

Baugh & Weedon BondCheck+



Features:

- Supports Pitch-Catch, Resonance and MIA Bond-Testing Modes
- Pitch and Catch Dry Coupled Bond testing mode for rapid detection of defects in laminate, bonded or sandwich structures.
- Automatic Test Frequency Optimization
- Sweep, RF, Y/T, Encoded and Phase/Frequency Plots



BondCheck+ – Applications & Probe Selection

Material	Inspection Required	Probes Used per Application	Probes Applicable / Not Applicable per Application
Bond Stiffeners	Disbonds	Pitch Catch & Resonance	Pitch-Catch & Resonance are applicable
Carbon Laminate	Delaminations, Voids, Porosity	Resonance	Pitch-Catch is applicable
Carbon or Glass reinforced pipes or pressure vessels	Disbonds, delaminations	Pitch-Catch	Resonance is not applicable
Carbon Overwrapped Pressure Vessels (COPV)	Disbonds, delaminations	Pitch-Catch	Resonance is not applicable
Carbon Skin to Foam Core	Disbonds, delaminations	Pitch-Catch	Resonance is applicable
Carbon Skin to metal Nomex honeycomb	Disbonds, delaminations and crushed core	Pitch-Catch	Resonance is applicable
Carbon-Carbon in Heat Shields	Delaminations, cracking, density changes	Pitch-Catch	Resonance is applicable
Composite Repair Validation	Disbonds, delaminations	Pitch-Catch	Resonance is not applicable
Glass fiber skin to foam or wood core	Disbonds, Deliminations	Pitch-Catch	Resonance is applicable
Metal Skin to metal honeycomb	Disbonds and crushed core	Pitch-Catch & Resonance	Pitch-Catch & Resonance are applicable
Metal to metal bonded skins	Disbonds	Resonance	Pitch-Catch is applicable
Perforated metal skin to honeycomb core, used for acoustic liners	Disbonds	Pitch-Catch	Resonance is not applicable
Sandwich Structures	Far-side flaws or core damage on sandwich construction	Pitch-Catch	Resonance is applicable
Sandwich Structures (multicore)	Inter-core disbonds, core damage	Pitch-Catch	Resonance is applicable
0.5"/12.7mm defect		Resonance	Pitch-Catch is applicable
Curved surface up to 1"/25mm		Pitch-Catch	Resonance is applicable
Depth of indication location in multi-layered structures		Resonance	Pitch-Catch is not applicable



Technical Specifications

Transmit	Operating Mode:	Pitch-Catch Only
	Output Frequency:	1kHz to 100kHz
	Main Gain	0 to 76dB, 0.1dB steps
	Output Voltage:	0 to 76dB, 0.1dB steps
	Minimum Output drive load impedance:	300 Ohms
	Waveform Type:	Arbitrary waveform, supporting tone burst with rectangle/hanning window and frequency chirp
	Transmit waveform points maximum:	8192
	Waveform Duration:	Maximum 3.2ms
	Waveform Output DAC clock rate:	25MHz fixed
Receive	Sample Rate:	440kHz (subject to change)
	Bit Depth:	16-bit
	Gain Range:	0 to 60dB (TBC subject to testing)
	Receive Bandwidth:	3kHz to 1MHz – 3 dB points
	Time Base Range:	100µs to 2ms
	Time Base Delay:	0µs to 1ms
	Amplitude/Phase Extraction Cursor:	Position Resolution 2 µs
Software Specifications	Display Modes:	RF, Waveform, Y-T Mode
	Acquisition Gate in RF Mode:	With adjustable amplitude, start and parameter control.
	Acquisition Gate in Y-T Mode:	Multiple box regions
	Calibration Mode:	Performing frequency sweep on bond and dis-bonded-areas. Automatic inspection frequency determination with manual adjustment.
	Bond/Dis-bond Alarm:	State on screen on probe
	Live Waveform:	Display during parameter adjustment
	Save:	Inspection data to SD Card
	Export:	Inspection Report
	Encoder:	With 1D line plot of chosen parameter (phase/amplitude)
Pitch-Catch Probe Specifications	Operating Frequencies:	Depends on piezo resonant frequency. Current model 30kHz (suitable for 10kHz to 50kHz operation).
	Transmit – receive probe separation:	0.7"/17mm
	Transmit – receive probe linear travel:	>0.2"/5mm



	Probe Auto Recognition:	Yes
	Probe Alarm LED:	Yes
	Probe Tips:	Rounded end and flat end, replaceable by user.
	Probe housing material:	Anodized aluminum case with stainless steel probe housings, rubber finger grip.
	Probe connector:	8 pin LEMO

Probe Kits & X-Y/R Theta Scanner

Pitch Catch Probe Kit Includes:

- Operating frequency: 30kHz (suitable for 10kHz to 50kHz operation)
- Automatic probe recognition
- Alarm LED on probe
- Transmit - Receive probe separation: 17mm
- Transmit – Receive probe linear travel: >5mm
- Rounded end and flat end probe tip options, replaceable by user.
- Probe housing material: Anodized aluminum case, with stainless steel probe housings, rubber finger grip.
- Integrated memory for serial number and easy default settings of BondCheck+
- Includes probe cable and deluxe probe case.

Resonance Probe Kit Includes:

- Three transducer kit, frequencies to be confirmed
- Automatic probe recognition
- Alarm LED on probe
- Probe housing material: Polymer and Stainless-steel case with aluminum transducer wear face.
- Integrated memory for serial number and easy default settings of BondCheck+

X-Y/R-Theta Scanner Includes:

- Universal manual scanner system consists of X-Y and R-Theta scanning devices that can be used individually or combined depending on the application requirement. Connects easily to the BondCheck+ to enable C-scanning of a variety of composite components.