

Nikon Auto-Levels



Objectives



- ◆ **Nikon has a substantial established sales of auto-levels**
- ◆ **We need to take that existing market share, add the efforts so far on the SPO line, and grow the combined sales in the segment**
- ◆ **We want to value-add to our distribution by giving a broad portfolio and consistent quality**
- ◆ **There are many different standards of auto-level on the market. The Nikon and SPO auto-levels are in keeping with the quality and reputation of our portfolio**

Brand Strategy



- ◆ We want to complete our portfolio with a product that extends our brand image to as wide a population as possible
- ◆ Today's auto-level user is tomorrow's laser user
- ◆ We need to migrate dealers towards the SPO brand over time, so that we keep the brand recognition with our lasers

AX-2S/AC-2S/AP-8



- ◆ 20x, 24x, 28x Magnification
- ◆ Magnetic damped

Target Trades:
General Contractors
Concrete Contractors



AS-7/7C, AE-2/2C



- ◆ 30x and 34x magnification
- ◆ Optional Circle
- ◆ Air damped

Target Trades:
Engineers
Surveyors



Target AX-2S/AC-2S/AP-8

Applications



- ◆ Elevation control across the site
- ◆ Leveling forms and footers
- ◆ Measuring cut and fill

Elevation Control Across the Site



- ◆ The AX-2S/AC-2S/AP-8 are capable of accurate elevation measurements over the entire site



Leveling Forms and Footers



- ◆ An auto-level can be used to easily check levels on footers, forms and foundations



Measuring Cut and Fill



- ◆ The clear bright optics make the AX-2S/AC-2S/AP-8 ideal for longer range cut/fill measurements



AE-7/7C, AS-2/2C Applications



- ◆ **Monitoring - high accuracy elevation control**
- ◆ **Long range level runs - transferring elevations over a large area**



Nikon Auto-Level PFBs

All-Weather Metal Housing



- ◆ 70% stronger than polycarbonate plastic, so there could be less repair costs if the unit is dropped
- ◆ All weather Design, Will keep working, whatever the weather, which means that you can measure when you need to
- ◆ AE-7/AS-2 are nitrogen filled

Bubble Mirror



- ◆ Allows easy viewing of the level bubble when on a tall tripod, which means more flexibility in set up location



Rubber / Plastic Controls



- ◆ Large rubber focus knob
- ◆ Plastic eyepiece and slow motion screws
- ◆ Easier to use in cold or wet weather

Built-In Sight Lines



- ◆ Allow easy alignment to the staff direction, which means faster measurements



Magnetic Damped Compensator



- ◆ The AX-2S/AC-2S/AP-8 feature a rugged yet accurate magnetic damped compensator
- ◆ More stable in areas with vibration, which means accurate measurements around construction machinery

Air Damped Compensator



- ◆ The AE-7/7C, AS-2/2C feature a very high accuracy air damped compensator, which means less magnetic field interference and more accurate measurements



Specifications



	AX-2S	AC-2S	AP-8	AE-7	AS-2
Magnification	20x	24x	28x	30x	34x
Compensator Type	Magnetic	Magnetic	Magnetic	Air	Air
Aperture	30mm	30mm	30mm	40mm	45mm
Shortest Focus	0.75m	0.75m	0.75m	0.3m	1.0m
Accuracy (Standard deviation according to DIN 18723 on 1 Km of double leveling)	±2.5mm	±2.0mm	±1.5mm	±1.0mm	±0.8mm



Hands On

Auto-Level Hands On



- ◆ Take level from the box and place on a tripod
- ◆ Adjust the height of the tripod and level the unit using the 3 screws (same as an LL500)
- ◆ Have a partner hold the rod
- ◆ Turn the level and point at the rod
- ◆ Focus the level
- ◆ Read the value on the rod

Auto-Level Hands On



Measuring height difference

- ◆ Position the rod on the first point and read the value
- ◆ Position the rod on the second point and read the value
- ◆ $\text{First} - \text{Second} = \text{height difference}$

Setting out a height

- ◆ $\text{BM} + \text{Rod at BM} - \text{Finished Level} = \text{Rod at FL}$



Sales Issues

Trimble Portfolio



Spectra Precision Optical 100 series

- ◆ 20x, 24x
- ◆ Magnetic Compensator



Nikon AX-2S, AC-2S, AP-8

- ◆ 20x, 24x, 28x
- ◆ Magnetic Compensator



Trimble Portfolio



Trimble 200 Series

- ◆ 28x, 32x
- ◆ Air damped compensator



Nikon AE-7, AS-2

- ◆ 30x, 34x
- ◆ Air damped compensator



Nikon v CST SAL



- ◆ Comparable products although CST have plastic top housing
- ◆ CST has magnetic damped compensator
- ◆ CST does not have the high end range like the Nikon AE-7 and AS-2

20x, 24x, 28x, 32x



Nikon v Topcon AT-G



- ◆ Comparable products from a manufacture quality and reliability
- ◆ Topcon has magnetic damped compensator - v. robust
- ◆ AE-7/AS-2 series has air-damped compensator which is better for high accuracy applications
- ◆ Comparable pricing

22x, 24x, 26x, 32x



Nikon v Leica NA700



- ◆ Comparable products from a manufacture quality and reliability
- ◆ Leica has magnetic damped compensator - robust

20x, 24x, 28x, 30x



Nikon v Pentax



- ◆ Comparable products from a manufacture quality and reliability
- ◆ Pentax has magnetic damped compensator - robust

20x, 22x, 24x



Low Quality Solutions



- ◆ Cheap products exist in the market place
- ◆ Non-branded
- ◆ Often they have air-damped compensator - more fragile and more difficult under high vibration
- ◆ Compensator prone to sticking - customer has to press button each time

20x, 24x



22x



24x





Nikon Auto-Level PFBs

Summary of Features and Benefits



- ◆ **Metal housing**

- ☺ Very rugged, so less repair costs

- ◆ **Bubble Mirror**

- ☺ Easy to level the instrument on a high tripod, which means more flexibility of set up location

Summary of Features and Benefits



- ◆ **Built-in Sight lines**

- ☺ Easy to align with the rod, for faster measurements

- ◆ **Rubber and plastic controls**

- ☺ Don't stick in winter, or lose your grip in the wet, so more comfortable to operate

Summary of Features and Benefits



- ◆ **Magnetic damped compensator (AX-2S, AC-2S, AP-8)**
 - ☺ Better under vibration, so more stable around machinery
- ◆ **Air damped compensator (AE-7 and AS-2)**
 - ☺ Less influence of magnetic fields for higher accuracy

LL200 Laser Level



- ◆ Can be used for the same applications as the Auto-levels
- ◆ Is a one person operation saving labor costs and time
- ◆ Instant readings at the work place
- ◆ Laser, receiver, tripod and rod in one carry case





Marketing Materials



AX-2S/AC-2S/AP-8



- ◆ **Data Sheet available in:**

- ◆ English
- ◆ French
- ◆ German
- ◆ Spanish
- ◆ Italian



AE-7/AS-2



- ◆ Four page brochure available in English



Automatic Levels

AS-2/AS-2C
AE-7/AE-7C





Service and Warranty



Warranty



- ◆ **Trimble will continue to offer the same warranty terms as those currently offered by Nikon (until further notice). Note that these terms vary in different countries**
- ◆ **At some point in the future, Trimble will change the terms to be consistent with Trimble's current products**



Questions ?
