

Technical Data Sheet

CRONUS™

Digital Intercom Matrix



DESCRIPTION

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.

FEATURES

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.

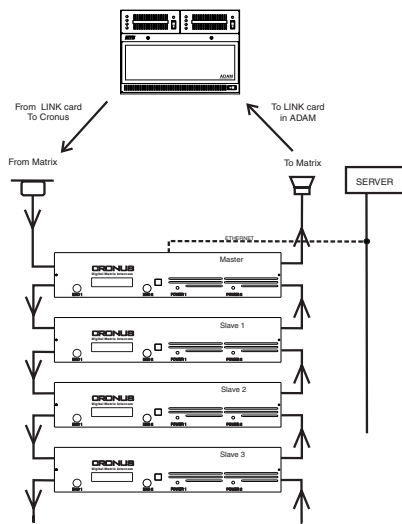
REDUNDANT POWER SUPPLY:

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.

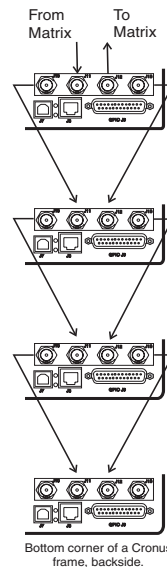
RTS™

DIGITAL MATRIX INTERCOM SYSTEMS

CRONUS SYSTEM DIAGRAM AND FRAME CABLEING



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.



Bottom corner of a Cronus frame, backside.

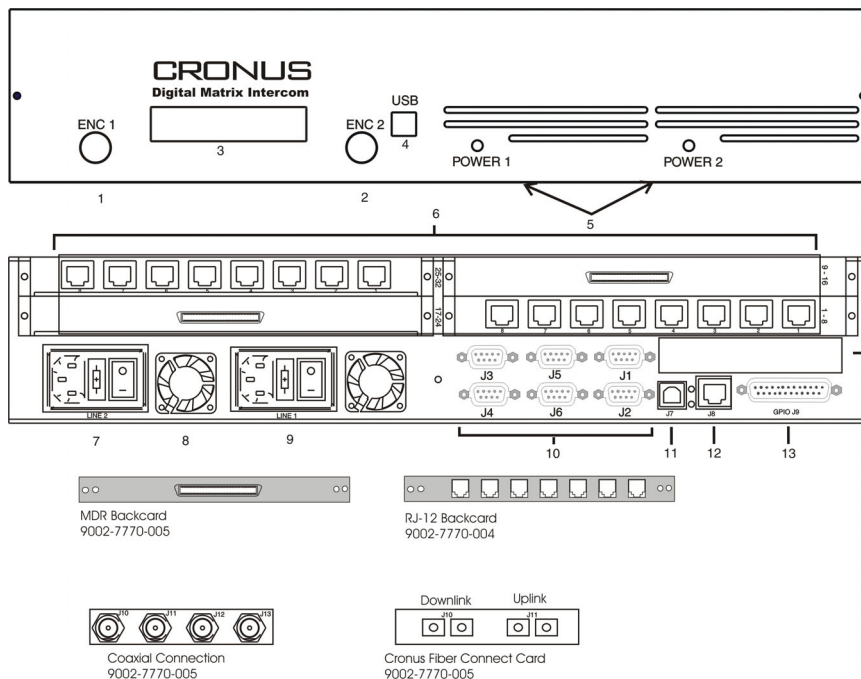
CRONUS™

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PLEASE CONTACT US

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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 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.

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 +

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))

Fiber Optic: HFCT-5208M (single mode transeiver)

- 1300 nm laser-based transceiver in a standard 1x9 mezzanine package for links of 40km with single mode fiber cables.

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

MDR Connector

Pin	Number	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 +
	36	8	Audio From Matrix -

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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

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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