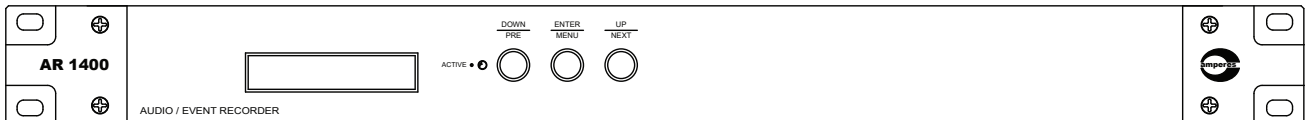


INSTRUCTION MANUAL

AR1400 Audio & Event Recorder



Thank you for choosing another quality product from Amperes Electronics.

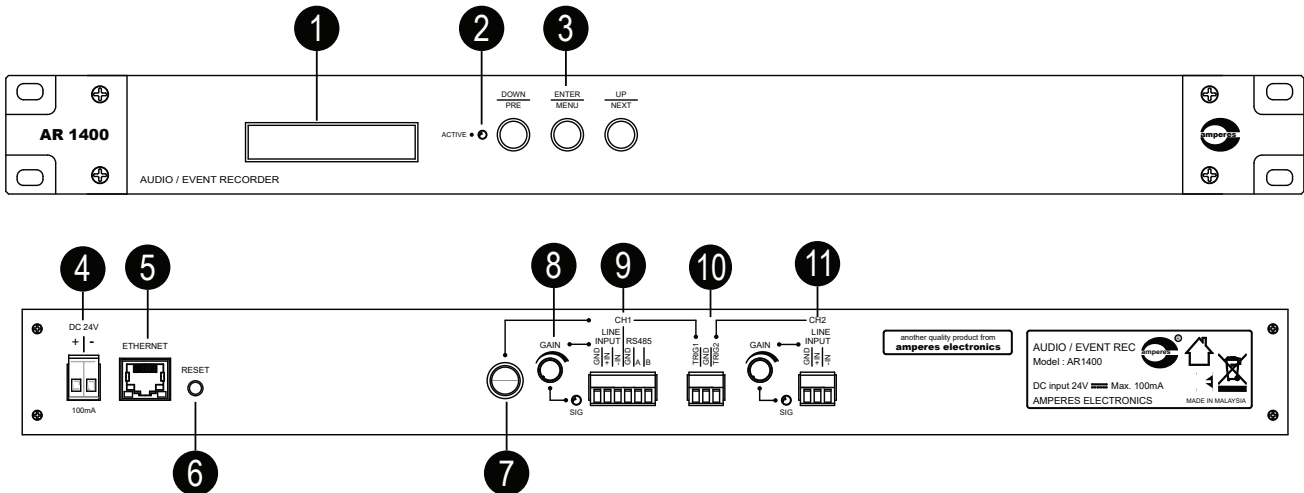
AR1400 is developed from the extensive research and requirement from installer for event loggings for paging or voice alarm activation in their PA system, which also records the audio in the same time. Though it is primary used for PA installation, it can also be used as an audio recorder for capturing audio during meetings or conference.

It is developed around web technology, doing away with downloads of software to access the unit. Setup and access are made easier by using browser, through a PC or tablet.

With its large memory capacity, AR1400 shall be able to record tenth of thousands of messages and events, therefore, it shall be able to remain functional for years to come.



Parts Identifications



1. LCD

Displays current activity / event of the unit

2. ACTIVE LED INDICATOR

It shall lit when there is an activity / recording in progress

3. MENU BUTTONS

They are used to scroll the menus / information at LCD. All settings or configurations shall be done through web browser

4. DC POWER INPUT

Connect to 24V DC with 0.5A rating for powering the unit. Use only regulated power source. (power consumption 900 mA)

5. LAN PORT

Connect to network switch and thereafter accessible by remote PC for settings and retrieval of files / logs.

6. RESET BUTTON

Press momentarily to reset the unit. All previously save configurations shall be affected.

7. AUDIO INPUT PHONE JACK

Line level audio input for channel 1 in balanced 0 dBu

8. GAIN CONTROL

Input level control for phone jack and mini phoenix connectors with LED signal indicator

9. AUDIO INPUT AND RS485 CONTROLS

Audio input for recording purpose in CH 1 with balanced line level. RS485 terminal is to connect to device with data controls such as paging mic. Recording shall detect the device type of the activated input and the audio and corresponding device shall be named accordingly in the file.

10. RECORDING TRIGGER CONTACTS

Triggering ports for initiating recordings in Channel 1 and 2. Dry contact is required. Both recordings can be done simultaneously.

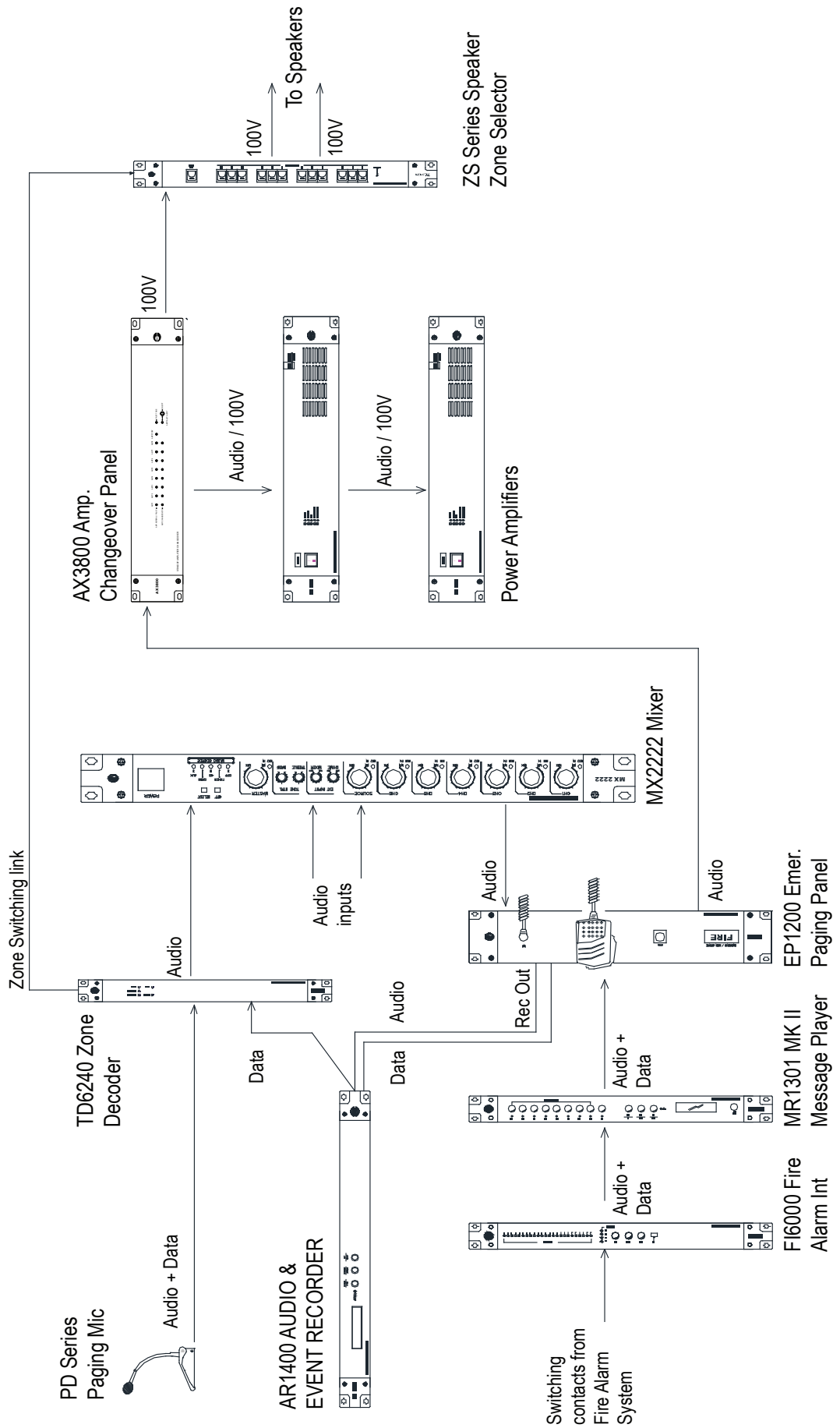
11. CHANNEL 2 AUDIO INPUT

Audio recording of CH 2 with line balanced signal. The input level is controlled by the gain controller. It has input gain control and LED signal indicator.

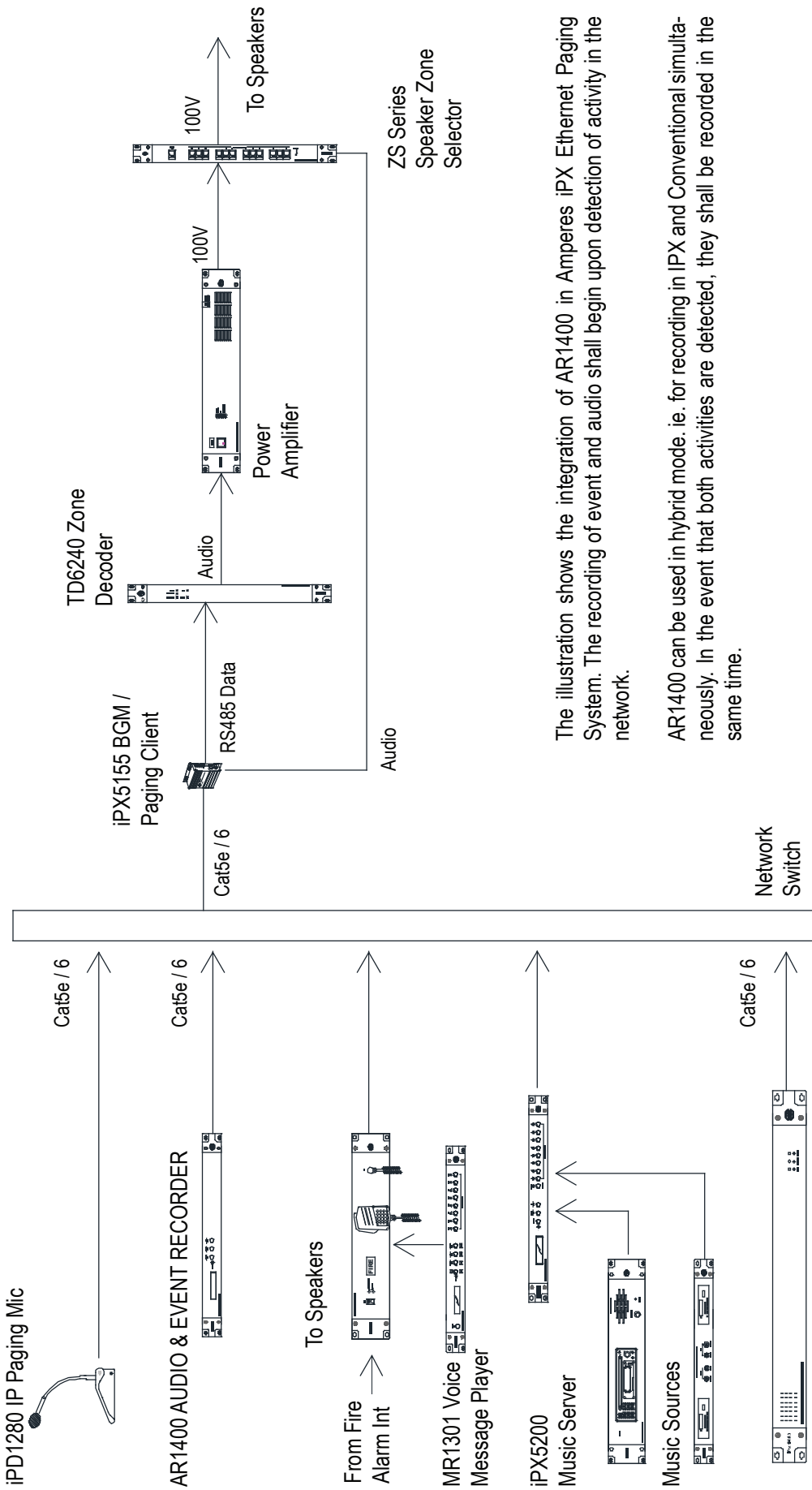
Application Schematic (Conventional)

The illustration below is a typical schematic for integrating AR1400 to conventional system. The recording will start whenever there is an activity detected at Paging Microphone, MR1301 and Emergency Paging Mic through RS485. Event activity through F16000 can also be recorded.

Alternatively, the audio recording can also begin through dry contact. Please refer to connecting the unit section.



Application Schematic (iPX System)

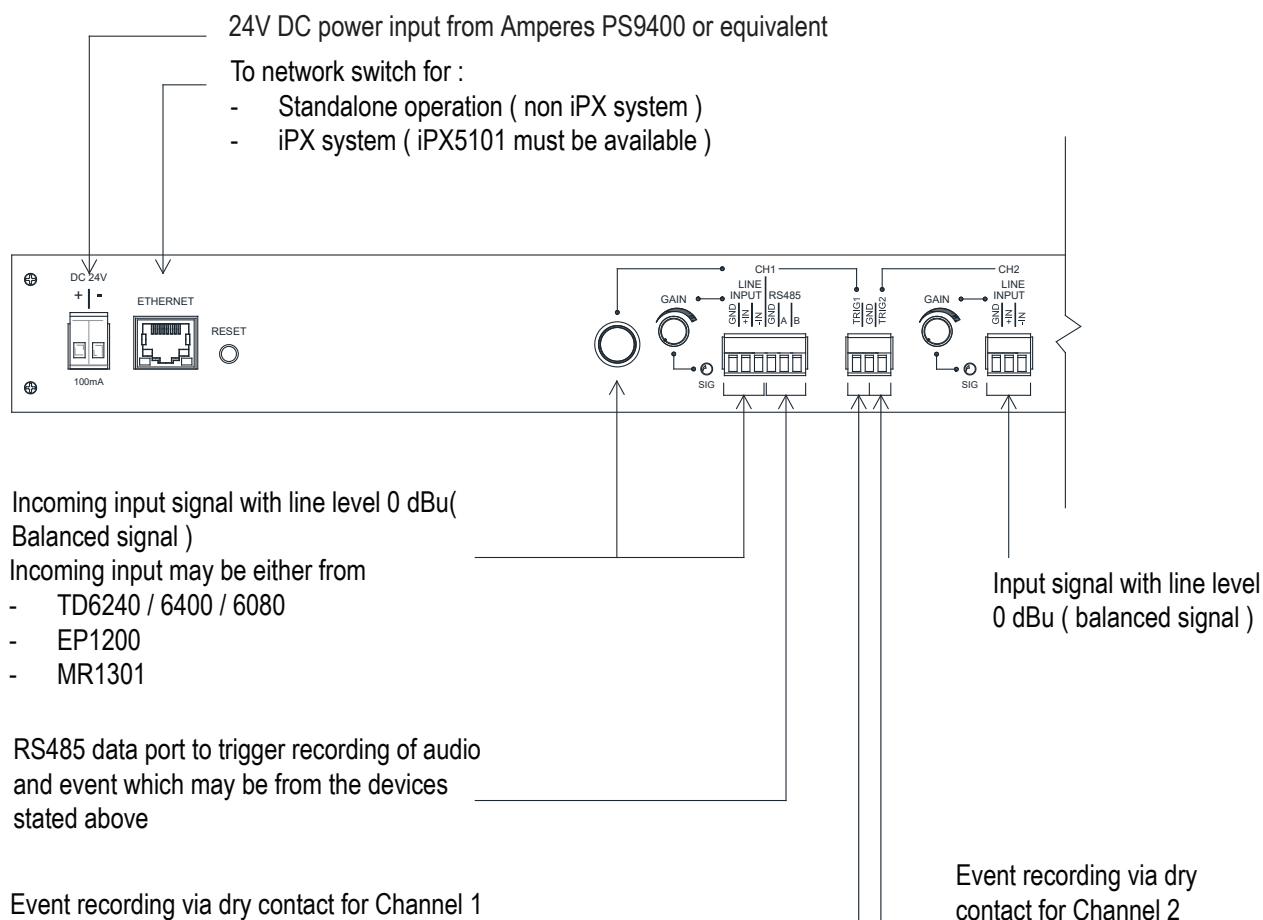


The illustration shows the integration of AR1400 in Amperes iPX Ethernet Paging System. The recording of event and audio shall begin upon detection of activity in the network.

AR1400 can be used in hybrid mode. i.e. for recording in iPX and Conventional simultaneously. In the event that both activities are detected, they shall be recorded in the same time.

Connecting the Unit

Illustration below shows the connections of incoming sources and triggering method to activate event and audio recordings. In any incident, AR1400 is able to record three sources simultaneously.



Note :

Only Channel 1 has dual event / audio recording triggering method, either from RS485 or dry contact. Both can be used simultaneously. However the source name shall not be available in the logs for activity without RS485.

There are 4 ways to make a recording :

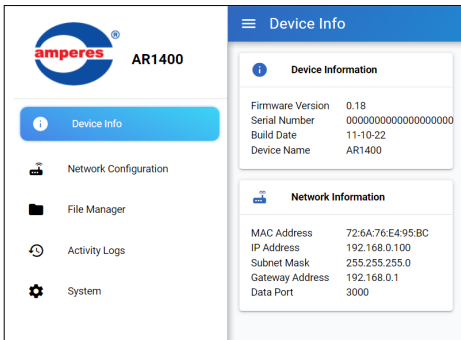
1. iPX recording : Paging / siren / messaging from iEP / iPD devices via ethernet
2. AMP recording : Paging / siren / messaging from EP / PD series of devices via RS485 port
3. User recording : Activated via front buttons
4. Remote Trigger : Activated via dry contact ports located at the rear of the device

CH 1 accepts the 2/3/4 triggering sources where AMP has the highest priority followed by User and lastly Remote Trigger. Example : While a User recording is ongoing, and a PD mic is activated, it will stop User recording and starts AMP activity. Likewise, CH 2 accepts User and Remote Trigger recording with User has higher priority over Remote Trigger.

iPX recording can be done simultaneously with other recordings. If concurrent paging mode is enabled, AR1400 able to record 4 iPD recordings simultaneously.

Device Setup via Browser

AR1400 requires some basic setup and is done via web browser. The default IP address is 192.168.0.100. The login page shall appear with User ID and Passwords as “ admin ”



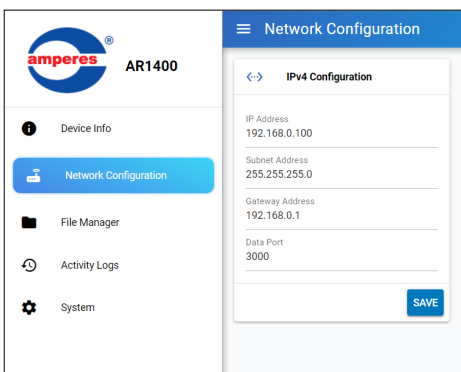
IMPORTANT NOTE

Gateway IP address of PC and AR1400 must be the same. Please set it to 192.168.0.1 (default) before trying to communicate with AR1400.

Device Info

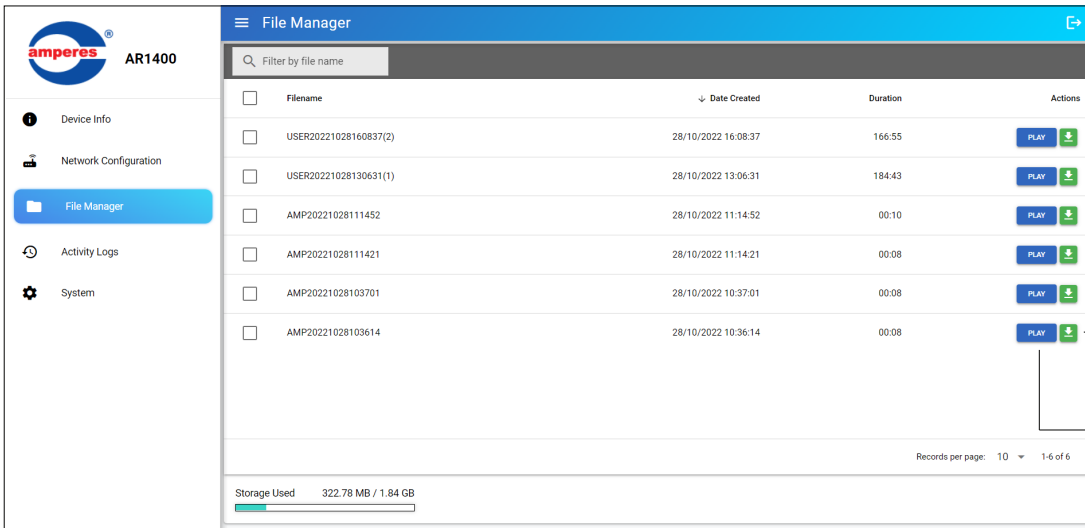
Once login into AR1400, this shall be the first page showing the device information such as Firmware version and the network information.

It is required to change the default IP address to another unique address to avoid network conflict.



Network Configuration

Edit the IP address to another unique address to suit the network setup. Leave the data port unchanged and click “Save”.



Download

Play the file

File Manager

This page lists down all the recorded files and each file can be played directly from the PC or downloaded as .wav file type.

If the memory is full, the first recorded file will be overridden - FIFO sequence.

Device Setup via Browser

The screenshot shows the 'Activity Logs' page for an Amperes AR1400 device. The left sidebar contains navigation options: Device Info, Network Configuration, File Manager, Activity Logs (selected), and System. The main content area is titled 'Activity Logs' and has two tabs: 'AMP EVENTS' (selected) and 'IPX EVENTS'. An 'EXPORT TO CSV' button is visible in the top right. The table below lists activity logs for conventional devices.

Start Time	Duration (Seconds)	Call Type	Origin	Priority	Zones	Actions
31/10/2022 09:30:25	6	-	-	Highest	All Call	PLAY [Download]
31/10/2022 09:30:24	0	MSG Recorder	MR #1	-	MSG 1	PLAY [Download]
31/10/2022 09:30:15	4	-	-	Highest	All Call	PLAY [Download]
31/10/2022 09:30:11	3	MSG Recorder	MR #1	-	MSG 6	PLAY [Download]
31/10/2022 09:30:09	0	-	-	Highest	All Call	PLAY [Download]
31/10/2022 09:30:03	3	-	-	Highest	All Call	PLAY [Download]
28/10/2022 11:14:52	10	Paging	PD1240 #1	1	All Call	PLAY [Download]
28/10/2022 11:14:21	8	Paging	PD1240 #1	1	1	PLAY [Download]

Records per page: 10 | 1-8 of 8

Activity logs for conventional devices

Download as CSV file

The screenshot shows the 'Activity Logs' page for an Amperes AR1400 device, specifically the 'IPX EVENTS' tab. The left sidebar is the same as in the previous screenshot. The main content area shows activity logs for iPX devices. An 'EXPORT TO CSV' button is highlighted with a line pointing to the text 'Download as CSV file' above it. The table below lists activity logs for iPX devices.

Start Time	Duration (Seconds)	Call Type	Source Device	Source Name	Priority	Zones	Actions
31/10/2022 11:24:39	6	Paging	192.168.0.151 - IPX5155	5155 (1) Main Input	2	1-248	PLAY [Download]
31/10/2022 11:24:29	7	Paging	192.168.0.151 - IPX5155	5155 (1) Main Input	2	2,7	PLAY [Download]
31/10/2022 11:24:04	6	Paging	192.168.0.152 - IPX5155	5155 (2) Main Input	2	1-248	PLAY [Download]
31/10/2022 11:23:55	6	Paging	192.168.0.152 - IPX5155	5155 (2) Main Input	2	2,6-7	PLAY [Download]
31/10/2022 11:23:43	2	Emergency Paging	192.168.0.220 - IEP1200	IPX Device	1	All Call	PLAY [Download]
31/10/2022 11:23:38	3	Emergency Siren	192.168.0.220 - IEP1200	IPX Device	1	All Call	PLAY [Download]
31/10/2022 11:23:21	16	Emergency Message	192.168.0.220 - IEP1200	IPX Device	1	All Call	PLAY [Download]

Records per page: 10 | 1-7 of 7

Activity logs for iPX devices (in Amperes iPX Ethernet Paging System)

Activity logs page consists of 2 sets of activities from conventional and iPX devices. Both would list down the type of devices , its origin, time stamps and affected zones.

The logs can be downloaded to CSV files. Audio source can be played at PC terminal or downloaded as .wav file.

Device Setup via Browser

The screenshot shows the 'System' configuration page for an Amperes AR1400 device. The left sidebar contains navigation options: Device Info, Network Configuration, File Manager, Activity Logs, and System (selected). The main content area is titled 'System' and contains several sections:

- Unit Configuration:** Device Name is AR1400. There are three toggle switches: Monitor iPX Activity (off), Monitor AMP Activity (on), and Remote Recording via DC (on). A 'SAVE' button is at the bottom right.
- System Date & Time:** There is a checkbox for 'Sync with NTP Server' (unchecked). Below it, the 'Date & Time' is set to '31/10/2022 09:03:46'. There is a 'Sync' button with a clock icon. A 'SAVE' button is at the bottom right.
- Authentication:** There are input fields for 'Username' and 'Password'. A 'SAVE' button is at the bottom right.
- Update Firmware:** A green button labeled 'SELECT FIRMWARE' is present.
- Backup & Restore:** There are three buttons: 'BACKUP CONFIGURATION' (blue), 'RESTORE CONFIGURATION' (green), and 'RESTORE DEFAULTS' (red).

The unit shall be required to be configured to serve its function properly in the type of system employed.

Unit Configuration

Enable or disable if the unit is to be installed in :

- iPX Ethernet paging system
- AMP Activity which is conventional system
- Remote recording via Dry Contact which is to activate recording of audio using a switch or any dry contact

System Date and Time

The device's time and date can be manually entered or auto sync with NTP server or push sync with connected PC.

For auto sync with NTP server, Internet connection with the device connected to PC must be available.

Authentication

To prevent unauthorized access to the device, change the default Username and Password.

Update Firmware

Firmware updates can be done either through this selection or if the device malfunctions, update it through Bootloader mode.

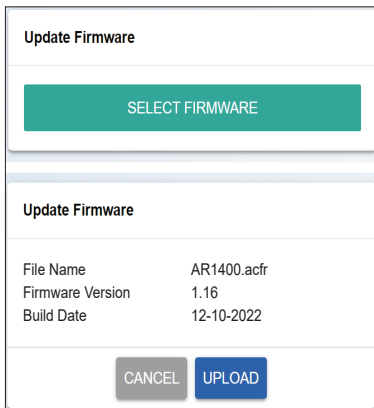
Please refer to section "Update Firmware"

Backup & Restore

This allows configurations to be saved to a file and restored when it is required. All data or recorded files shall not be saved.

Restore defaults shall revert the device to factory default settings.

Update Firmware



Update Firmware in Normal operation mode.

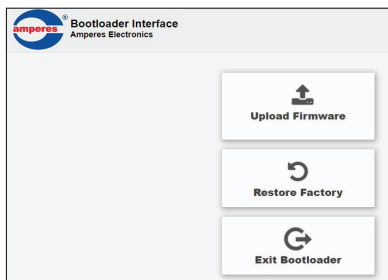
Click on “Select Firmware” tab to update firmware which is available from time to time. Check the version number of the existing unit against the latest available version in the website : www.ampereselectronics.com/downloads-amperes

1. Open browser with the unit's IP address
2. Select the binary file with “.acfr ” extension and click “Upload”
3. Once update is completed, the browser shall enter the login page.

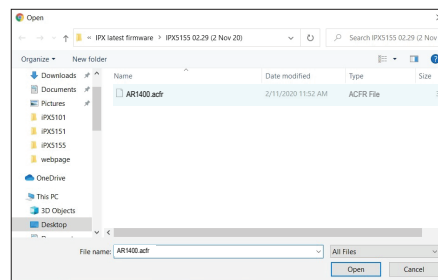
Update firmware in Bootloader Mode

If it is required to update using bootloader mode, in situation such as device “hanged” or operating in abnormal mode :

1. Press & hold the reset button and this will set the IP address to default address 192.168.0.100.
2. Open a browser and enter the IP address 192.168.0.100. A web page as shown below shall appear.
3. Select “ Upload Firmware ”, choose a binary file with “.acfr ” extension and click “UPLOAD”
4. Once the uploading is completed, the browser shall enter the login page.



Click the Upload Firmware button to find the updated firmware file.

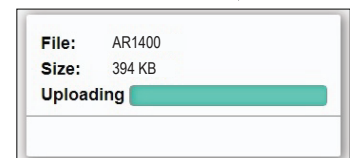


Find the updated firmware file.



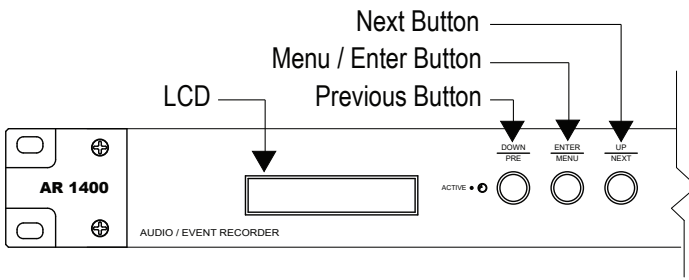
Ready to upload, click Upload button to upload the firmware.

After finish updating firmware, the browser automatically restart.



Updating progress

Operating the Unit (Front Buttons)



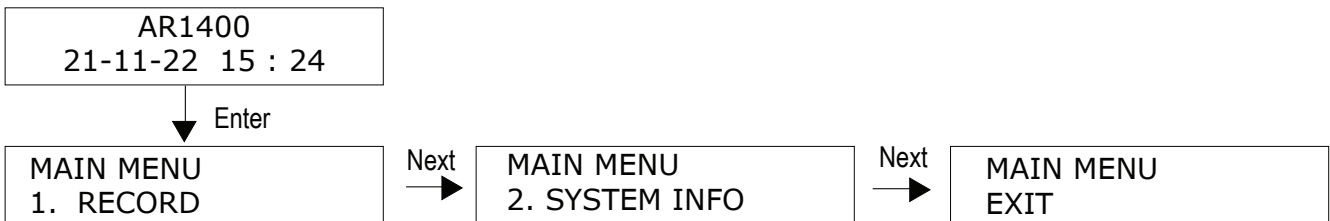
The front buttons can be used to check several informations as listed below as well as to perform manual recordings for both Channel 1 and 2.

To enter the Menu, press Menu button.

Any active recording shall be indicated by the LED, except iPX recording.

Main Menu

The front buttons are used to access the simple menus. Primary settings and other navigations are mainly available in the UI, accessible by web browser.



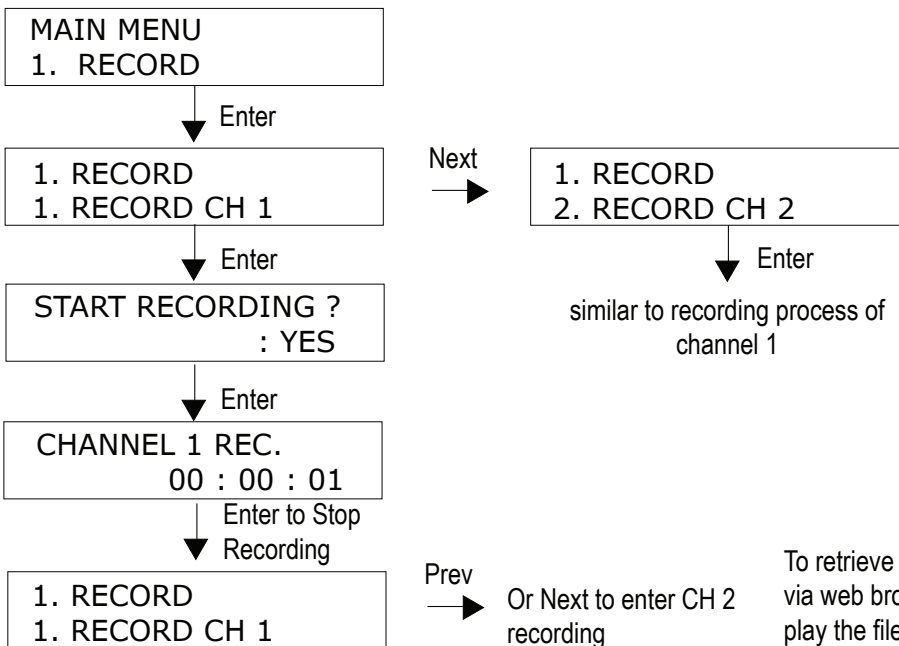
Press Enter to Menu 1 for Recording.
This enables manual recording to begin for either channel 1 or 2.
Press Enter to go into sub menu

Press Next for System Info Menu :
This displays firmware version and IP address.
Press Enter to go into sub menu

Press Next to exit Menu mode.

Sub Menu : Record

Manual recording through front button can be performed via this sub menu or through web interface. At any one time, recording can be performed one at a time via this menu. A continuous recording time of 6 hours is possible for each recording activity. Both Ch.1 and 2 recordings can be made.

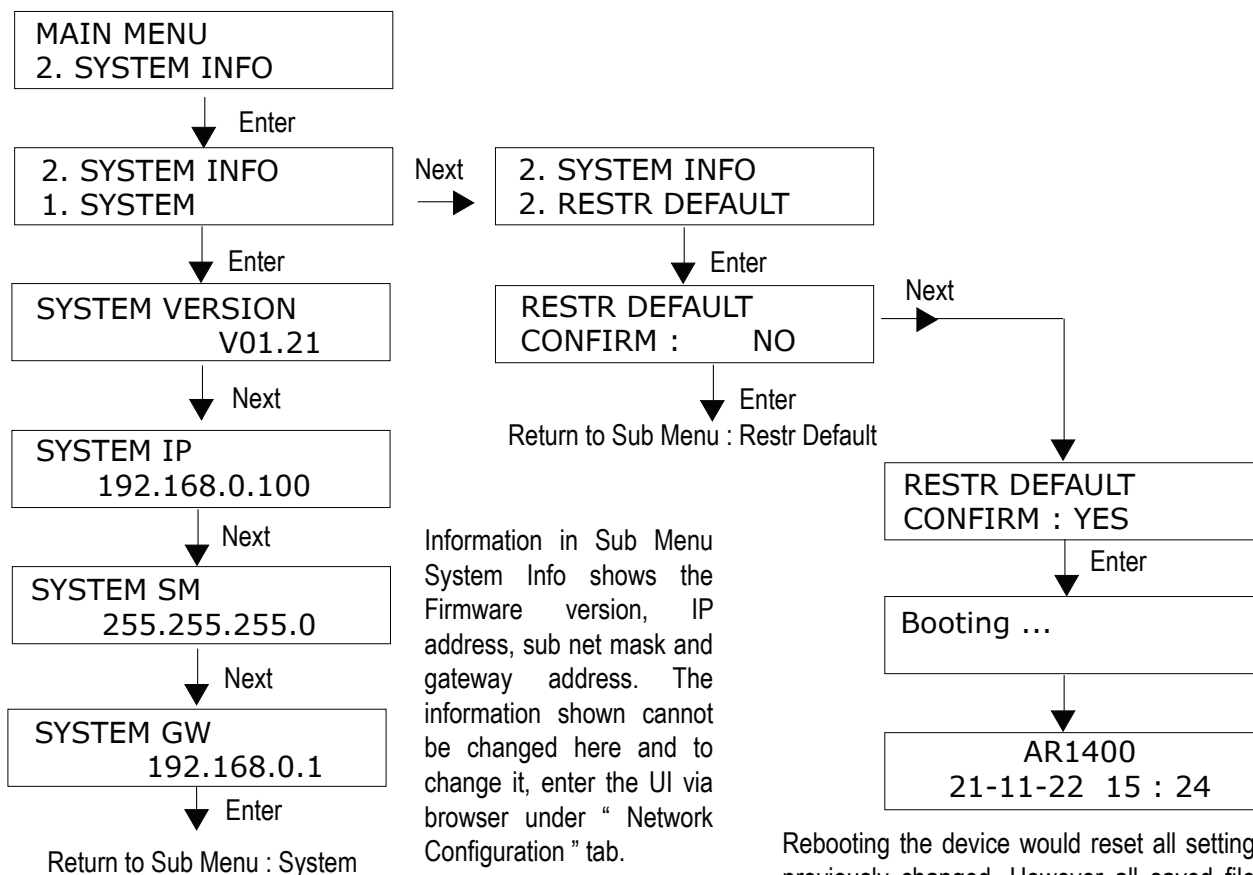


Select which channel the recording shall be stored to

To retrieve the saved file, access the device by login via web browser. Go to File Manager to retrieve or play the file.

Operating the Unit

Sub Menu : System Info



Technical Specifications

Input voltage	24 V DC ; 1 A
Power consumption (all triggered)	2.1 W ; (0.09 A)
Input channels	3 (including iPX)
iPX record initiation	Via iPX5101
Analogue input record initiation	Dry contact and RS485
Input level	Line : Balanced Max +4dBu
Storage media	16 GB - Internal SD Card
Recording duration	500 hours min
Recording format	WAV, MP3
Indicators	LCD
Communications	RS485 ; 19.2 kbps LAN 10/100 Base T
User interface	Web browser : Google, Firefox
Dimensions	482 x 44 x 180 mm
Weight	1.9 kg

Note:

The above specifications are correct at time of printing but subjected to changes without prior notice due to product improvements.

Warranty Conditions

Only Amperes Electronics Service Centres are allowed to make warranty repairs : a list of Amperes Electronics authorized service centres may be asked by the purchaser or send directly to Amperes Electronics Sdn Bhd at 70 Jalan Industri PBP3, Tmn Perindustrian Pusat Bandar Puchong, 47100, Puchong, Selangor. This warranty is not valid if repairs are performed by unauthorized personnel or service centres.

This warranty covers only repairs and replacement of defective parts. Cost and risk of transportation as well as removal and installation of the product from the main system are for the account of the purchaser. This warranty shall not extend to the replacement of the unit.

This warranty does not cover damages caused by misuse, negligence in application as well as using the product with power supply voltage other than shown on the product, or any other power supply source / adapter not recommended by the manufacturer.

This warranty does not cover damages caused by fire, earthquakes, floods, lightning and every cause not directly related to the unit.

This warranty does not include any indemnity in favor of the purchaser or the dealer for the period out of use of the unit, moreover the warranty does not cover any damages which may cause to the people and things during the use of the product.

This warranty certificate is valid only for the described product, and is not valid if modifications are made on this certificate or identification labels applied to the unit or any other modifications to the physical unit other than its intended usage.

This warranty covers all the material and manufacturing defects and is valid for a period of 36 months from the date of purchase or for a specified period in countries where this is stated by a national law. In this case, the extension is valid only in the country where the product is purchased.

Amperes Electronics Sdn Bhd is not obliged to modify previously manufactured products under warranty if the design changes or improvements are made.

The purchaser is deemed to agree to the above warranty conditions once the product packaging is unpacked., Otherwise the product shall be returned to the seller in proper original condition.

Disclaimer

Information contained in this manual is subjected to change without prior notice and does not represent a commitment on the part of the vendor. Amperes Electronics Sdn Bhd shall not be liable for any loss or damages whatsoever arising from the use of information or any error contained in this manual.

It is recommended that all services and repairs of this product to be carried out by Amperes Electronics or its authorized service agents.

Amperes products must only be used for the purpose they were intended by the manufacturer and in conjunction with this operation manual.

Amperes Electronics Sdn Bhd cannot accept any liability whatsoever for any loss or damages caused by service, maintenance or repair by unauthorized personnel, or by use other than that intended by the manufacturer.



ISO 9001:2015
Design & Manufacture of Public Address Equipment and Systems
Certificate No. 16895 / A / 0001 / UK / En



AMPERES ELECTRONICS SDN BHD
MADE IN MALAYSIA
Published : DEC 2022