

INTRODUCTION

The RTS™ Digital Matrix Intercom family of products represent over 20 years of development. The entire line of products adheres to the Telex® commitment of continual product upgrades which maintain compatibility with our earlier products. The line of products includes matrices, keypanels, wiring accessories, and special interfaces.

RTS Digital Matrix Intercom Systems by Telex are complete communications systems, including support for point to point, party-line, ISO, IFB, special lists and many other configurations. The systems offer a wide variety of keypanels, from basic 1 RU speaker stations with designator strips, to 2 RU, programmable keypanels with alphanumeric displays. Available accessories include GPI interfaces, digital telephone hybrids, 2 wire interfaces, camera delegate panels, IFB program assign panels, listen-only panels, and ISDN, fiber and T-1 interface capabilities.

This systems oriented approach offers solutions which range in size from 2 users (ports) to 1,000 ports (and beyond!). The RTS™ family of intercom systems include the RTS™ TW series of belt-packs, master stations, and accessories, which can be fully integrated into a communications design to meet any requirements.

The system configuration software is available in both DOS and Windows versions, and supports operation over LAN, WAN and dial-up networks. With the software, the communications administrator can grant various levels of access to individual users, set defaults, and perform a whole range of system configurations, in real time, on-line or off-line. The configuration programs provide full status and monitoring of key assigns, party-line set-ups, user initiated changes, and many other functions. The software provides the ability to create and store pre-set configurations, which may then be initiated on command, changing the entire set-up of the matrix and keypanels, or any sub-set of the system at a moments notice.

The Digital Matrix Intercom family includes four basic matrices, from 2 different technologies which are available in a number of different sizes.

The 9500 and 9524 are digitally controlled analog matrices. The 9524 will support up to 24 users, and is the ideal system for small installations, providing a cost effective solution. The 9500 system

will support up to 50 users in a single frame, and is the basis for expansion of the 9600 and 9700 series systems, which have been in use for over 10 years.

The ADAM™ (Advanced Digital Audio Matrix) and ADAM-CS digital intercom systems represent the state of the art in digital audio and digital control intercoms. The ADAM™ and ADAM-CS are both based on an 8 user interface card which samples the audio at 44.1 kHz, and 16 bits, the same standard as compact discs. The ADAM-CS will support up to 64 users (ports); the ADAM™ will support 136 users in a single 7 RU frame and is expandable up to 1,000 users in a single non-blocking matrix.

All Telex RTS matrix systems may be intelligently trunked, yielding systems comprised of up to 20 separate matrices, fully configurable as to allocation and control of inter-matrix trunks.

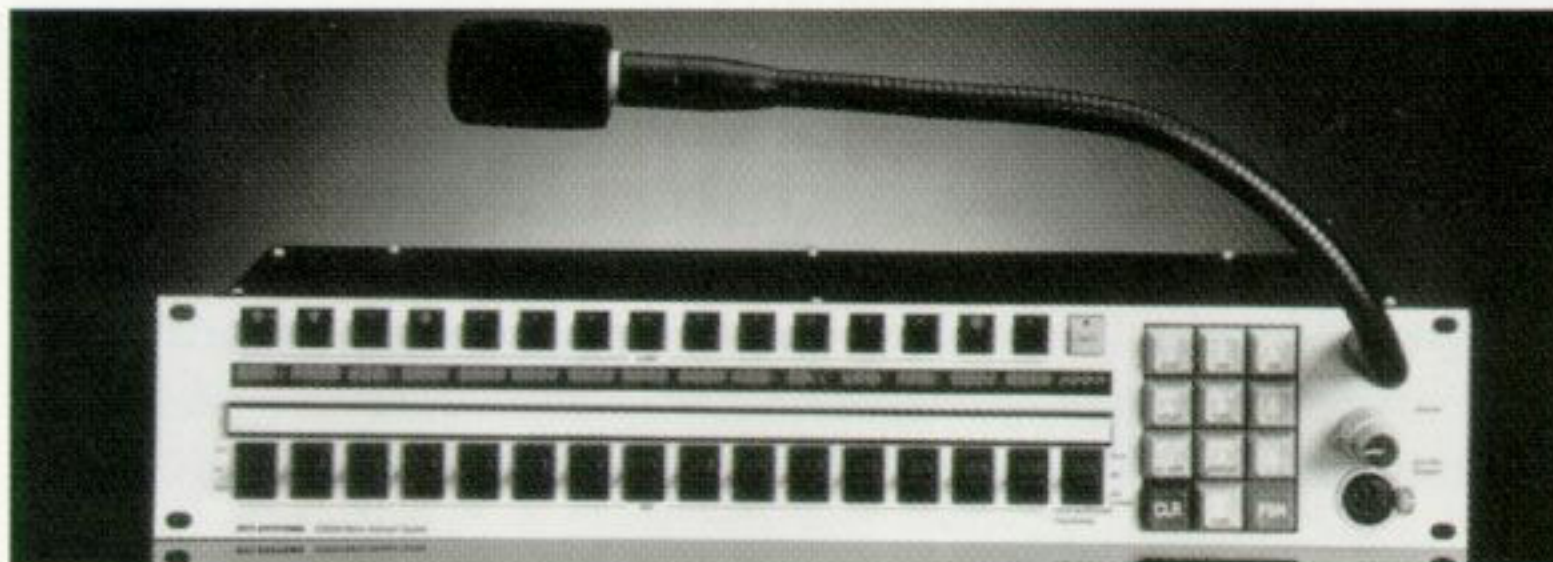
FEATURES AND BENEFITS

- ☐ Point to point communications with tallies
- ☐ Dynamic Party-lines (conferences)
- ☐ Special lists for group call and paging
- ☐ Camera ISO (isolate) as standard
- ☐ Multi-level priority IFB as standard
- ☐ Multi-purpose ports support keypanels and 4 wire inputs and outputs without special interface cards required
- ☐ User-programmable GPI interface
- ☐ Serial port for automation interface
- ☐ RTS-TW interface
- ☐ Configuration software operates both on-line and off-line
- ☐ System remains fully operational during configuration and during configuration changes
- ☐ Full control of restrictions on user changes, assignable on a user by user, feature by feature basis
- ☐ All configuration information is stored in non-volatile memory
- ☐ Intercom configuration is on-line at all times, whether the configuration was done at the central terminal, or at the individual panels.
- ☐ System is fully self-contained, the configuration program and terminal are NOT required for system operation, once configuration has been completed
- ☐ Individual Cross-point level controls (ADAM™ and ADAM-CS only)
- ☐ Available with fully redundant power supplies and controllers
- ☐ Extensive real-time diagnostics and monitoring of system status
- ☐ Dynamic upload of system configuration provides rapid recovery in event of primary power failure.

ACCESSORIES

KEYPANELS

A wide variety of user stations (keypanels) are available, and are compatible with all RTS Matrix systems. Panels are available in one and two RU configurations, with or without displays, with or without user programming keypads and systems, and are available with 8 - 12 - 16 keys, up to 64 keys using expansion panels.



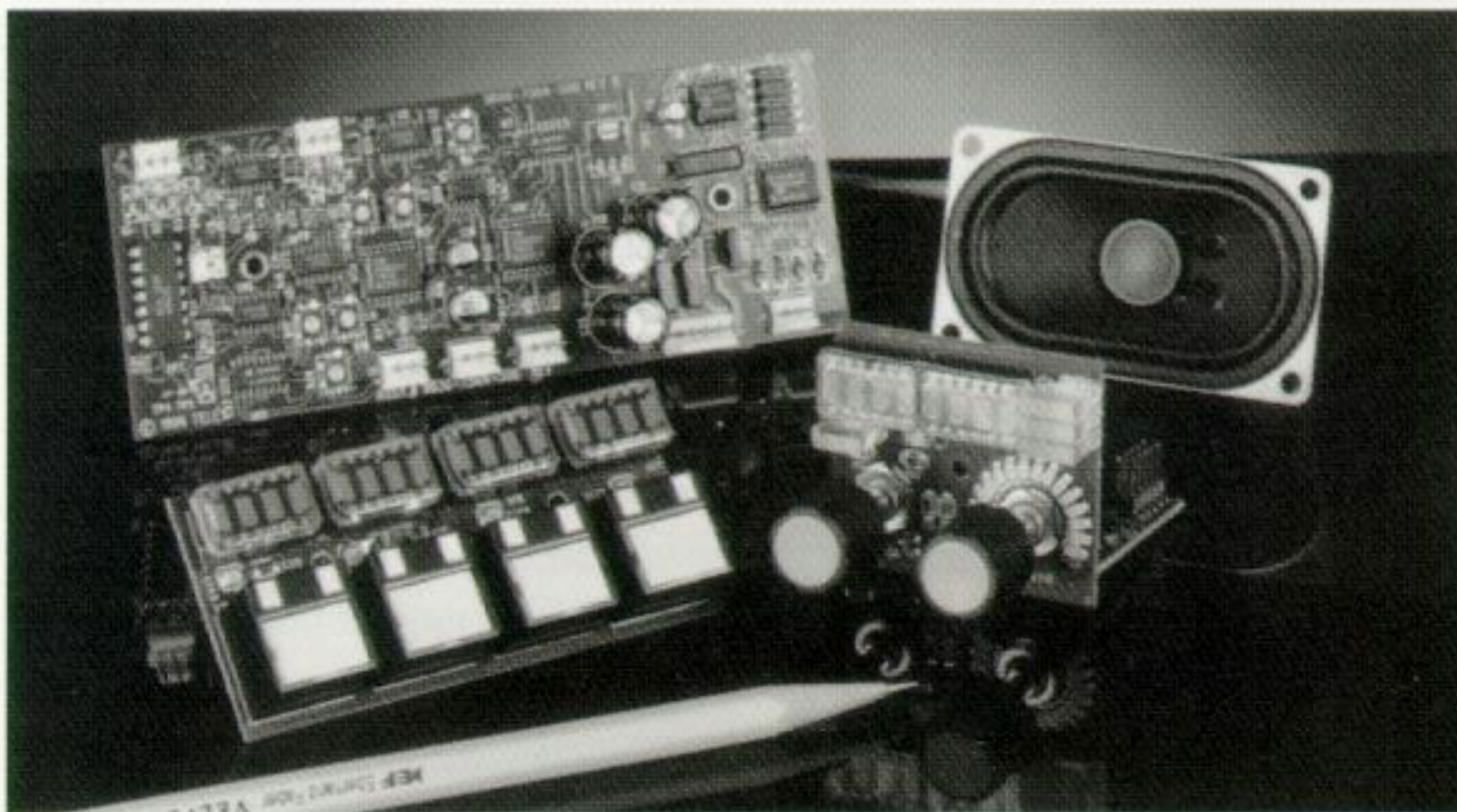
RTS KP-96-7 Keypanel with programming keypad and alpha-numeric displays



RTS KP-98-7 Keypanel with lighted switches and programming keypad.



RTS KP-12 Lever and KP-12 Push-Button Keypanels provide full programmability using shaft encoder driven menu selections.



RTS Modular keypanel board sets are available for custom installations, where special mechanical requirements exist. Perfect for limited space environments, such as OB vans, technical director consoles, and industrial applications.



RTS TIF-951 Digital hybrid provides 2 independent channels of telephone line interface. The TIF-951 can be configured to permit local intercom stations to "dial out", and also permit "dial in" from wired and cell telephones, allowing the caller to initiate communications to specific destinations, using the DTMF "touch tone" pad of the telephone.

ACCESSORIES



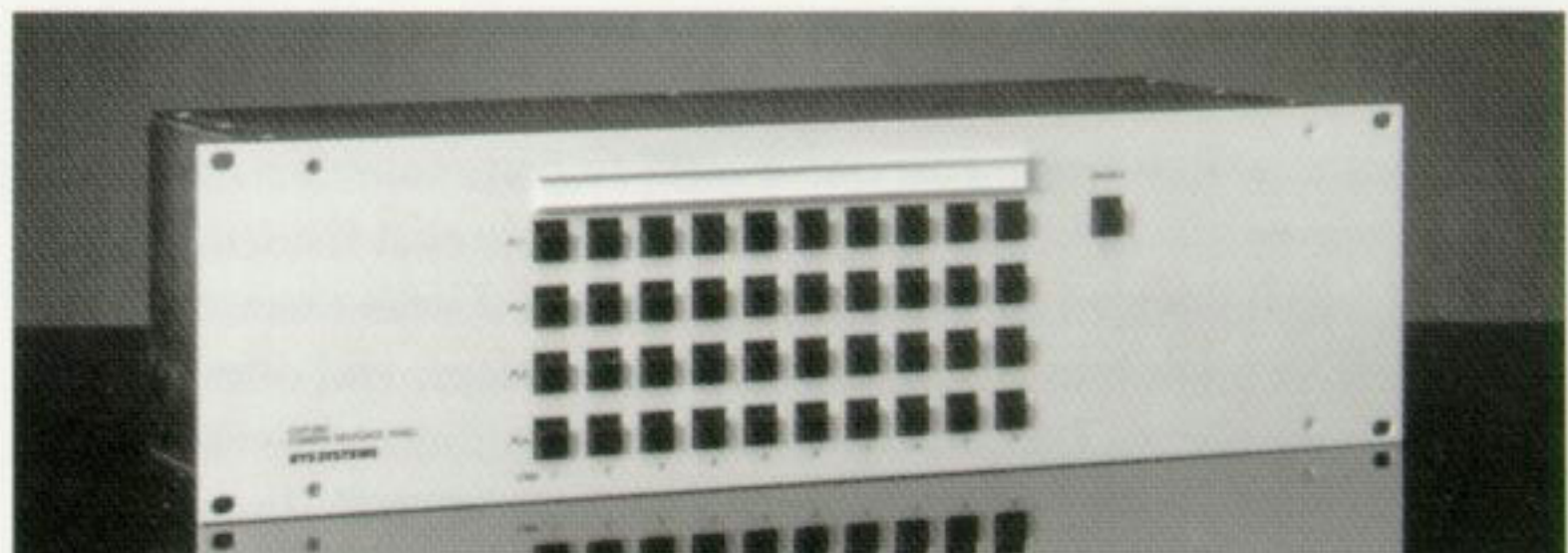
RTS 2105/2110 VHF wireless intercom system with 4 wire interface to matrix intercom system. Telex also offers wireless IFB systems, as well as UHF intercom systems.



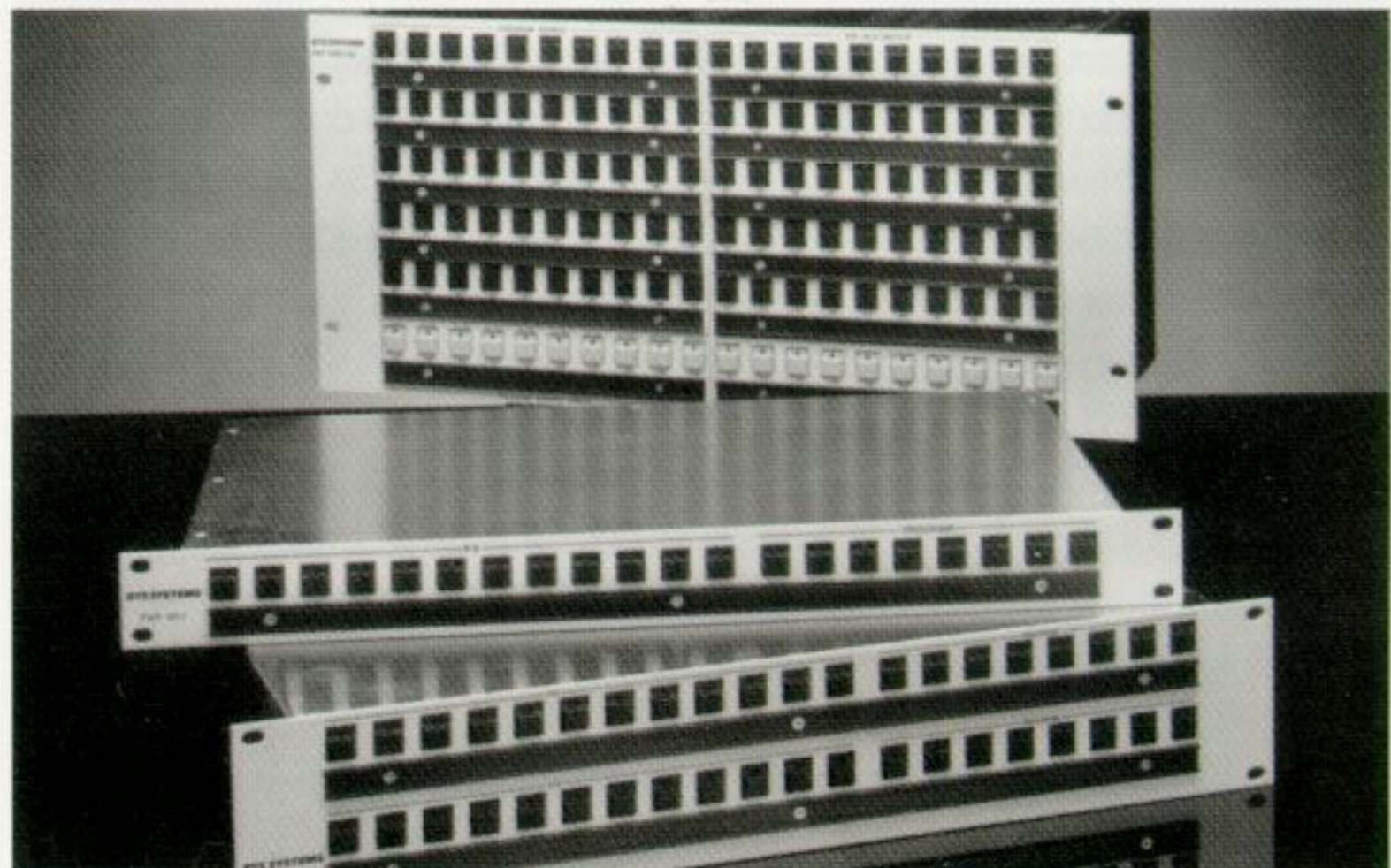
The RTS SSA-324 Interface provides two channels of 2 wire to 4 wire interface, allowing connection of the 4 wire matrix to TW party-line systems, such as Telx Audiocom and RTS. The SSA-324 provides options which support call signaling and detect for such applications.



FR9528 GPI Telex offers a variety of General Purpose Interfaces for relay control and logic inputs for external equipment.



CDP



Program Assign Panels

Specialized panels such as the CDP-950 are available for delegation of cameras and other users to party-lines on an ad-hoc basis. The PAP series of panels are used to assign program inputs to IFB channels.

Systems Configurations

	Max Size	Redundancy	Audio
9500-24	24	N/A	Analog
9500	50 (400)	Pwr(std) Ctrlr(opt)	Analog
ADAM-CS	64	Pwr(std) Ctrlr(opt)	Digital
ADAM™	136 (1,000)	Pwr(std) Ctrlr (std)	Digital

Notes: Size is given for single frame, and expansion where available is shown in parentheses.

9000 SERIES DESCRIPTION AND CONFIGURATION

The 9000 series family includes the 9500-24, the 9500, 9600, and 9700 systems. The 9600 and 9700 are systems created by increasing the number of 9500 series frames, and are available in sizes up to 400 users. The 9600 and 9700 systems are no longer sold as such, given the better price-performance ratio of the ADAM™ series. Telex still provides the option of expanding existing 9500 series intercoms to the larger 9600, 9700 systems to protect our customer's investment.

The 9500 and 9500-24 systems utilize FC-9578 controllers with non-volatile memory, permitting rapid recovery from power failures, and retention of configurations.

9000 series systems are available with a wide variety of wiring options including jackfields, RJ-11 and DB-9 breakouts, 50 pin telco connectors, and custom cable harnesses. Our experienced sales and engineering staff is always available to assist in system design. More importantly, they stand ready to offer after-sale support including installation guidance and training.

9500-24

This system offers reduced cost by using a modified version of the crosspoint card. It uses the same controller, power supply, keypanels and other accessories as the 9500, and is ideal for small installations such as mobile units, industrial applications, and smaller market television stations. Note that this system cannot be expanded beyond 24 users.

9500, 9600, 9700

The 9500 matrix intercom system is based on the FR9500 main-frame, which houses redundant power supplies, up to 25 two channel crosspoint cards, and a single FC-9578 controller. It is very compact, providing up to 50 users in just 3 RU of space. The system can be expanded to larger systems by adding crosspoint frames and an external master controller frame. The 9500 can support up to 50 users, the 9600 up to 150 users, and the 9700 system supports up to 400 users.

WIRING OPTIONS

Multiple wiring options are available for the 9000 series matrices, including 25 pair "telco" cabling, jackfields, DB-9 and RJ-11 key-panel connectors. The RTS series of matrix intercoms use industry standard connectors and cabling, allowing the customer to purchase cabling from a wide variety of vendors, or direct from Telex.

Our Sales staff and Systems design engineers can assist you with specifying the proper wiring options for your application.

9000 SERIES SPECIFICATIONS

AUDIO / MATRIX

Input Levels

0 or +8 dBu nominal, +20 dBu maximum

Input Impedance

> 40K ohms balanced bridging

Output Impedance

60 ohms balanced, resistively isolated

Crosspoint Level

0 dBu nominal, +20 dBu maximum

Frequency Response

100 Hz to 15 kHz, +/- 1 dB at rated levels

Distortion (THD)

< 0.5% 100 Hz to 10 kHz at 10 dB above nominal

Signal to Noise Ratio

> 60 dB below +18 dBm; 100 Hz to 10 kHz

Signal to Crosstalk Ratio

> 60 dB 100 Hz to 10 kHz, adjacent or hostile

KEYPANELS

Equivalent Input Noise

> 115 dBm, unweighted, (-120 dBm typical)

Dynamic Mic Input Level

-60 dBm typical (150 ohms), -35 dBm maximum

Line input / output Level

0 or + 8 dBm typical, +20 dBm maximum

Loudspeaker Drive Level

3 watts maximum into 8 ohms

Keypanel data

RS-485 serial, 9600 or 76,800 bps

GENERAL

Edit Terminal Data

RS-232C, 9600 bps

Power

110V, 220V available

Approvals

UL, CSA, VDE, CE, FCC

ADAM™ SERIES

SYSTEM OVERVIEW

The ADAM (Advanced Digital Audio Matrix) series of matrices include the ADAM-CS and the ADAM Intercom systems.

All ADAM systems utilize fully digital processing, mixing, and switching, with CD quality sampling rate of 44.1 kHz, and 16 bit samples. The ADAM series of products provide integral A/D and D/A converters as standard, permitting the direct connection of 4 wire inputs and outputs without the need for specialized adapter cards. The ADAM architecture employs a full 44 bit wide mixing bus, insuring that no degradation of audio quality, or increase in noise floor occurs, regardless of the number of conversations, or channels being mixed together.

The ADAM intercom matrices are fully compatible with all other Telex matrix products and accessories. There are additional accessories available which take full advantage of the capabilities of the ADAM technology, including level control panels, and coaxial multi-frame trunk interfaces.

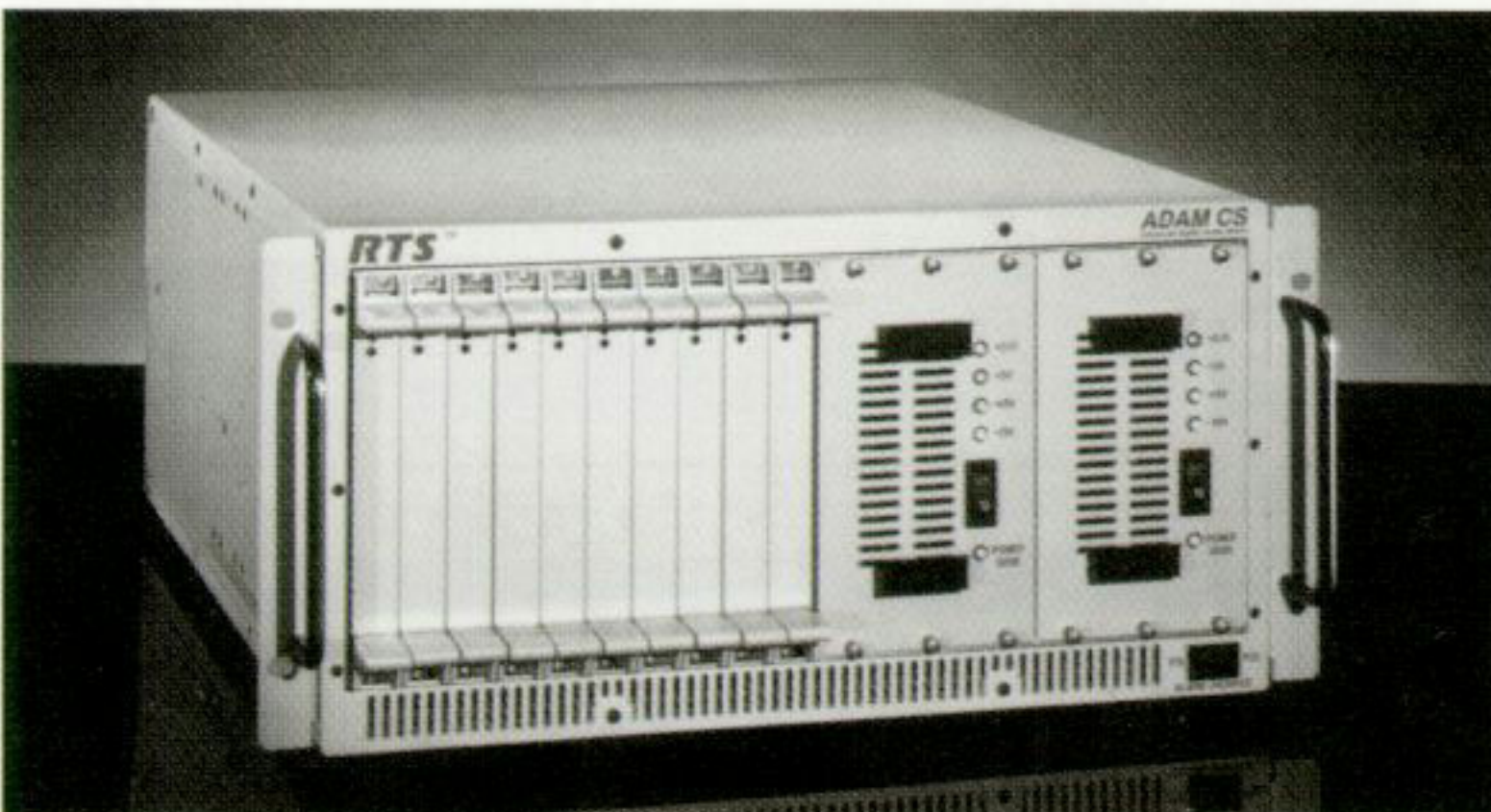
The differences between ADAM and conventional intercom matrices (including the 9000 series) are many.

The ADAM has the capability of individual gain per crosspoint for all users. This allows any user to INDIVIDUALLY set the relative volume of all sources he (or she) is listening to. One user may choose to listen primarily to the Director, and adjust all other sources to a lower volume, while simultaneously, another user, has the director at a lower volume level, and cameras at a higher level.

Utilizing a patented Time Division Multiplex (TDM) technique, the matrix does not grow exponentially as users are added. Conventional matrices quadruple in size (and cost!) when the number of users are doubled. ADAM grows linearly, with a 256 user system being only twice the size and cost of a 128 user system.

ADAM and ADAM-CS are both based on the same TDM technology, and have identical audio performance characteristics. The ADAM-CS provides up to 64 users in a compact 5 RU enclosure; ADAM provides up to 136 users in a single 7 RU enclosure, and can be expanded to 1,000 ports or more, utilizing multiple frames.

Both the ADAM and ADAM-CS frames come standard with dual - redundant, auto-switching power supplies. Dual - redundant auto-switching system controllers are standard on ADAM and available as an option on ADAM-CS.



RTS ADAM-CS Compact Digital Matrix

ADAM-CS DIGITAL INTERCOM SYSTEM DESCRIPTION

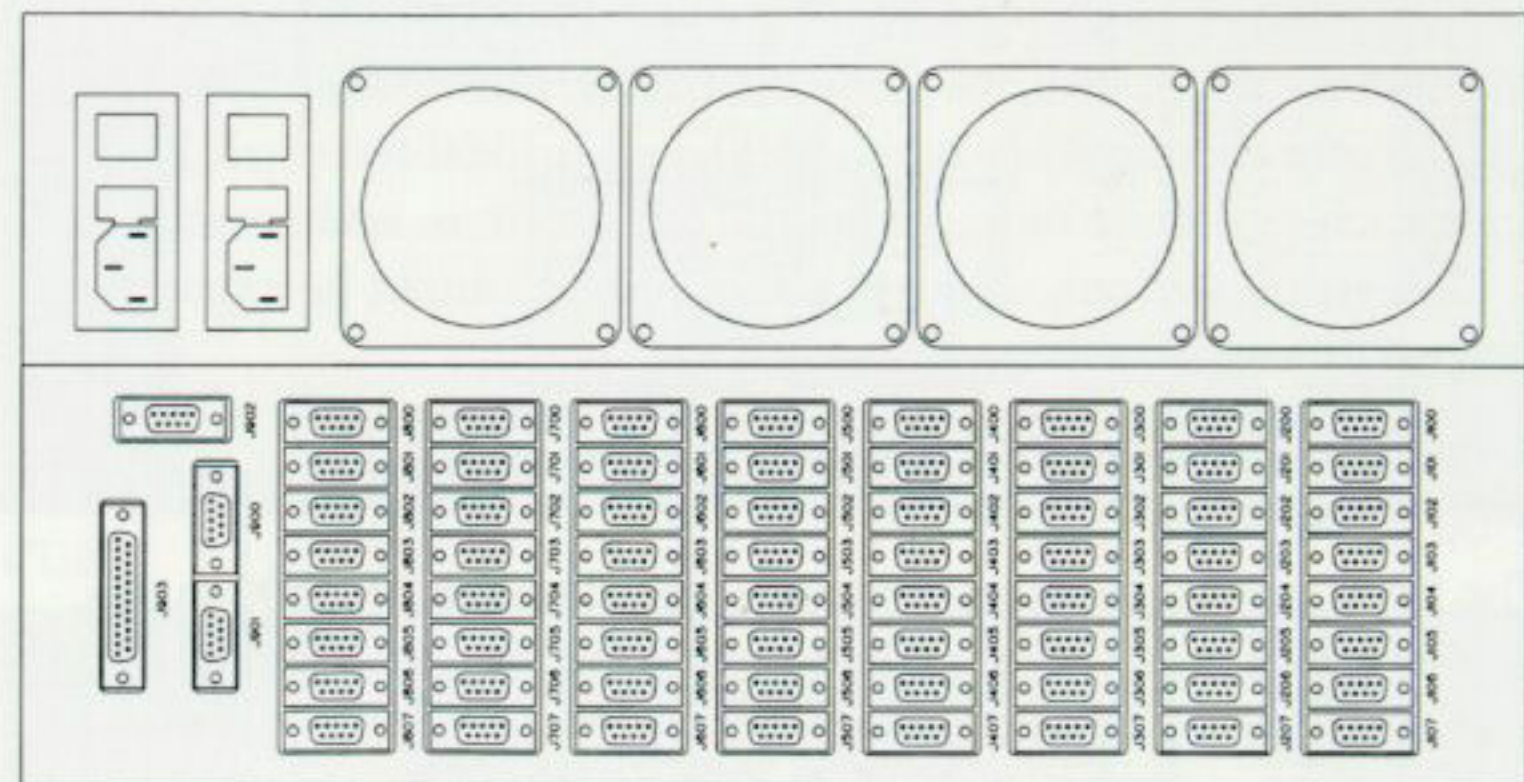
The RTS ADAM-CS provides a cost-effective full function matrix in a compact space. Requiring just 5 RU, the ADAM CS has 8 slots available for the A-I-O 8 port interface card, permitting up to 64 ports to be installed, in groups of 8. Pre-wired with all connectors on the rear, field expansion is as simple as plugging in an additional A-I-O interface card.

The ADAM-CS comes standard with fully redundant dual power supplies and a single master controller. An optional second redundant master controller can be added at any time, creating a highly reliable, fault tolerant system.

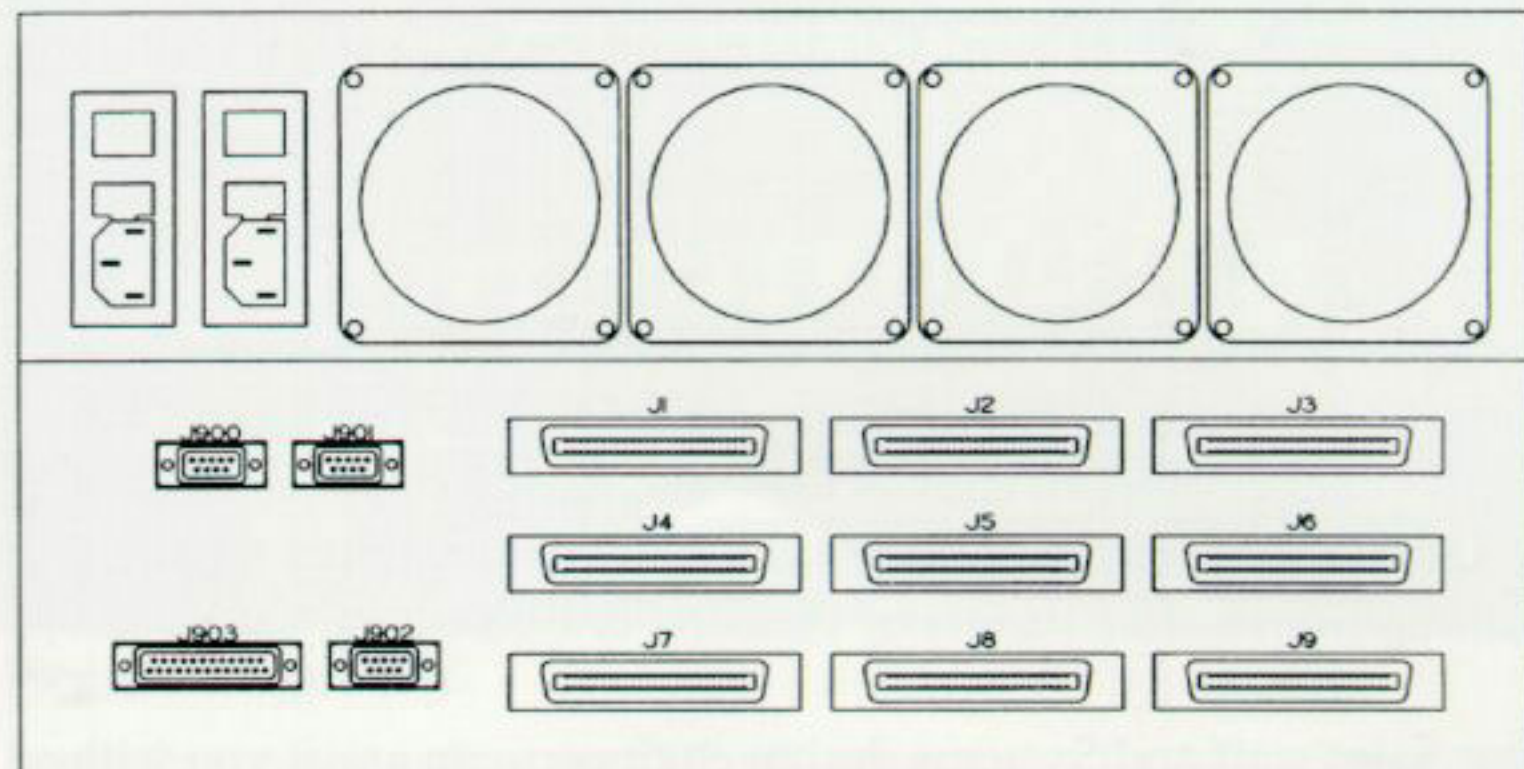
The master controller contains flash memory, to fully preserve all set-up and configuration information during power outages. The master controller also provides serial ports for accessories, such as Camera Delegate Panels, Program Assign Panels, Command Line Protocol for automation interface, and 8 GPI inputs and outputs for external equipment interface. Diagnostic LEDs on the front panel of the controller indicate the status of all cards, and system functions, and in the case of a dual redundant system, indicate which controller is active and which is standby/ready.

ADAM-CS is available in three different rear connector configurations, including DB-9, RJ-11 and 25 pair "telco style" connectors.

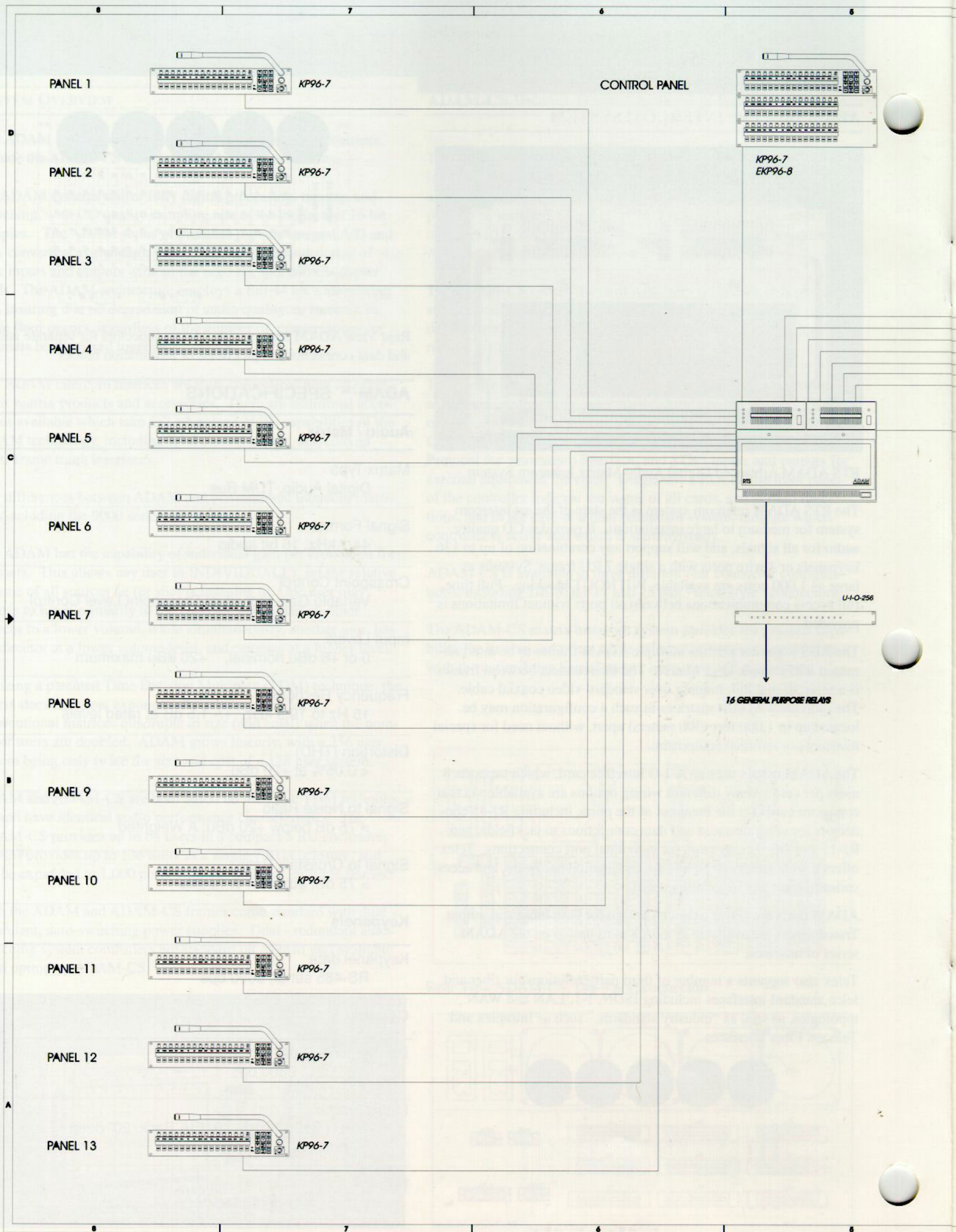
The ADAM-CS matrix intercom system provides the greatest capability for its size and price, while offering complete compatibility with the entire Telex line of matrix keypanels and accessories.



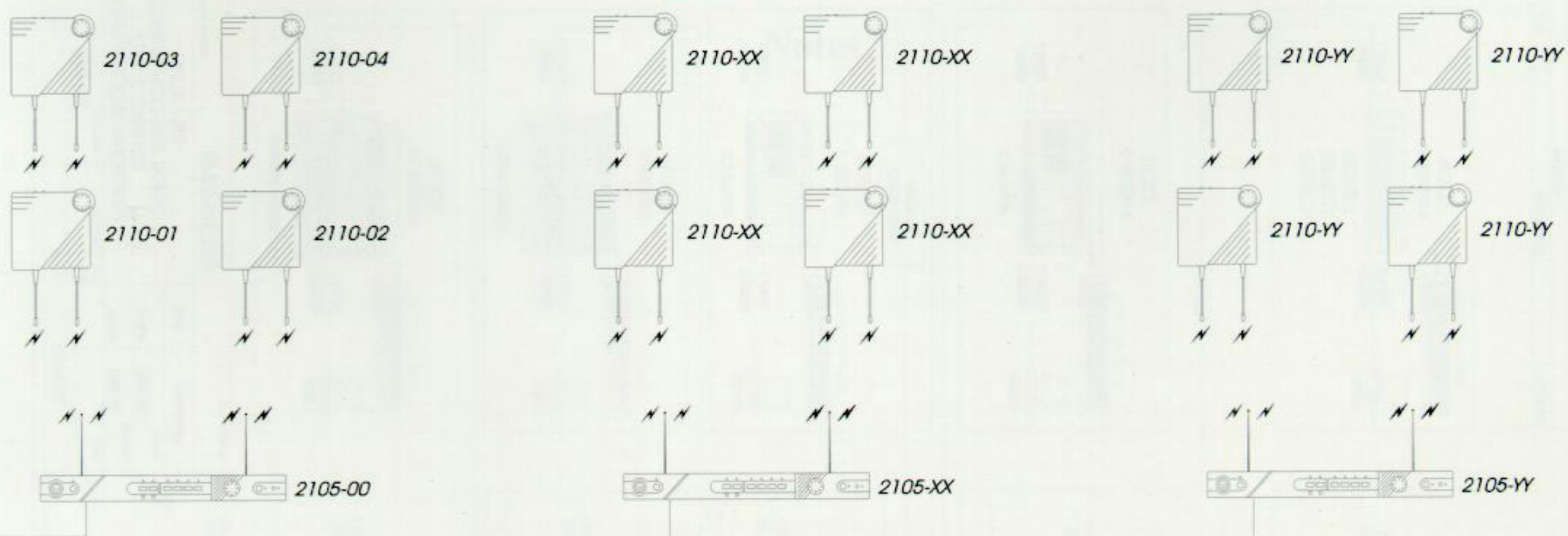
Rear View ADAM-CS, DB-9 port connectors.



Rear View ADAM-CS, 50 pin connectors for jackfield/punch-down interface.



WIRELESS PL SUBSYSTEM



12 FOUR WIRE PORTS
FOR STATIC PL SUBSYSTEM

SSA324

PS31

SAP1626

BOP220

TIF-951

TELCO 1

TELCO 2

HOUSE AUDIO CONSOLE
MIX/MINUS FEEDS

BP318

BP318

BP318

BP318

BP318

BP318

BP318

BP318

BP318

BP318

BP318

BP318

BP325

BP325

BP325

BP325

BP325

BP325

BP325

BP325

BP325

BP325

BP325

BP325

4010

IFB1

IFB325

IFB6

IFB325

2234

2234

CONTRACT NO.

APPROVALS

DATE

DRAWN

CHECKED

ISSUED

RTS SYSTEMS

BURBANK, CALIFORNIA, USA

TYPICAL MEDIUM
TELEVISION INSTALLATION

SIZE

FSCM NO.

DWG NO.

REV

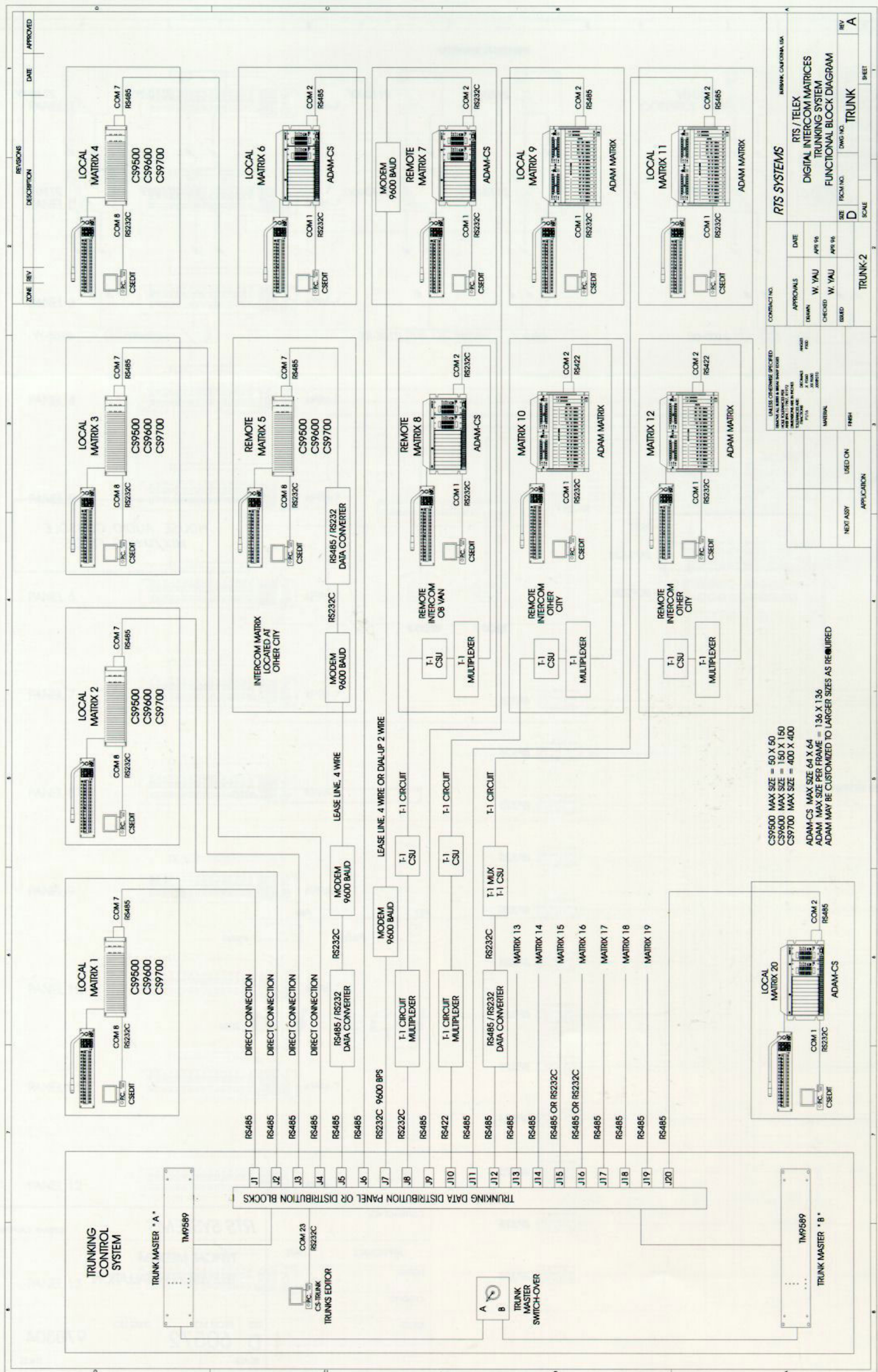
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60572

970304

SCALE

SHEET



Telex Intelligent Trunking