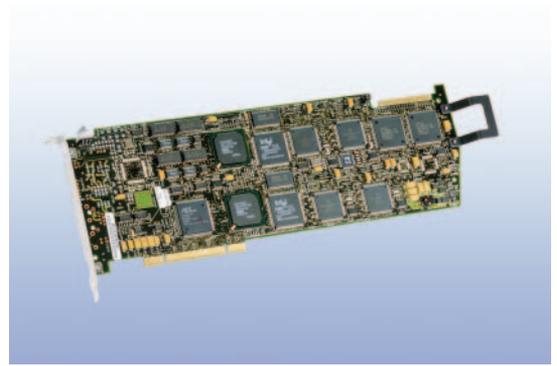


## Dialogic® JCT Media Boards

Dialogic® JCT Media Boards can be used by developers to provide cost-effective, scalable, high-density communications applications. The applications include those requiring digital network interfaces as well as multimedia resources, such as voice and software-based speech recognition or fax in a single Personal Computer (PC) slot. These boards offer a rich set of advanced features and support Digital Signal Processor (DSP) technology and industry-standard PCI bus and CT Bus technologies.



### Products Discussed in This Datasheet

- Dialogic® D/160JCT Media Board
- Dialogic® D/320JCT Media Board

CSP technology — the DSP-based solution optimized for speech recognition — enables a friendly user interface and seamless integration of speech recognition software from leading speech technology vendors. CSP reduces system latency, increases recognition accuracy, and improves overall system response time for high-density speech solutions.

Onboard DSP-based fax and support for software-based speech recognition lets developers maximize the number of boards in the system for multimedia communications applications such as web-enabled call centers, unified messaging, or Interactive Voice Response (IVR). The option to use voice coders such as Global System for Mobile Telecommunication (GSM) and G.726 provides the capability to build unified messaging solutions while extending existing legacy messaging systems.

### Features

**16 or 32 independent voice channels in a single PCI H.100 slot**

**Supports G.726 bit exact and GSM coders**

**Silence-compressed recording**

**Universal PCI edge connector**

**Supports DSP-based onboard fax and host-based speech recognition on select boards (fax and host-based speech are mutually exclusive)**

### Benefits

Lower costs while creating larger high-density systems with fewer boards per chassis

Enables implementation of unified messaging applications that meet VPIM standards

Eliminates silence and preserves hard disk space

Universal PCI form factor compatibility with 3.3 V and 5.0 V bus signals enabling deployments in a wide variety of PCI chassis from popular manufacturers

Maximizes the number of boards in the system

## Technical Specifications

### D/160JCT

|                                 |   |
|---------------------------------|---|
| Number of ports                 | 16  |
| Maximum boards per system       | 6. Number may be limited by application, system performance, and the number of CT Bus loads per board.                  |
| CT Bus loads per board          | 1.0   |
| Maximum CT Bus loads per system | 20  |
| Resource sharing bus            | H.100 CT Bus  |
| Control microprocessor          | 1 Intel486 GX processor   |
| Digital signal processors       | 2 Motorola DSP56303 @ 100 MHz   |
| Supported operating system      | Windows®; Linux. Details at <a href="http://www.dialogic.com/systemreleases">http://www.dialogic.com/systemreleases</a> |
| CSP                             | Yes   |
| Signaling                       | Not applicable  |

### Host Interface

|                   |   |
|-------------------|---|
| Bus compatibility | PCI. Complies with PCISIG Bus Specification, Rev. 2.2       |
| Bus speed         | 33 MHz maximum  |
| Bus mode          | 32- to 16-bit conversion in target mode                     |
| Shared memory     | 2 x 64 KB page  |
| I/O ports         | None  |
| Support           | 3.3 V or 5 V signaling environment (universal connectivity) |

### Platform

|             |   |
|-------------|---|
| Form factor | PCI (universal connector)<br>12.3 in. (31.24 cm) long (without edge retainer) or 13.3 in. (33.78 cm) long (with edge retainer)<br>0.79 in. (2 cm) wide (total envelope)<br>3.87 in. (9.83 cm) high (excluding edge connector) |
|-------------|---|

### Power Requirements

|         |                |
|---------|----------------|
| +5 VDC  | 1.5 A maximum  |
| +12 VDC | 3.0 mA maximum |
| -12 VDC | Not required   |

## Technical Specifications (cont.)

### Environmental Requirements

|                       |                               |
|-----------------------|-------------------------------|
| Operating temperature | +32°F (0°C) to +122°F (+50°C) |
| Storage temperature   | -4°F (-20°C) to 158°F (+70°C) |
| Humidity              | 8% to 80% noncondensing       |

### Approvals and Compliance

|                            |  |
|----------------------------|--|
| Hazardous substances       | RoHS Compliance Information at <a href="http://www.dialogic.com/rohs">http://www.dialogic.com/rohs</a>   |
| <i>Safety and EMC</i>      |  |
| Canada                     | ICES-003 Class A<br>ULc File E96804  |
| Europe                     | EN60950<br>EN55022<br>EN55024  |
| Japan                      | VCCI Class A   |
| United States              | FCC Part 15 Class A<br>UL 1950 File E96804   |
| International              | IEC950<br>CISPR 22<br>CISPR 24   |
| <i>Telecom Approvals</i>   |  |
| United States              | FCC part 68 ID#: EBZUSA-23891-CE-E   |
| Country-specific approvals | See the Product Declarations & Global Approvals list at <a href="http://www.dialogic.com/declarations/">http://www.dialogic.com/declarations/</a> or contact your Authorized Distributor |

### Reliability/Warranty

|                |   |
|----------------|---|
| Estimated MTBF | Per Telcordia Method I<br>PCI: 367,000 hours  |
| Warranty       | Warranty information at <a href="http://www.dialogic.com/warranties">http://www.dialogic.com/warranties</a> |

## Technical Specifications (cont.)

### D/320JCT

|                             |   |
|-----------------------------|---|
| Number of ports             | 32  |
| Maximum boards/system       | 6. Number may be limited by application, system performance, and the number of CT Bus loads per board                   |
| CT Bus loads per board      | 1.5   |
| Maximum CT Bus loads/system | 20  |
| Resource sharing bus        | H.100 CT Bus  |
| Control microprocessors     | 2 Intel486 GX processors  |
| Digital signal processors   | 4 Motorola DSP56303 @ 100 MHz   |
| Operating system            | Windows®; Linux. Details at <a href="http://www.dialogic.com/systemreleases">http://www.dialogic.com/systemreleases</a> |
| CSP                         | Yes   |
| Signaling                   | Not applicable  |

### Host Interface

|                   |   |
|-------------------|---|
| Bus compatibility | PCI. Complies with PCISIG Bus Specification, Rev. 2.2       |
| Bus speed         | 33 MHz maximum  |
| Bus mode          | 32- to 16-bit conversion in target mode                     |
| Shared memory     | 2 x 64 KB page  |
| I/O ports         | None  |
| Support           | 3.3 V or 5 V signaling environment (universal connectivity) |

### Platform

|             |   |
|-------------|---|
| Form factor | PCI (universal connector)<br>12.3 in. (31.24 cm) long (without edge retainer) or 13.3 in. (33.78 cm) long (with edge retainer)<br>0.79 in. (2 cm) wide (total envelope)<br>3.87 in. (9.83 cm) high (excluding edge connector) |
|-------------|---|

## Technical Specifications (cont.)

### Power Requirements

|         |                |
|---------|----------------|
| +5 VDC  | 2.0 A maximum  |
| +12 VDC | 7.0 mA maximum |
| -12 VDC | Not required   |

### Environmental Requirements

|                       |                               |
|-----------------------|-------------------------------|
| Operating temperature | +32°F (0°C) to +122°F (+50°C) |
| Storage temperature   | -4°F (-20°C) to 158°F (+70°C) |
| Humidity              | 8% to 80% noncondensing       |

### Approvals and Compliance

Hazardous substances RoHS Compliance Information at <http://www.dialogic.com/rohs>

#### *Safety and EMC*

Canada ICES-003 Class A  
ULc File E96804

Europe EN60950  
EN55022  
EN55024

Japan VCCI Class A

United States FCC Part 15 Class A  
UL 1950 File E96804

International IEC950  
CISPR 22  
CISPR 24

#### *Telecom Approvals*

United States FCC part 68 ID#: EBZUSA-23891-CE-E

Country-specific approvals See the Product Declarations & Global Approvals list at <http://www.dialogic.com/declarations/> or contact your Authorized Distributor

### Reliability/Warranty

Estimated MTBF Per Telcordia Method I  
PCI: 244,000 hours

Warranty Warranty information at <http://www.dialogic.com/warranties>

## Springware/JCT Technical Specifications

### Facsimile

|                          |  |
|--------------------------|--|
| Fax compatibility        | ITU-T G3 compliant (T.4, T.30)<br>ETSI NET/30 compliant  |
| Data rate                | 14,400 b/s (v.17) send<br>9,600 b/s receive  |
| Variable speed selection | Automatic step-down to 12,000 b/s, 9,600 b/s, 7,200 b/s, 4,800 b/s, and lower  |
| Transmit data modes      | Modified Huffman (MH)<br>Modified Read (MR)  |
| Receive data modes       | MH, MR   |
| File data formats        | Tagged Image File Format-Fax (TIFF-F) for transmit/receive MH, MR  |
| ASCII-to-fax conversion  | Host-PC-based conversion<br>Direct transmission of text files<br>All Windows® fonts supported<br>Page headers generated automatically                  |
| Error correction         | Detection, reporting, and correction of faulty scan lines  |
| Image widths             | 8.5 in. (21.6 cm)<br>10.0 in. (25.4 cm)<br>11.9 in. (30.23 cm)   |
| Image scaling            | Automatic horizontal and vertical scaling between page sizes   |
| Polling modes            | Normal<br>Turnaround   |
| Image resolution         | Normal (203 pels/in. x 98 lines/in.; 203 pels/2.54 cm x 98 lines/2.54 cm)<br>Fine (203 pels/in. x 196 lines/in.; 203 pels/2.54 cm x 196 lines/2.54 cm) |
| Fill minimization        | Automatic fill bit insertion and stripping   |

### Audio Signal

|                                   |  |
|-----------------------------------|--|
| Usable receive range              | (T-1) -40 to +2.5 dBm0 nominal, configurable by parameter**<br>(E-1) -43 to +2.5 dBm0 nominal, configurable by parameter** |
| Automatic gain control            | Application can enable/disable output level, configurable by parameter**   |
| Silence detection                 | -38 dBm0 nominal, software adjustable**  |
| Transmit level (weighted average) | (T-1) -9 dBm0 nominal, configurable by parameter**<br>(E-1) -12.5 dBm0 nominal, configurable by parameter**                |
| Transmit volume control           | 40 dB adjustment range, with application-definable increments and legal limit cap  |

### Frequency Response

|         |                              |
|---------|------------------------------|
| 24 kb/s | 300 Hz to 2600 Hz $\pm$ 3 dB |
| 32 kb/s | 300 Hz to 3400 Hz $\pm$ 3 dB |
| 48 kb/s | 300 Hz to 2600 Hz $\pm$ 3 dB |
| 64 kb/s | 300 Hz to 3400 Hz $\pm$ 3 dB |

### Audio Digitizing

|                        |  |
|------------------------|--|
| 13 kb/s                | GSM @ 8 kHz sampling   |
| 24 kb/s                | OKI ADPCM @ 6 kHz sampling   |
| 32 kb/s                | OKI ADPCM @ 8 kHz sampling   |
| 32 kb/s                | G.726 @ 8 kHz sampling   |
| 48 kb/s                | A-law G.711 PCM @ 6 kHz sampling   |
| 48 kb/s                | $\mu$ -law G.711 PCM @ 6 kHz sampling  |
| 64 kb/s                | A-law G.711 PCM @ 8 kHz sampling   |
| 64 kb/s                | $\mu$ -law G.711PCM @ 8 kHz sampling   |
| Digitization selection | Selectable by application on function call-by-call basis   |
| Playback speed control | Pitch controlled<br>Available on OKI ADPCM and G.711 PCM<br>Adjustment range: $\pm$ 50%<br>Adjustable through application or programmable DTMF control |

## Springware/JCT Technical Specifications (cont.)

### DTMF Tone Detection

|                       |  |
|-----------------------|--|
| DTMF digits           | 0 to 9, *, #, A, B, C, D per ITU-T Q.23  |
| Dynamic range         | (T-1) -36 dBm0 to -3 dBm0 per tone, configurable by parameter**<br>(E-1) -39 dBm0 to 0 dBm0 per tone, configurable by parameter**  |
| Minimum tone duration | 40 ms, can be increased with software configuration  |
| Interdigit timing     | Detects like digits with a >40 ms interdigit delay<br>Detects different digits with a 0 ms interdigit delay  |
| Acceptable twist      | (T-1) Meets Telcordia LSSGR Sec 6 and EIA 464 requirements<br>(E-1) Meets appropriate ITU-T specifications**   |
| Noise tolerance       | Meets Telcordia LSSGR Sec 6 and EIA 464 requirements for Gaussian, impulse, and power line noise tolerance   |
| Cut-through           | (T-1) Local echo cancellation permits 100% detection with a >4.5 dB return loss line<br>(E-1) Digital trunks use separate transmit and receive paths to network<br>Performance dependent on far-end handset's match to local analog loop |
| Talk-off              | Detects less than 20 digits while monitoring Telcordia TR-TSY-000763 standard speech tapes (LSSGR requirements specify detecting no more than 470 total digits)<br>Detects 0 digits while monitoring MITEL speech tape #CM 7291          |

### Global Tone Detection

|                             |  |
|-----------------------------|--|
| Tone type                   | Programmable for single or dual  |
| Maximum number of tones     | Application-dependent  |
| Frequency range             | Programmable within 300 Hz to 3500 Hz  |
| Maximum frequency deviation | Programmable in 5 Hz increments  |
| Frequency resolution        | ±5 Hz. Separation of dual frequency tones is limited to 62.5 Hz at a signal-to-noise ratio of 20 dB  |
| Timing                      | Programmable cadence qualifier, in 10 ms increments  |
| Dynamic range               | (T-1) Programmable, default set at -36 dBm0 to -0 dBm0 (single tone), -3 dBm0 (dual tone)<br>(E-1) Programmable, default set at -39 dBm0 to +0 dBm0 per tone |

### Global Tone Generation

|                      |  |
|----------------------|--|
| Tone type            | Generate single or dual tones  |
| Frequency range      | Programmable within 200 Hz to 4000 Hz  |
| Frequency resolution | 1 Hz   |
| Duration             | 10 ms increments   |
| Amplitude            | (T-1) -43 dBm0 to -3 dBm0 per tone nominal, programmable<br>(E-1) -40 dBm0 to +0 dBm0 per tone nominal, programmable |

### Call Progress Analysis

|                                      |  |
|--------------------------------------|--|
| Busy tone detection                  | Default setting designed to detect 74 out of 76 unique busy/congestion tones used in 97 countries as specified by ITU-T Rec. E., Suppl. #2<br>Default uses both frequency and cadence detection<br>Application can select frequency only for faster detection in specific environments |
| Ring back detection                  | Default setting designed to detect 83 out of 87 unique ring back tones used in 96 countries as specified by ITU-T Rec. E., Suppl. #2<br>Uses both frequency and cadence detection  |
| Positive voice detection             | Standard   |
| Positive voice detection speed       | Detects voice in as little as 1/10th of a second   |
| Positive answering machine detection | Standard   |
| Fax/modem detection                  | Preprogrammed  |
| Intercept detection                  | Detects entire sequence of the North American tri-tone<br>Other intercept tone sequences can be programmed   |
| Dial tone detection before dialing   | Application enable/disable<br>Supports up to three different user-definable dial tones<br>Programmable dial tone drop out debouncing   |

**Springware/JCT Technical Specifications (cont.)**

**Tone Dialing**

|                     |   |
|---------------------|---|
| DTMF digits         | 0 to 9, *, #, A, B, C, D per Telcordia LSSGR Sec 6, TR-NWT-000506 |
| Frequency variation | Less than ±1 Hz   |
| Rate                | 10 digits/s, configurable by parameter**                          |
| Level               | -7.5 dBm0 per tone, nominal, configurable by parameter**          |

**Pulse Dialing**

|              |   |
|--------------|---|
| 10 digits    | 0 to 9  |
| Pulsing rate | 10 pulses/s, nominal, configurable by parameter** |
| Break ratio  | 60% nominal, configurable by parameter**          |

**Analog Display Services Interface (ADSI)**

FSK generation per Telcordia TR-NWT-000030  
 Programmable dial tone drop out debouncing

## Additional Components

- Multidrop CT Bus cables
  - CBLCTB68C3DROP
  - CBLCTB68C4DROP
  - CBLCTB68C8DROP
  - CBLCTB68C12DROP
  - CBLCTB68C16DROP

## Ordering Information

| Product Code | Order Code | Description  |
|--------------|------------|--------------|
| D320JCTW     | 881-769    | 32-port, PCI |
| D160JCTW     | 881-765    | 16-port, PCI |

To learn more, visit our site on the World Wide Web at <http://www.dialogic.com>

**Dialogic Corporation**  
9800 Cavendish Blvd., 5th floor  
Montreal, Quebec  
CANADA H4M 2V9

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None of the information provided in this datasheet other than what is listed under the section entitled Technical Specifications forms part of the specifications of the product and any benefits specified are not guaranteed.

**Positive Answering Machine Detection/Positive Voice Detection**

These performance results were measured using specific computer systems and/or components within specific lab environments and under specific system configurations. Any difference in system hardware, software design, or configuration may affect actual performance. The results are furnished for informational use only and should not be construed as a commitment by Dialogic. Dialogic assumes no responsibility or liability for any errors or inaccuracies.

**Outbound Dialing/Telemarketing**

Outbound dialing systems may be subject to certain laws or regulations. Dialogic makes no representation that Dialogic products will satisfy the requirements of any such laws or regulations (including, without limitation, any regulations dealing with telemarketing).

\*\*Configurable to meet country-specific PTT requirements. Actual specification may vary from country to country for approved products.