

# RTS™

## DIGITAL MATRIX INTERCOM SYSTEMS

## Technical Data Sheet



# CRONUS™

Digital Intercom Matrix

### FEATURES

#### ACTIVE FEEDBACK SUPPRESSION:

Feedback suppression to allow high volume operation in confined areas without the worry of feedback.

#### SEAMLESS SIZING:

Dynamically resizes the matrices when additions are detected without operator intervention.

#### 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.

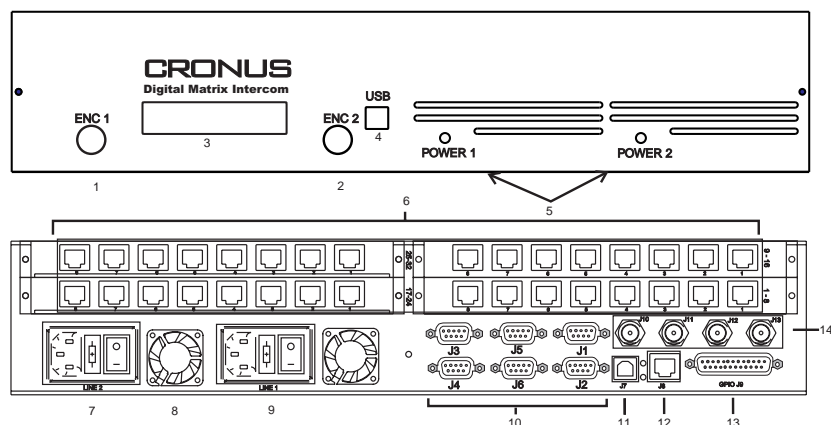
### DESCRIPTION

RTS™ Cronus™ is an advanced digital matrix intercom in 2 RU, where each frame can support 8-32 ports. Based upon an advanced DSP architecture, Cronus™ has the ability via the add-on intelligent linking option to link up to a maximum of four units to form a single 128 port matrix system. Through the use of standard video coaxial cable, the individual Cronus™ units can be located hundreds of meters apart, and still appear 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.

RTS™ Cronus™ "Seamless Sizing" allows 2, 3, or 4 matrices to be combined by the simple addition of coaxial cable. Seamless sizing means that upon interconnection, each matrix and all panels learn about the new configuration without operator intervention or reprogramming. The USB ports for programming are available on both front and rear panels. The front panel display and shaft encoders permit extensive control without the need for a PC.

Cronus is *FULLY* compatible with all existing RTS matrix products. Also, Cronus will have the ability to connect, via an interface card, to existing ADAM matrices. This allows Cronus to be a "satellite" matrix to any existing ADAM™ intercom system from a 128 port single frame system to a frame of over 800 ports - a single, large matrix - no trunking, no blocking.

### FRONT AND BACK PANEL DESCRIPTION



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 has 32 keypanel ports (RJ-12 connection). In all, the Cronus system can have 128 ports available for keypanels.

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.

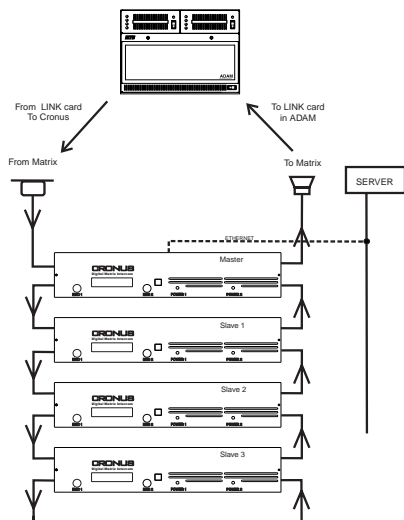
8 - Fans - There are two fans to cool the power supplies.

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.

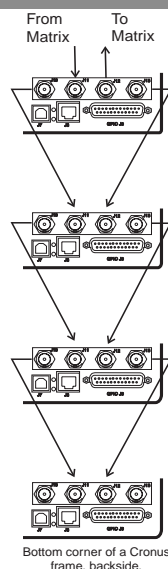
13 - DB-25 Connection - General Purpose Input Output connection.

14 - Coaxial Connection - Cronus has four coaxial 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.

### 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.



# CRONUS™

Digital Intercom Matrix

### 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 ±1dB 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 back end J7)

Connector type: standard USB

#### Ethernet Interface Port (J8)

Connector type: RJ45 standard (10 Base-T (Cat3)/100 Base-TX (Cat 5))

#### 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 (3.92 grams)

#### Power

Requirements 100-240 V, 50/60 Hz, 1.4A

#### Environmental:

Operating 0°C to 50°C  
Storage -20°C to 75°C  
Humidity (Operating and Storage) 0 to 95% non-condensing

### PLEASE CONTACT US

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### WARRANTY

Products are warranted by Telex Communications, Inc. to be free from defects in materials and workmanship for a period of three years from the date of sale.

The sole obligation of Telex during the warranty period is to provide, without charge, parts and labor necessary to remedy covered defects appearing in products returned prepaid to Telex. This warranty does not cover any defect, malfunction or failure caused beyond the control of Telex, including unreasonable or negligent operation, abuse, accident, failure to follow instructions in the manual, defective or improper associated equipment, attempts at modification and repair not authorized by Telex, and shipping damage.

To obtain warranty service, follow the procedures entitled "Procedure for Returns" and "Shipping to Manufacturer for Repair or Adjustment".

This warranty is the sole and exclusive express warranty given with respect to RTS products. It is the responsibility of the user to determine before purchase that this product is suitable for the user's intended purpose.

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