



ARTIST

The Advanced Communications Platform (EN)





ARTIST The Advanced Communications Platform

Artist is designed as a powerful matrix platform for intercom and the distribution of analogue and digital audio and Ethernet data signals. The system consists of a fibre based network backbone providing a decentralised infrastructure for your live audio and intercom applications.

Artist provides matrix sizes from 8 x 8 up to 1,024 x 1,024 ports. Multiple matrix frames (nodes) are interconnected by a dual optical fibre ring to form a single large, full summing, non-blocking distributed matrix. The maximum distance between two nodes can be up to 500 m (1650 ft) as standard, and optionally up to 20 km (12 miles). With up to 128 intercom ports per matrix frame, Artist allows a high degree of decentralisation of the entire matrix in a very cost-effective way. As a result the matrix frames can be located near the intercom stations of a specific studio or production facility, saving a considerable amount of wiring and installation costs.

Applications

- Broadcast
- Performance theatre
- · Convention and event centres
- Stadium, theme parks
- Transportation facilities

Artist at a glance

- Distributed master-less system architecture
- Scaleable and expandable from 8 x 8 up to 1,024 x 1,024 ports
- Full summing, non-blocking
- · Redundant dual ring fibre optic network
- Up to 128 nodes within a single fibre network
- Digital broadcast quality audio throughout the entire system (AES3/EBU: 48 kHz, 16Bit)
- Digital connection of the control key-panels by Coax, CAT5 or fibre
- Fully redundant system, all modules hot-swappable
- Ethernet tunneling in addition to high-speed streamed audio throughout the entire system
- Intuitive configuration software with networking capabilities
- · Redundant storage of the configuration
- · Individual cross point level control
- Extensive interfacing
- Trunking of geographically diverse systems using the Trunk Navigator Software
- German engineering and quality manufacturing
- Secure long-term investment

Next Generation Artist - What's new?

- Enhanced scalability concept: Since all frames sizes now feature the same type of controller & client cards, system expansion is easier than ever. This also reduces significantly the need for spare pooling.
- **Speed boost**: The doubled CPU clock frequency results in even faster reaction of the system.
- **Increased memory**: The system provides not only enough space for the most complex configurations of large multi-node installations, it includes even plenty of headroom for future developments.
- Flexible Fibre option: Taking in account the demands of rental companies and mobile production units, the fibre optic modules now can be exchanged very simply from single to multi-mode or high-power.
- **Quiet operation**: The optimised cooling concept results in a very quiet system an advantage not only for mobile production units.
- **Compatibility**: Despite the significant performance bump, Artist 128/64/32 systems remain fully compatible with former Artist systems.

Frames

Scalable System Frames that grow with your demands



Artist is a highly modular concept feeding modern intercom demands. It is not only the frames themselves being modular and thus expandable, it's also the system's architecture itself.

Up to 128 ports can be accommodated in a single frame and up to 128 frames can be connected to a redundant dual fibre optic ring resulting in a maximum matrix size of 1,024 x 1,024 intercom ports. The system still "feels" as one: it is completely non-blocking and has no limitations in the number of cross-points within or between the different nodes of the system.

Simply select the desired frame size and add the client cards needed. As your demands grow, you can easily expand your system by adding new client cards or additional frames to your system. And if you need to exchange a smaller frame for a bigger one you don't need to buy new controller & client cards. Since all Artist frames feature the same type of cards, you can just use the ones you've been using before. This scalability and expandability makes Artist a secure long-term investment.



	A ASS	- 2	
	Artist 32	Artist 64	Artist 128
Features Maximum matrix size	4004 × 4004	1004 :: 1004	1004 -: 1004
	1024 x 1024	1024 x 1024	1024 x 1024
Distributed, masterless system architecture	yes	yes	yes
Redundant dual ring fibre optic network	yes	yes	yes
Up to 128 network nodes within a single fibre network	yes	yes	yes
DSP at every I/O for audio signal processing	yes	yes	yes
VOX at every port	yes	yes	yes
Hot swap of all modules	yes	yes	yes
Redundant power supplies	yes	yes	yes
Redundant node controller	yes	yes	yes
Ethernet tunneling through Ethernet interface	yes	yes	yes
Intuitive configuration software	Director	Director	Director
Max. ports per frame	32	64	128
Multiple PCs can configure the same system / user rights management	yes / yes	yes / yes	yes / yes
Number of controller / client / GPI card slots per frame	2/4/1*	2/8/1*	2 / 16 / 3*
External sync (AES3 / Word Clock)	optional	optional	optional
Stand-alone version	yes	yes	yes
Alarm signalisation (Hardware/Director)	yes / yes	yes / yes	yes / yes
System components Mainframes	MFR-032 G2	MFR-064 G2	MFR-128 G2
Controller cards	CPU-128 G2	CPU-128 G2	CPU-128 G2
Fibre Optic Modules	FOM-SM (single mode)	FOM-SM (single mode)	FOM-SM (single mode)
	FOM-MM (multi mode)	FOM-MM (multi mode)	FOM-MM (multi mode)
	FOM-MM-HP (high power)	FOM-MM-HP (high power)	FOM-MM-HP (high power)
Power Supplies	PSU-032 G2	PSU-064 G2	PSU-128 G2
Client Cards			
Digital Client Card Coax 8 digital control key-panel ports on individual 75Ω BNC connectors for connection of Artist control key-panels using coax cable	COX-108 G2	COX-108 G2	COX-108 G2
Digital Client Card CAT5 8 digital control key-panel ports on individual RJ-45 connectors for connection of Artist control key-panels using CAT5 computer cable	CAT-108 G2	CAT-108 G2	CAT-108 G2
Analogue Client Card 8 transformer balanced (AlO-109 G2: electronically balanced) analogue 4-wire intercom ports (+18dBu in/out) on individual RJ-45/D-Sub25 for connection to equipment such as studio loudspeakers, cameras, telephone hybrids etc.	AIO-108 G2 (AIO-109 G2)	AIO-108 G2 (AIO-109 G2)	AIO-108 G2 (AIO-109 G2)
Digital Client Card AES Digital audio I/O-card (4x AES3) incl. Sample Rate Converter on RJ-45 for connection to digital mixing consoles, routers etc.	AES-108 G2	AES-108 G2	AES-108 G2
GPI Client Card 16 outputs (300 mA, 60V) and 16 opto-isolated level inputs (5-48V) on SubD37 to read Tally's, key transmitters, etc.	GPI-116 G2	GPI-116 G2	GPI-116 G2
8 Channel MADI Client Card Cascadable to 64 channels on one MADI stream. Includes audio & panel data to remote panels or connect multi-channel audio to audio routers. Optical & Coax MADI links are supported.	MADI-108 G2	MADI-108 G2	MADI-108 G2
8 Channel VoIP Client Card Converts 8 Artist control key-panel ports into a compressed IP- stream and vice versa, SIP-based, RJ45 connector	VOIP-108 G2	VOIP-108 G2	VOIP-108 G2

Control Key-Panels

Easy-to-operate Control Key-Panels

Whether you make your decision for the new Artist 1100 OLED series, the classic Artist 1000 LED series, the Artist 2000 LCD series or any other Artist panel: You can be sure to get easy-to-operate, high-tech control panels with broadcast quality audio, minimum dimensions and outstanding design made by quality German manufacturing.

Artist 1100 OLED-Panels

The Artist 1100 series are Riedel's next generation control key panels for Artist digital matrix intercoms. Following Riedel's intuitive concept of integrated displays in the panel keys, the 1100 series features high-res colour OLEDs. With 65,000 colours and a resolution of 140 dpi these new displays provide excellent readability and are able to show highly detailed characters and icons of up to 24x24 pixels. Definable marker colours for the keys complete the labeling options and provide instant function identification and signalization, e.g. for an incoming call.

The panel provides individual rotary encoders to adjust the listen level of each talk key. Furthermore all 1100 Series control key-panels provide 5 dedicated function keys, a built-in high-power loudspeaker, two headset and microphone connectors. 3 GPIs and 3 GPOs are available for system-wide programming as standard. Two sets of balanced line level audio inputs and outputs are also provided as





standard. An expansion slot for additional modules prepares the control panel for future technology developments.

For the entirely digital connection to the matrix via AES the panel provides both BNC and CAT-5 connectors as standard. The second audio channel of the AES signal allows the panel to transport broadcast quality audio in addition to the intercom application – an ideal feature for commentary positions. The efficient circuit design of the 1100 series panel results in ultra-compact design with an integrated power-supply, 50 per cent less power consumption and less heat generation.

Artist 1000 LED-Panels

The 1000 Series are the classic control key-panels from Riedel and are available in 19" rack-mount, desktop and modular (Danner) versions. All control key-panels feature bright, dimmable 8-digit alphanumeric in-key LED displays, individual rotary encoder for listen level control and LED level indication for each talk key. In addition, all 1000 Series control key-panels provide 5 dedicated function keys, built-in loudspeaker, XLR headset connector and a removable gooseneck microphone. 3 GPIs and 3 GPOs are available for system-wide programming as standard. Two sets of balanced line level audio inputs and outputs are also provided as standard. All control key-panels are equipped with a "shift"-page, essentially doubling up the number of keys. Up to 6 expansion key-panels can be daisy-chained to the 19" rack-mount control panels for up to a total of 248 keys.

Artist 2000/2100 LCD-Panels

The Riedel 2000 Series control key-panels fulfill all requirements of high-quality versatile and economical intercom control key-panels. The 2000 Series are available in 1RU rack mount and desktop versions. They feature 8-digit, high-contrast, full graphic LCD displays, showing label and cross-point level for each talk key. Each talk key has individual listen level control and LCD level indication. All control key-panels are equipped with a "shift"-page, essentially doubling up the number of keys. Up to three expansion panels can be daisy-chained to the 19" rack-mount control key-panels providing up to 128 control keys with displays. The 2100 models feature additional audio inputs/outputs and GPIOs.

Artist 3000 Panels

The Artist 3000 control key-panels are the cost-effective entry to the Artist platform. Fulfilling all requirements of a versatile intercom control key-panel the panels comprise the 2000 Series illuminated colour indication of the push-buttons and provide marker stripes for easy labelling of the keys.

Artist 5000/5100 Panels

The Artist 5000 panel series is a very cost-effective matrix intercom solution designed to meet the demands of all intercom markets. It provides the full functionality of Riedel's digital matrix intercom panels at an unbeatable entry-price level. The 5100 models feature an 8 character, high-contrast LCD display while the 5000 models provide marker stripes for easy labelling of the keys. The universal enclosure makes the panel suitable for rack-mount, wall-mount and desktop operation.

Artist Virtual Panels

The Artist Virtual Panels allow a regular computer to be used as a control panel in combination with any Artist digital matrix intercom system. The communication between the matrix and the virtual panel is handled via the VoIP-108 G2 client card.

Installation of Artist Control Key-Panels

All control key-panel connections to and from the matrix frame are implemented with a RJ-45 for CAT5 wiring or 75 ohm BNC connector for coaxial video cable. All rack mounted Artist control key-panels have a recessed depth of only 56 mm / $2^{1}/4^{\prime\prime}$ (1100 Series: 80mm / $3^{1}/8^{\prime\prime}$) and are ideal for use in modern control room architecture and mobile production vehicles.

Control Key-Panels

Easy-to-operate Control Key-Panels

Features	Artist 1100 OLED-Panels	Artist 1000 LED-Panels	Artist 2000/2100 LCD-Panels
Display type	exclusive multi-colour high-res 8 character OLED in-key displays	exclusive 8 character LED in-key displays	8 character LCD display
Key type	exclusive keys with integrated display	exclusive keys with integrated display	push-button with illuminated colour indication
Support of horizontal and vertical mode	yes	yes	yes
Cross-point level indication for each key	yes	yes (LED)	yes (LCD)
Individual listen level / on-off controls for each key	yes / yes (individual rotary control for each key)	yes / yes (individual rotary control for each key)	yes / yes
Shift-page to double the keys	yes	yes	yes
Function keys for fast operation	headset/panel mic, shift-page, F1, F2, options	headset/panel mic, shift-page, normalisation, options, beep	mute, shift-page, normalisation, options, beep, cross-point, scroll
Digital connection to matrix	CAT5, Coax / optional: Fibre & VoIP	CAT5, Coax / optional: Fibre & VoIP	CAT5, Coax / optional: Fibre & VoIP
Balanced analogue line level inputs / outputs	2x / 2x	2x / 2x	no / no (2100 series: 2x / 2x)
GPI opto-inputs / relay outputs on DB9 connectors	3x / 3x	3x / 3x	no / no (2100 series: 3x / 3x)
Slot for future expansion modules	yes	no	no
Removable gooseneck microphone	yes	yes	yes
Front headset on 4-pin XLR	yes	yes	yes
Rear connector for external microphone / speaker	yes / yes	yes / yes	no / no (2100 series: yes / yes)
Built-in loudspeaker	yes	yes	yes
Integrated power supply	yes	yes	yes
Types			
Rack-mount	RCP-1112; 12 keys; 19"/1RU	RCP-1012E; 12 keys; 19"/1RU	RCP-2016P4; 16 keys; 19"/1RU
	RCP-1128; 28 keys; 19"/2RU	RCP-1028E; 28 keys; 19"/2RU	RCP-2116P4; 16 keys; 19"/1RU
	ECP-1116; 16 keys expansion; 19"/1RU	ECP-1016E; 16 keys expansion; 19"/1RU	ECP-2016P; 16 keys expansion; 19"/1RU
		ECP-1012ET: 12 keys expansion with keypad; 19"/1HE	ECP-2016PT; 16 keys expansion with keypad; 19"/1RU
Desktop	DCP-1116; 16 keys	DCP-1016E; 16 keys	DCP-2016P4; 16 keys
			DCP-2116P4; 16 keys
Modular (Danner)		DIF-1000 / DPS-1000 Modular Panel Interface / Power Supply; 19"/1RU	
		DBM-1004E; 4 keys Base Module	
		DEM-1006E; 6 keys Expansion Module	



	O MATHRAGE 7
Artist 3000 Panels	Artist 5000/5100 Panels
marker stripes	marker stripes (5100 series: 8 character LCD display)
push-button with illuminated colour indication	push-button with illuminated colour indication
yes	no
no	no
no / no	no / no
no	5000: no / 5100: yes
CAT5, Coax / optional: Fibre & VoIP	CAT5 / optional: Coax, Fibre & VoIP
no / no	no / no
no / no	no / no
no	no
yes	fixed gooseneck microphone
yes	yes
no	no
yes	yes
yes	yes
RCP-3016P4; 16 keys; 19"/1RU	
ECP-3016P; 16 keys expansion; 19"/1RU	

DCP-5008; 8 keys/2RU DCP-5108; 8 keys/2RU

(Universal enclosure for rack-mount, desktop & wall-mount operation)

DCP-3016P4; 16 keys



Interfaces

Extensive Interfacing

The Artist platform is an open world of communications. Distinct interface solutions let you communicate with telephones, digital and analogue partylines, camera intercoms, 2-way radios and other analogue and digital systems.



Client Card's Standard Interfaces

- Analogue 4-wire I/O
- AES3 I/O
- GPI/O
- MADI
- · Voice-over-IP



Connect Duo / Connect Solo

Connect Duo interfaces your intercom system to ISDN (European protocol) and PSTN public telephone networks (Connect Solo: only analogue PSTN networks). It combines an ISDN S_0 interface and an analogue POTS telephone hybrid (Connect Solo: two independent analogue POTS telephone hybrids) in one halfrack/1RU device and enables you to dial, make and receive calls to and from any PSTN, ISDN or mobile phone as well as G.722 reporter codecs. Since the unit can transmit and receive two separate audio channels over one single S_0 interface it allows connections to two separate destinations to be established. When used with Artist intercom systems you can even remotely control panels via ISDN (Connect Duo only).



Connect IPx8 / Connect IPx2

Connect IPx8 provides high quality audio-over-IP interfacing for intercom systems. The 19"/1RU unit (IPx2: ¼ 19"/1RU) is designed to connect up to eight (IPx2: two) Artist control panels or audio lines to the Artist VOIP108-G2 matrix client card via IP based networks. The SIP-based interfaces convert AES3- or analogue signals into compressed IP data and vice versa. Connect IPx8 can be configured to your individual bandwidth needs, always providing an unmatched combination of audio quality and low network traffic. The panel interface flawlessly connects any Artist 1100, 1000, 2000, 3000 or 5000 series control panel with full functionality to Artist matrices via IP-networks.



RiFace G2 - Universal Radio Interface

The RiFace G2 is a universal radio interface to connect wired communication systems with walkie-talkie radio systems. The 19"/2RU interface includes one or two two-way radios (user provided), processor logic to control the radios, DSP-presets as well as circuitry to adjust the levels of the various audio sources. Set-up and operation is fast and easy. The RiFace G2 can also operate as a stand-alone radio repeater.





IF-2104 - 2/4-Wire Interface

The 19"/1 RU 4-channel 2/4-wire interface IF-2104 converts four partyline channels to transformer balanced audio inputs and outputs (4-wire) on individual XLR-connectors. The 2/4-wire hybrid features automatic nulling. The interface detects the S-CALL and switches built in relays to activate paging systems, radio equipment or other external devices.



Performer C44plus System Interface

The C44plus System Interface seamlessly integrates digital partylines in matrix intercom environments and can also serve as a stand-alone matrix for small applications. The plusversion features a USB-port on the front to connect a PC to configure the internal 24x24 matrix via the new Performer Audio Assignment Software.



PMX-2004 SFP - Panel Multiplexer

The PMX-Series panel multiplexers are used to remote up to four (PMX-2008: eight) intercom panels from the Artist matrix using a fibre link. Depending on the SFP modul (SM/MM) the system allows operation of a group of intercom panels over a distance of up to 500 m (1,600 ft) or 2 km (1.2 miles) in a cost-effective way while reducing setup time to a minimum.



FBI – Fibre Interface Adapter

The FBI converts an Artist panel port from CAT5 to fibre in a bidirectional way providing long distance operation of Artist control panels. As the unit offers both connectors, for the matrix and for the panel, it can be inserted on either side. The interface may also be used for the bidirectional transmission of an AES3 signal. Distances up to 2,000 m (6,600 ft) can be realised using duplex multimode fibre.

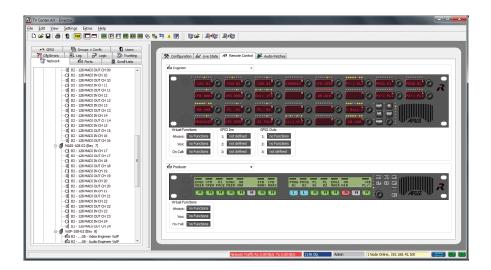


CIA – Coax Interface Adapter

The CIA interface converts an Artist panel port from CAT5 to 75 Ω Coax and vice versa. Since Artist control panels provide both CAT5 and coax interfaces for connection to the matrix, CIA's can be used to adapt an Artist matrix port to the existing infrastructure, especially useful for OB-vans and mobile applications. Distances up to 300 m (1,800 ft) can be realized using 0.8/4.9 video cable.

Director

Director — Intuitive Configuration Software



Access, set-up and control of any aspect of an Artist system consisting of hundreds of intercom ports on multiple nodes is achieved using the comfortable and intuitive Director configuration software.

Director provides the facilities, look and feel associated with using most Windows software products so that the basic navigation, location and operation of the standard features are familiar. It's not only easy to learn but also extremely convenient in its use. Configurations are easily edited by drag-and-drop. Programmable logic functions provide the possibility to handle even complex production requirements with ease while free definable markers allow you a customised control of the system. With the **Audio Patch function** all internal routing and DSP aspects of any control panel of an Artist system can be configured and saved remotely reducing a considerable amount of time in set-up and service of the system.

A high degree of monitoring and diagnostic features are implemented to allow the maintenance personnel to quickly solve a problem or to assist a user. This is achieved by the real-time **Crosspoint View function** in conjunction with the full remote control of each aspect of the system. Control panel and matrix activities can be logged for later inspection. Multiple PCs control and monitor the system using the Ethernet connection on the network interface controllers. All PCs show the online configuration status simultaneously, and each can

access and change the configuration according to its user rights. Since the configurations are stored within each networking Artist frame, the system's reliability won't be affected by the failure of a configuration PC.

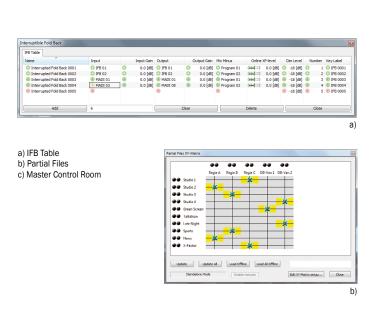
An extensive user level control allows for setup of user groups with dedicated access rights to the system. Not only whole configurations but also parts of the configuration can be saved and reloaded as "partial files" so that system setups for different types of productions can be stored and recalled.

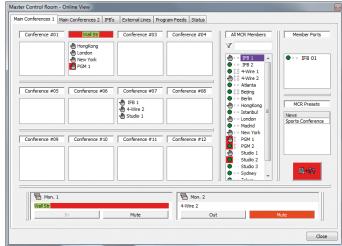
Director Features

- Intuitive user interface
- Easy to learn and use
- Drag-and-drop configurations
- Real-time status of the entire system
- Multiple PC access with user level control
- Configurations are stored in the matrix

- Remote control
- · Real-time cross point view
- Versatile IFB tools
- · Audio patches
- · Route audio command
- Programmable logic functions
- Free definable markers







The modularity of the Artist platform is also implemented with the Director configuration software. Already noted as a powerful tool Director can be enhanced by modular software add-ons like RRCS, Trunk Navigator, Partial Files, Audio Video Router or the Master Control Room.

Partial Files

The Partial Files add-on allows not only whole configurations but also parts of the configuration to be saved and reloaded as "partial files" so that system setups for different types of productions can be stored and recalled.

Audio/Video Router Interface

With this optional software package the system continuously monitors up to two external routing switchers and provides a conference based tracking of your Artist intercom system.

Events/Scheduler

The Events/Scheduler add-on is a versatile tool to trigger predefined events (including MCR conferences) or configuration changes automatically.

Master Control Room

With Master Control Room the individual conference intercom systems or 4-wire conference systems found in many broadcast installations can be easily replaced and integrated into the main intercom system. An integrated scheduler allows for preprogramming the start of regular conferences, e.g. the daily editorial conference at 9:00 am.

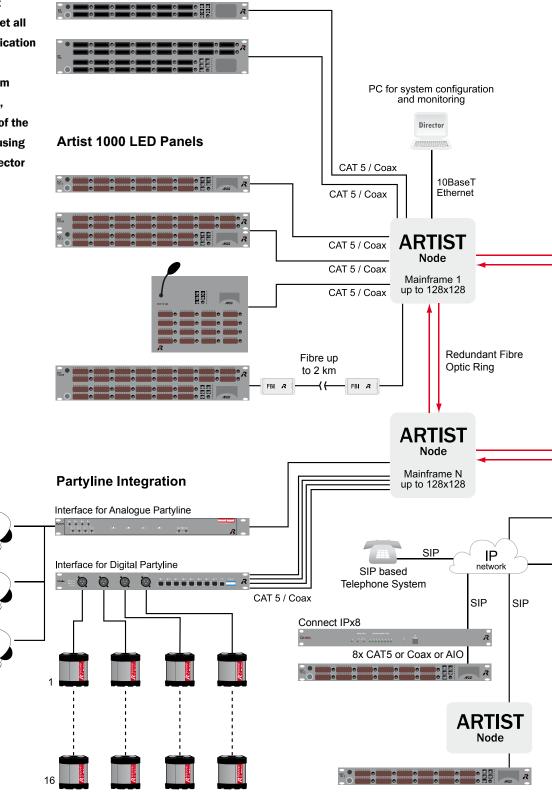
Riedel Router Control Software RRCS 2.0

The Riedel Router Control Software (RRCS) provides a universal XML interface to enable third party router control systems to control Riedel Artist Intercom systems. Version 2.0 of the RRCS Software features an expanded set of XML commands for the software to allow for an even deeper integration of external third party control systems and Artist.

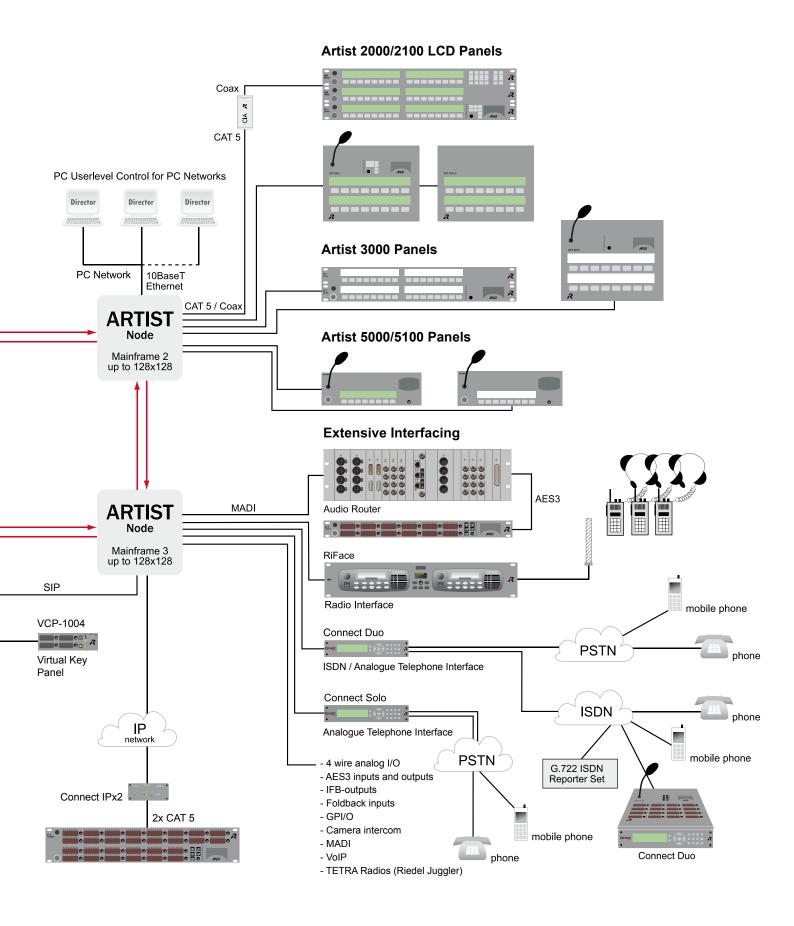
System Overview

Due to its decentralised infrastructure, its modularity and its extensive interfacing capabilities the Artist platform is flexible enough to meet all your live audio and talkback application needs. Even in huge installations consisting of hundreds of intercom ports and multiple nodes, access, set-up and control of any aspect of the entire system is easily achieved using the comfortable and intuitive Director configuration software.

Artist 1100 OLED Panels





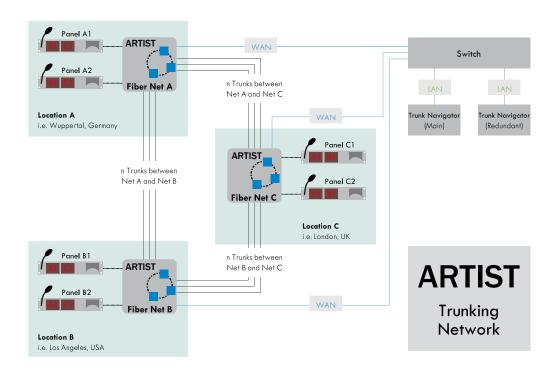






Trunk Navigator

Trunking Software for networking geographically diverse Artist Intercom Systems



Riedel's Trunk Navigator Software enables each Artist intercom system to be connected to a central trunk master via a WAN connection thus providing effective and powerful networking of individual Artist Fibre Network installations.

This significant enhancement dynamically allocates either analogue or digital (AES3) audio trunks between the Artist intercom systems with ATM, ISDN, VoIP, digital leased lines or analogue land lines. The software provides a redundant design enabling the software to run on two computers simultaneously and switch seamlessly from one computer to the other in the case of failure. Trunk Navigator allows the trunking of up to 50 Artist intercom systems with a total system size of 51,200 ports.

Riedel ACTOR: Intelligent Trunking Interface for 3rd Party Intercoms

Riedel Actor is a revolutionary solution that allows intelligent trunking between Riedel Artist Digital Matrix Intercom systems and third party intercom installations. It provides seamless communications between both systems. This includes all point-to-point connections with port alpha transfer and tally as well as group calls and conferences.

Product Overview



Artist 32

Matrix Mainframe



Artist 64

Matrix Mainframe



Artist 128

Matrix Mainframe



Connect Solo

Telephone Hybrid



Connect Duo

ISDN/Telephone Hybrid



Connect IPx2
Connect IPx8

42 Audio-over-IP Interface



RiFace G2

Radio Interface



PMX-2004 SFP PMX-2008 SFP

Panel Multiplexer



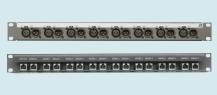
FBI / CIA

Fibre/CAT5 Converter Coax/CAT5 Converter



RIF-1032

GPI Interface



XLR-Patch

CAT5 / XLR Patch Field



Performer

Digital Partyline System



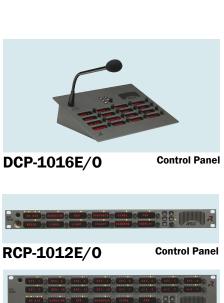
Intercom & Radio Headsets



Director Software



Trunk Navigator Software

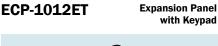




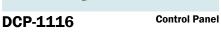






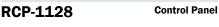














ECP-1116 Expansion Panel



DCP-2016P4 Control Panel DCP-2116P4

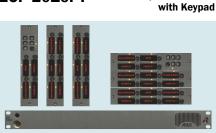


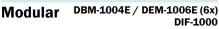




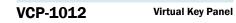




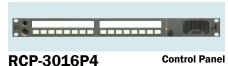






















For detailed informations regarding the products above please visit our website www.riedel.net

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RCP-1112 (front view)



RCP-1012E/0 (front view)



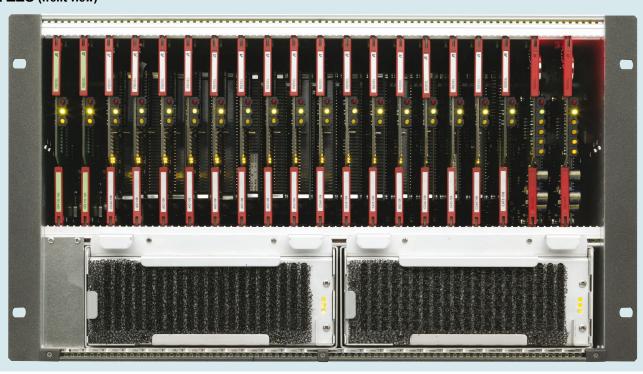
RCP-2016P4 (front view)



Artist 32 (front view)



Artist 128 (front view)





RCP-1112 (rear view)



RCP-1012E/0 (rear view)



RCP-2016P4 (rear view)



Artist 32 (rear view)



Artist 128 (rear view)



