



RTS™ Cronus is a 32-port digital matrix intercom in 2 RU (rack units). Based upon an advanced DSP architecture, Cronus™ has the ability to link up to a maximum of four units into a single 128-port matrix system. Through the use of standard video coaxial cable, the maximum distance between the first and last Cronus system can be up to 300ft. and still appear as a single matrix. However when using the Fiber Option card, the distance is increased up to 15 kilometers and function as a single matrix. When connected as a single matrix, the individual Cronus control remains autonomous and independent at each matrix for the highest reliability.

#### USB CONNECTIVITY:

Convenient front panel access as well as traditional rear access for system programming.

#### ADVANCED DSP:

Digital Signal Processing designed to support audio signal processing as well as VOX on all 32 ports (inputs).

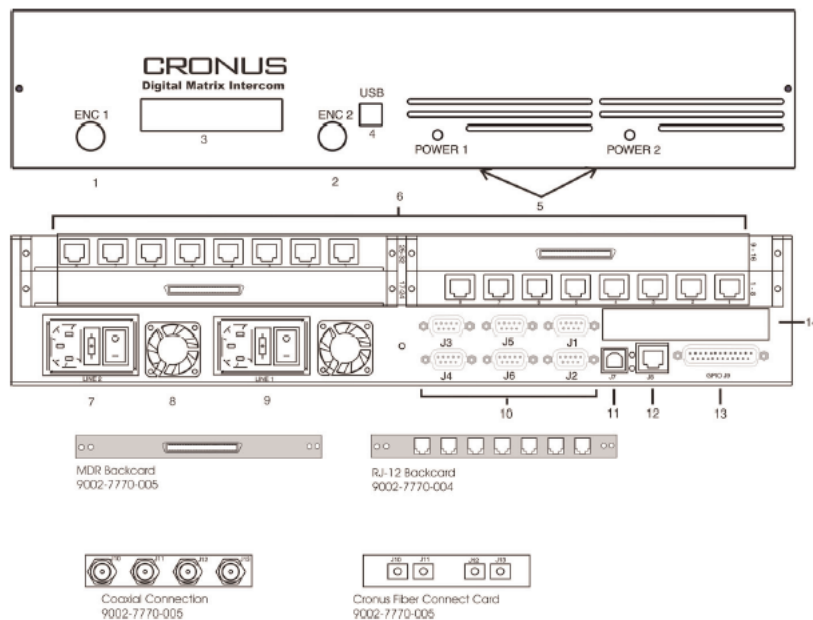
#### MODULAR ARCHITECTURE:

The modular architecture allows for port expansion from 8 to 32 ports giving easy user-expandable systems in the field. Also, users can choose from a variety of intercom cards such as, VOIP, AES-3 and Analog, each of which support 8 channels or ports.

#### REDUNDANT POWER SUPPLY:

Each chassis is powered by two internal power supplies, either of which can sufficiently power all the equipment ALONE. The power supplies have separate AC feeds for the ultimate in redundancy and protection.

## System Components



**1 - ENC 1** - This knob allows you to select a menu item, scroll through menus or exit out of the display menu.

**2 - ENC 2** - This knob allows you to select a menu item, scroll through menus or exit out of the display menu.

**Note:** Only when you are in the crosspoint status menu does the left and right knob perform separate functions. The Right knob adjusts the output port, while the Left knob adjusts the input port.

**3 - Display Panel** - LCD display showing menu options.

**4 - USB Connection** - There are two USB connections on Cronus; one on the front panel and one on the back panel. Cronus system can use the USB port connect with a PC. This allows for the most flexibility when planning where to use the system, in a rack unit where the back is inaccessible, or on a desktop where the back is accessible.

**5 - Power 1 & Power 2** - The power source indicator is a green LED light displaying that power is ON. The Cronus has a redundant power source. This means there are two power supplies, so if power supply 1 fails, power supply 2 will take over powering the system.

**6 - Keypanel Ports** - One Cronus frame can have 32 keypanel ports through the use of either a RJ-12 or MDR backcard. In all, the Cronus system can have 128 ports available for keypanels. You can also mix and match the backcards (for example, you can have 2 MDR backcards with 2 RJ-12 backcards on the same frame). The MDR backcard is primarily used to connect to three different breakout panels, XCP-32-DB9, XCP-48-RJ45, and XCP-48-Telco.

**7 & 9 - LINE 1 and LINE 2** - Cronus has two power sources; a primary source (LINE 1) and a redundant power source (LINE 2). Both power sources are running at the same time, so that if the primary source fails the redundant source will be able to power Cronus.

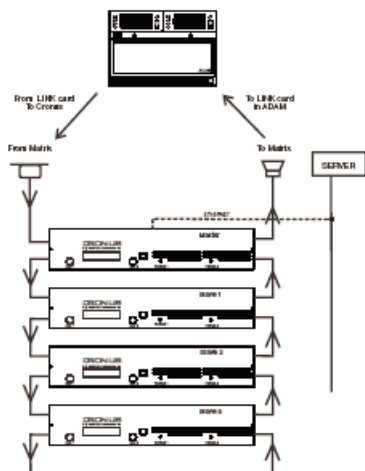
**8 - Fans** - There are two fans to cool the power supplies.

**10, 11, 12 - DB-9 Serial Connections, USB Connector, RJ-45 Connector** - There are three ways to connect to a PC from Cronus, through a DB-9 Serial connection (10), USB Connector (11), or a RJ-45 (12) connection. There are six DB-9 serial ports to connect any peripheral equipment.

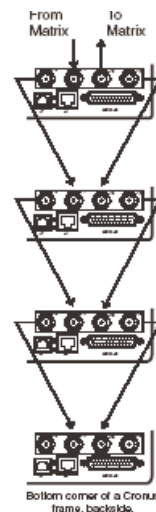
**13 - DB-25 Connection** - General Purpose Input Output connection.

**14 - Coaxial or Fiber Connection** - Cronus can have either four coaxial connections or two fiber connections for connecting Cronus' four frames to each other, as well as connecting the Cronus™ frame to the ADAM system, if necessary. For more information, see System Diagram on the back of this technical data sheet.

# CRONUS System Diagram and Frame Cabling



The Cronus Intercom system has four frames, one Master and 3 Slaves (see system diagram at left) connected via coaxial cables (see cabling diagram at right). Each frame can support up to 32 ports, and each system can have a maximum of 128 ports (all four frames available). By adding a connection to a Cronus Bus Expander (CBX) on ADAM, Cronus can be linked to other Cronus systems, increasing the number of available ports able to communicate with one another.



## Specifications

### Analog

Signal Type: balanced (fully differential)  
Nominal Level: 8dBu  
Maximum Level: 20dBu  
Input Impedance: 22k Ohm  
Output Impedance: 600 Ohm

### A/D and D/A

Sampling Rate: 48 kHz  
Resolution: 24 Bits

### Performance

SNR at 20 dBu: (A-weighted): >90dB  
THD+N at 20dBu, 1kHz (unweighted): < 0.007%  
Frequency Response at 20dBu:  
within  $\pm 1$ dB from 50Hz - 20kHz  
Crosstalk at 20dBu: <60dB  
CMRR: >70dB  
Note: All measurements performed using an Audio Precision System 1 Dual Domain System. Measurements were performed using sine wave at f=1kHz and Level = 20dBu. Measurement bandwidth = 20Hz to 20kHz

### Hotlink

Connectors (J10-J13)  
Connector type: RG6 BNC Female  
75 Ohm Coax Connector

### Connections

Intercom Channels (1-32)  
Connector type: 6-pin RJ12  
Pin 1 Control -  
Pin 2 Audio Out +  
Pin 3 Audio In -  
Pin 4 Audio In +  
Pin 5 Audio Out -  
Pin 6 Control +

### Serial Interface ports (J1-J6)

Connector type: 9-pin female D-sub  
J1: RS-232  
Pin 1: Not Used  
Pin 2: Input RS-232  
Pin 3: Output RS-232  
Pin 4: Not Used  
Pin 5: GND  
Pin 6: GND  
Pin 7: Not Used  
Pin 8: Not Used  
Pin 9: Not Used

### J2: RS-232

Pin 1: Not Used  
Pin 2: GND  
Pin 3: Input RS-232  
Pin 4: Not Used  
Pin 5: Not Used  
Pin 6: Not Used  
Pin 7: GND  
Pin 8: Output RS-232  
Pin 9: Not Used

### J3-J4: RS-422/RS-485

Pin 1: RS-485-/RS-422-  
Pin 2: GND  
Pin 3: Not Used  
Pin 4: Not Used  
Pin 5: Output RS-422+  
Pin 6: RS-485+/Input RS-422+  
Pin 7: GND  
Pin 8: Not Used  
Pin 9: Output RS-422-

### J5-J6: RS-485 (DE-9S)

Pin 1: RS-485-  
Pin 2: GND  
Pin 3: Not Used  
Pin 4: Not Used  
Pin 5: Not Used  
Pin 6: RS-485+  
Pin 7: GND  
Pin 8: Not Used  
Pin 9: Not Used

### USB Connectors

(front end and backend J7)  
Connector type: standard USB  
Ethernet Interface Port (J8)  
Connector type: RJ45 standard (10 Base-T (Cat3)/100 Base-TX (Cat 5)

### MDR Connector

Pin#	Port	Function
8	1	Data +
33	1	Data -
24	1	Audio To Matrix +
49	1	Audio To Matrix -
25	1	Audio From Matrix +
50	1	Audio From Matrix -
7	2	Data +
32	2	Data -
22	2	Audio To Matrix +
47	2	Audio To Matrix -
23	2	Audio From Matrix +
48	2	Audio From Matrix -
6	3	Data +
31	3	Data -
20	3	Audio To Matrix +
45	3	Audio To Matrix -
21	3	Audio From Matrix +
46	3	Audio From Matrix -
5	4	Data +
30	4	Data -
18	4	Audio To Matrix +
43	4	Audio To Matrix -
19	4	Audio From Matrix +
44	4	Audio From Matrix -
4	5	Data +
29	5	Data -
16	5	Audio To Matrix +
41	5	Audio To Matrix -
17	5	Audio From Matrix +
42	5	Audio From Matrix -
3	6	Data +
28	6	Data -
14	6	Audio To Matrix +
39	6	Audio To Matrix -
15	6	Audio From Matrix +
40	6	Audio From Matrix -
2	7	Data +
27	7	Data -
12	7	Audio To Matrix +
37	7	Audio To Matrix -
13	7	Audio From Matrix +
38	7	Audio From Matrix -
1	8	Data +
26	8	Data -
10	8	Audio To Matrix +
35	8	Audio To Matrix -
11	8	Audio From Matrix +

### GPIO Interface port (J9)

Connector type: 25-pin female D-sub  
Pin 1: Input 1  
Pin 2: Common  
Pin 3: Input 2  
Pin 4: Common  
Pin 5: Input 3  
Pin 6: Common  
Pin 7: Input 4  
Pin 8: Common  
Pin 9: GND  
Pin 10: GND  
Pin 11: GND  
Pin 12: +5V  
Pin 13: +5V  
Pin 14: Relay 1 NC  
Pin 15: Relay 1 NO  
Pin 16: Common  
Pin 17: Relay 2 NC  
Pin 18: Relay 2 NO  
Pin 19: Common  
Pin 20: Relay 3 NC  
Pin 21: Relay 3 NO  
Pin 22: Common  
Pin 23: Relay 4 NC  
Pin 24: Relay 4 NO  
Pin 25: Common

### Physical

Dimensions 19 W x 3.5 H x 14 Deep  
(482.6mm x 88.9mm x 355.6mm)  
Weight 14.15 lbs (6.5 kilograms)  
Power  
Requirements 90-240 V, 50/60 Hz, 1.4A

### Environmental:

Operating 0°C to 50°C (32°F - 122°F)  
Storage -20°C to 75°C (-4°F - 167°F)  
Humidity  
(Operating  
and Storage) 0 to 95% non-condensing

## Contact Information

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