from logging - Press and hold [AUTO] till beep then [CLEAR]. Disconnect & take

### DUMPING DATA and CHARGING

- Connect 856 to your PC serial port. Dump using MagRd or MagLog and check the data.  
*If needed - dump with a terminal program like "Realterm" [COM#: 9600 , 7, None ,1 ,None]*  
Select "Transfer-Capture Text-Filename-Start" then on 856 press [OUTPUT][ENTER]  
Then wait until dump completes then on PC select "Transfer-Capture Text-Stop"
- Charge 856 console **and** external battery after every use (to keep batteries full just in case)

Or can use less robust: **Normal** Pol, **Short** Read, Auto **5** sec (but faster and gives 0.1 nT resolution)