

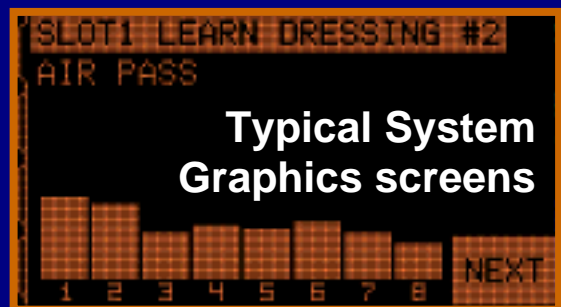
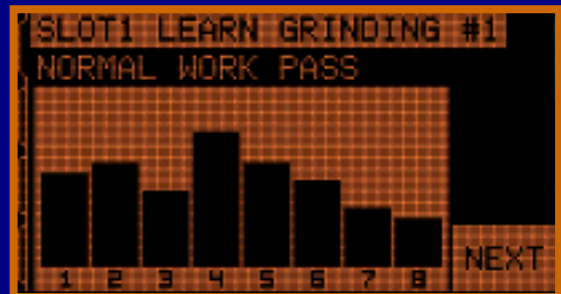
Control Grinding Gap & Crash with an Acoustical Emission Monitoring System (AEMS)



AEMS card installs in SB-4500 series controller



AEMS Sensor



Typical System Graphics screens

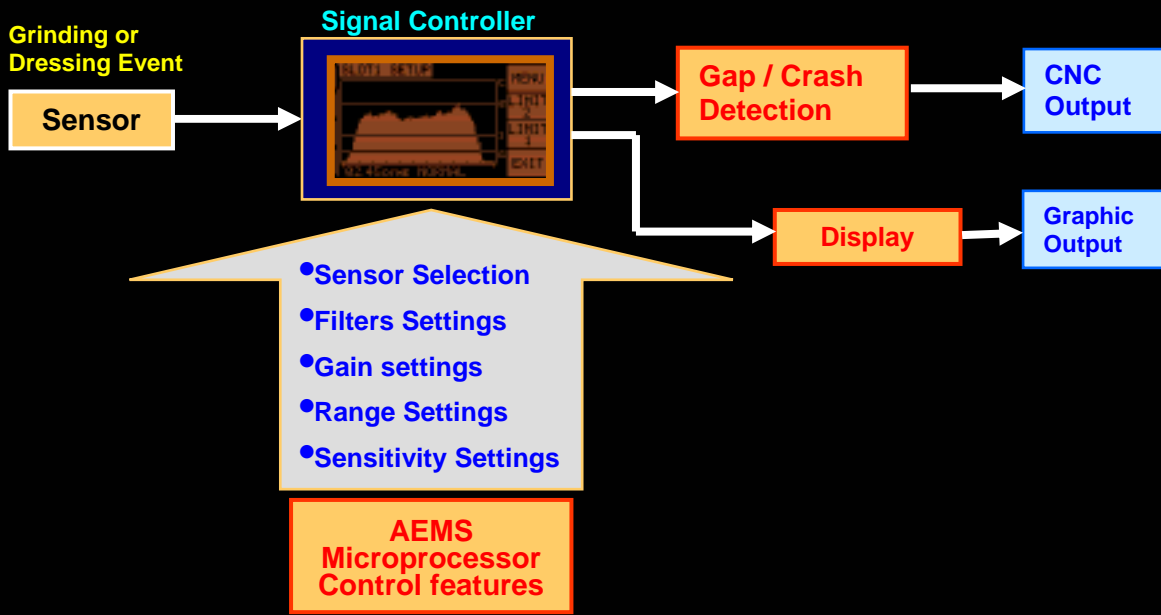
Features:

- **Fast** Acoustical Emission Measurements
- High Sensitivity (>100db).
- Detects and reports less than 1.0 msec.
- Menu driven keypad interface.
- Screen graphics for monitoring results
- Separate Grinding and Dressing modes.
- Simple setup and learning modes
- Combines the best of analog and digital technologies for easy operation and fast, sensitive measurements.

Benefits:

- Quick and easy set-ups (saves man-hours).
- Measures efficiency during grinding.
- Fully Automated CNC sensing and display.
- Affordable 100% monitoring.
- Easy retrofit to existing machines.
- Improves dressing quality - lowers cost.
- Eliminate machine and part damage
- 8 separate, 6th order butterworth filters for optimum signal detection.

AEMS System Overview



Typical Specifications

Specifications listed are for the optional AEMS card (SB-4522) used in the SB-4500 Controller.

■ Operating Specifications

Sensors: One of two sensor signal inputs are available for the AE monitor operation, selectable as a function of the operating mode (grind/dress).

Acoustic Range: >120 db

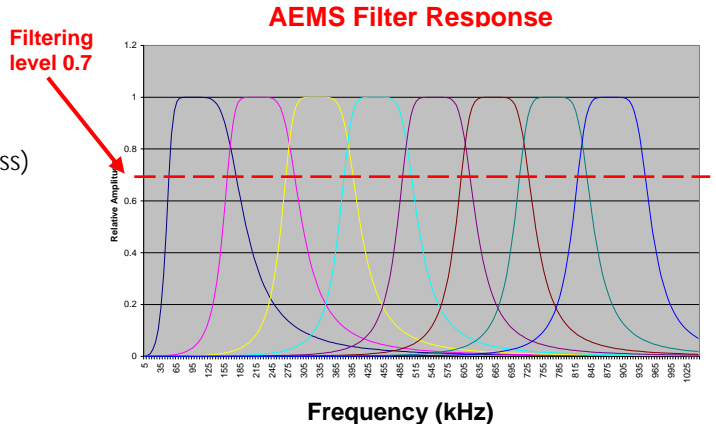
Frequency Range: 50 KHz to 950 KHz, in several filter ranges. Only one filter is selected at any one time.

Filter Staging: (6th order Butterworth bandpass)

- | | |
|------------------|------------------|
| 1) 50 – 180 kHz | 5) 490 – 620 kHz |
| 2) 160 – 290 kHz | 6) 600 – 730 kHz |
| 3) 270 – 400 kHz | 7) 710 – 840 kHz |
| 4) 380 – 510 kHz | 8) 820 – 950 kHz |

AE Repeatability: ±2% @ 50:1 signal to noise

AE Reproducibility: ±5% @ 50:1 signal to noise



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