

## Apollo Multi-Channel / Multi-Frequency Eddy Current System



Apollo from GE Sensing & Inspection Technologies is a digital multi-channel/multi-frequency eddy current system designed for inspection speed, measurement accuracy, and operational efficiency. Developed to take on the most demanding steam generator and [heat exchanger inspections](#), Apollo drives industry standard eddy current (ET) and remote field (RFT) tubing probes as well as surface scanning arrays.



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{tab=Features}

### **Demanding Solutions**

Apollo™ was developed to take on the most demanding heat exchanger inspections. It supports industry



### **Flexibility for Multiple Applications**

Apollo can operate in either multiplexed or simultaneous injection modes meeting the eddy current tubin

The multi-channel/multi-frequency capabilities of Apollo can also solve a vast array of surface solutions.



### **Dedicated Customer Support**

GE Sensing & Inspection Technologies continues to invest in technology and people so we can solve cu

Through local customer and sales support located around the world, GE Sensing & Inspection Technolo

### **Key Features & Benefits**

- 100% digital data acquisition ensures full signal capture
- Configurable up to 1024 channels and 256 frequencies for tubing inspection and array applications
- Supports multiplexed, simultaneous injection, and context switching inspection modes
- Wide frequency range of 1 Hz to 10 MHz and automatic gain control

### **Advanced Software**

Combined with field proven acquisition, analysis, and data management software, Apollo is suited for a v

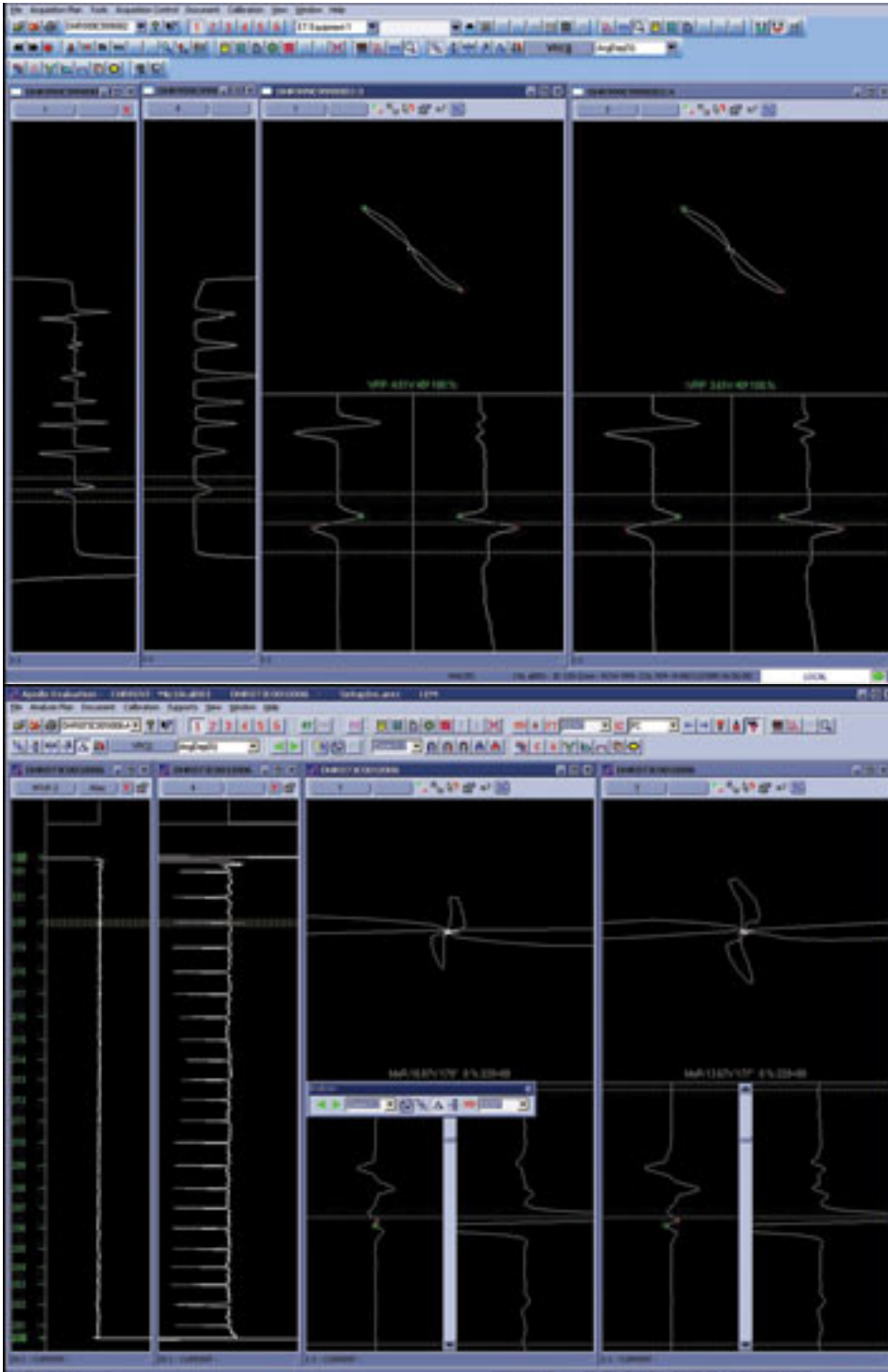


Figure 1: Apollo Software Interface for Eddy Current Testing Data and System

- Trigger Modes** external, and synchronized with encoder and software
- Sample Rate** 20,000 samples/sec
- Ethernet Speed** 10/100Mbps
- Ethernet Length** 150m
- Data Acquisition**
- Virtual Frame Generation**
- Alarm Generation** Yes
- Algorithms Included** Offset, filters, tube-air detection, array, and

temporal interpolation\*

**External Algorithms** From ethernet or USB® download\*

**Injectors**

**Numbers**

**Outputs** 8

**Modes** Multiplexed, simultaneous, and context switching

**Voltage Level** 0 - 24 Vpp

**Voltage Resolution** 1 v

**Frequency Number** 256

**Frequency Range** 0 Hz - 10 MHz

**Frequency Resolution** 0.008 Hz

**Impedance Direct** 5

**Impedance Through R** 105 Ω

**Maximum Output Current** 1A

**Test** Vout, Iout, and temperature

**Input/Output**

**Encoders**

□□□ **Level**

□□□ **Type**

9 (A,B)

LVTTL

Incremental encoder A, B signals 90° out of phase, TTL pulses, or state signals

**Digital Inputs**

□□□ **Level**

□□□ **Modes** 8

LVTTL

Input, Enable Acquisition, Trigger

**Digital Outputs**

□□□ **Level**

□□□ **Modes**

□□□ **Width**

□□□ **Pulse** 8

LVTTL

Output, Alarm, Trigger

Programmable (Trigger mode)

H/L programmable

**Analog Inputs**

□□□ **Range**

□□□ **Bandwidth** <2

±10v

20 KHz

**Analog Outputs**

□□□ **Range**

□□□ **Bandwidth** 2

±10v

20 KHz

**Eddy Current Receivers**

**Inputs**

**Frequencies (per input)** PAL or NTSC

**Channels** 128

**Frequency Range**

**Resolution** 10 Hz - 10 Mhz

0.009 Hz

**Gain**

**Mode**

**Range**

**Resolution**

Manual, Automatic

0 - 40 dB

0.009 dB

**A/D Converter** 14 bits

**Test** Temperature

**Power**

**Voltage** 100-240 VAC

**Frequency** 50 - 60 Hz

**Power** 30w (EC only)

**Size & Weight**

**Size** 300 mm W x 290 mm H x 249 mm D (11.8 in W x 11.4 in H x 9.8 in D)

**Weight** 8.7 kg (19.2 lb)

**Operating Environment**

**Storage Temperature** 70°F to 158°F

**Relative Humidity** 90%, no condensation

**Configuration**

Four and eight channel configurations available

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