

Instructions and Operating Manual

MODEL X0-UATF

UNIVERSAL ANNUNCIATOR TEST FIXTURE

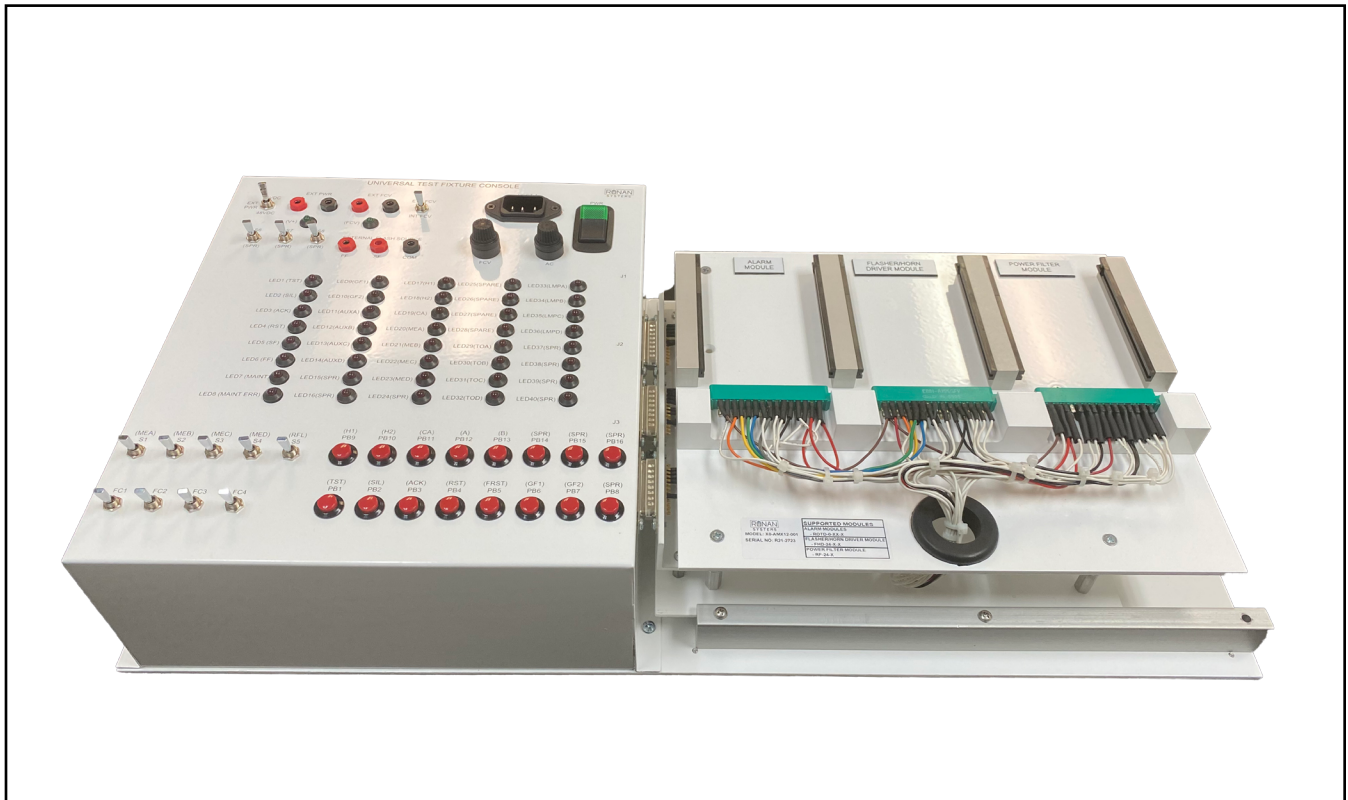


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Warranty

Ronan Systems warrants equipment of its own manufacture to be free from defects in material and workmanship under normal conditions of use and service, and will repair and replace any component found to be defective, on its return, transportation charges prepaid, within one (1) year of its original purchase. This warranty carries no liability, either expressed or implied, beyond our obligation to replace the unit which carries the warranty.

1.0 GENERAL DESCRIPTION

The Universal Annunciator Test Fixture (UATF) provides the ability to test most of the modules available for the Ronan Systems Annunciators.

The test fixture consists of a main control panel that contains all the pushbuttons, status LEDs, toggle switches and input jacks necessary to fully test the module using an appropriate adapter for the Annunciator model.

An internal power supply accepts a wide range AC voltage input (typically 115VAC) that provides the system power necessary to perform all the testing available for a standard annunciator system. When voltages other than internal voltage is required, additional input jacks are provided to accommodate these additional voltages from external sources.

2.0 SPECIFICATIONS

Power Requirements

24VDC or 48VDC Wide range AC input (90VAC to 240VAC), 47Hz to 63Hz, 40 Watts.

Optional External Field Contacts

24VDC or 48VDC or 125VDC.

System Power:

Internal: 24 VDC (Internally generated from 115VAC wide range AC input)

External: 48VDC +/- 10%, 40W;

Fuse Ratings:

Logic Power for Main Wide range AC input: 1 amp @ 250VAC

External Field Contact Power Input: 1 amp @ 24VDC, 48VDC or 125VDC

Power Requirements: 24 VDC ± 10%

Power Consumption: 3W for Control Panel; 4W for each Adapter (typical)

Size: 11 ½" D x 24" W x 5 ½" H

Weight:

Console: 7.5 Lbs. (3.4 kg)

Adapter (typical): 4.5 Lbs. (2 kg)

3.0 CONTROL PANEL

The main Control Panel provides the user interface which includes the input connectors and selection switches for configuring the fixture for alternate configurations. The pushbuttons and toggle switches allow the user to generate input stimulus required for testing the individual modules. Status LEDs indicate specific system states and the status of internal signals during testing.

The following section describes the detailed functionality of the components located on the control panels.

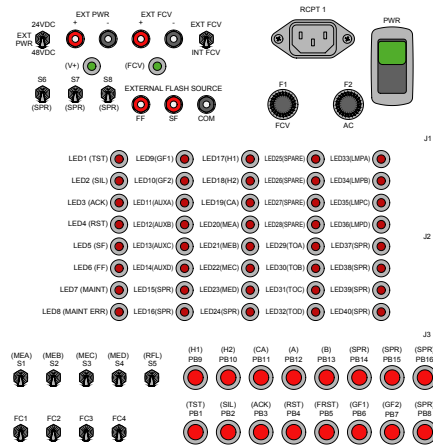


Figure: Control Panel

3.1 Main Input Power

The AC voltage required to supply the main input power of the UATF is provided via a "RCPT1" receptacle (IEC 320-C14). The system is protected by fuse F2. An illuminated switch "PWR" turns the power ON and OFF.

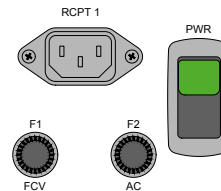


Figure: Main Input Power Receptacle, Switch and Fuses

3.2 System Power

A System voltage is generated by the internal power supply (voltage based upon model of UATF) when the PWR switch is placed in the ON position.

An option to provide an alternate voltage (24VDC or 48VDC) for the system is available at the External Power "EXT PWR" input jacks. The switch "EXT PWR" selects between the 24VDC or 48VDC externally applied voltage. This option is used only when your internal power supply voltage does not match your required system voltage.

Status LED "V+" indicates the presence of a valid external power source.

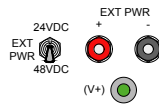


Figure: System Power

3.3 Field Contact Voltage

The internal system power or an optional external power can be utilized to provide the field contact voltage.

The external field contact voltage Toggle Switch "EXT FCV" is used to select the two voltage sources. Status LED "FCV" indicates the presence of a valid external field contact source.

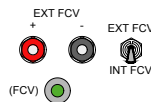


Figure: UATF External Field Contact Voltage Input Jacks and Selection Switch

3.4 Flash Rate Source

Some annunciator systems require a pair of 24VDC bussed flash synchronization (sync) signals that control the flash rates of the display windows when in alarm condition. These signals are typically generated by the Flasher Module. In some cases (Master/Slave configuration), these signals are generated in a master system and externally provided to the remaining slave systems.

When testing modules from a slave system, the "EXTERNAL FLASH SOURCE" consisting of the two sync signals along with a reference ground must be provided externally to the UATF using the SF (Slow Flash), FF (Fast Flash) and COM (Common) input jacks.

The synchronization signals can be viewed at SF (LED5) and FF (LED6) indicators whether they are generated internally or provided from an external source.

Note: When the annunciator systems do not support a bussed flash synchronization signals the LEDs are inactive.

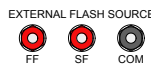


Figure: External Flash Rate Source Input Jacks

3.5 Pushbuttons and Status Indicators

Only the push button inputs and status indicators required by the type of alarm sequence are available for a specific module under test. The remainder of the push buttons and indicators will remain inactive.

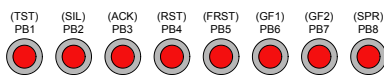


Figure: Annunciator Simulated User Pushbuttons

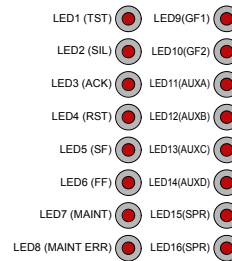


Figure: Annunciator Status Indicators

A total of 7 possible pushbuttons and their associated status indicators are available.

Function	Push Button	Indicator
Test	PB1-TST	LED1 (TST)
Silence	PB2-SIL	LED2 (SIL)
Acknowledge	PB3-ACK	LED3 (ACK)
Reset	PB4-RST	LED4 (RST)
First Out Reset	PB5-FRST	LED15 (SPR)
GF1	PB6-GF1	LED9 (GF1)
GF2	PB7-GF2	LED10 (GF2)

Table: Push button and indicators based on function

Pressing the systems simulated pushbuttons, illuminates the corresponding status indicator.

3.6 Auxiliary Relay Status

Up to 4 optional auxiliary relays for any given alarm module when there are auxiliary relays present within the system.



Figure: Auxiliary Relay Status LEDs

	Indicator	Normally Open (NO)		Normally Closed (NC)	
Relay A	LED11 (AUXA)	ENERGIZED	ON	DE-ENERGIZED	ON
Relay B	LED12 (AUXB)	ENERGIZED	ON	DE-ENERGIZED	ON
Relay C	LED13 (AUXC)	ENERGIZED	ON	DE-ENERGIZED	ON
Relay D	LED14 (AUXD)	ENERGIZED	ON	DE-ENERGIZED	ON

Table: Auxiliary indicators based on function

Note: Some annunciator systems have an independent auxiliary modules while others have integrated auxiliary relays within the alarm module.

3.7 Horn 1, Horn 2 and Common Trouble Alarm Status

All annunciator systems have a Horn 1 Relay or Horn 1 Transistor Output present. Some may have a secondary Horn 2 Relay or Horn 2 Transistor Output and/or a Common Trouble Alarm Relay or Common Trouble Alarm Transistor Output present. The status of these outputs can be viewed at the following status indicators:

	Indicator	Relay Normally Open (NO)		Relay Normally Closed (NC)	
		ENERGIZED	ON	DE-ENERGIZED	ON
Horn1	LED17 (H1)	ENERGIZED	ON	DE-ENERGIZED	ON
Horn2	LED18 (H2)	ENERGIZED	ON	DE-ENERGIZED	ON
CTA	LED19 (CA)	ENERGIZED	ON	DE-ENERGIZED	ON

Table: H1, H2 & CTA Relay Status Indicators

	Indicator	Transistor Output	
Horn1	LED17 (H1)	DRIVEN	ON
Horn2	LED18 (H2)	DRIVEN	ON
CTA	LED19 (CA)	DRIVEN	ON

Table: H1, H2 & CTA Transistor Output Status Indicators



Figure: Horn 1, Horn 2 and Common Trouble Alarm Status LEDs

3.8 Horn1, Horn2 and Common Trouble Alarm Simulation Inputs.

Pushbuttons are provided to directly activate the three system alarm relays or transistor outputs: Horn 1, Horn 2, and Common Trouble Alarm.



Figure: Horn 1, Horn 2 and Common trouble Alarm Pushbuttons

	Pushbutton	Indicator
Horn1	PB9 (H1)	LED17 (H1)
Horn2	PB10 (H2)	LED18 (H2)
CTA	PB11 (CA)	LED19 (CA)

Table: H1, H2 & CTA Transistor Output Status Indicators

3.9 Transistor Output Status

Certain Annunciator systems provide transistor outputs for each of the four possible input points of the alarm module. These transistor outputs indicate the status of the field input (follows field contact) or the alarm state (follows alarm).

The state of the transistor outputs can be observed at the following status indicators:

	Indicator	Follow Configuration			
		Follows Field Contact Input		Follows Alarm Status	
TOA	LED29 (TOA)	ABNORMAL	ON	ALARM	ON
TOB	LED30 (TOB)	ABNORMAL	ON	ALARM	ON
TOC	LED31 (TOC)	ABNORMAL	ON	ALARM	ON
TOD	LED32 (TOD)	ABNORMAL	ON	ALARM	ON

Table: Transistor Output Indicators



Figure: Transistor Output Status LEDs

3.10 Alarm Status

An alarm module can have up to 4 input points, each associated with an alarm window indicating the state of the annunciator sequence assigned to it.

Status indicators follow the action of the alarm window for each of the available inputs.

	Indicator	Alarm Window Status
Modularm (1000)	LED33 (LMPA)	Input A
Dualarm (2000)	LED34 (LMPB)	Input B
Trialarm (3000)	LED35 (LMPC)	Input C
Quadalarm (4000)	LED36 (LMPD)	Input D

Table: Alarm Status Indicators

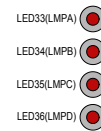


Figure: Alarm Status LEDs

3.11 Field Contact Input

Alarm module field inputs may be configured to operate as normally open or normally closed. Toggle switches are provided to simulate each of the 4 possible field inputs available on the alarm module.

The following table describes the action and status of each of the 4 field contact toggle switches configured as either normally open or normally closed:

Field Contact (FC)	Toggle Switch	FC Normally Open (NO)		FC Normally Closed (NC)	
		UP	ABNORMAL	DOWN	ABNORMAL
Input A	FC1	UP	ABNORMAL	DOWN	ABNORMAL
Input B	FC2	UP	ABNORMAL	DOWN	ABNORMAL
Input C	FC3	UP	ABNORMAL	DOWN	ABNORMAL
Input D	FC4	UP	ABNORMAL	DOWN	ABNORMAL

Table: FC1-FC4 Field Contact Input states



Figure: FC1-FC4 Field Contact Input Simulator Toggle Switches

3.12 First Out/Reflash Stimulus Switch Group

When any input of an alarm module is configured with an annunciator sequence that provides a reflash output, status indicator LED18 (H2) is used to represent the state of the reflash output.



Figure: Reflash Simulator Toggle Switch

3.13 Spares (Future expansion)

Four (4) spare pushbuttons, six (6) spare status LEDs and three (3) spare toggle switches are provided for custom annunciator functions and for future use.

4.0 ADAPTER MODULES

Adapters are available to test more than one module or can be tailored to test a specific module. All the card slots must have the appropriate functioning modules installed before any testing can be accomplished

A typical test for an annunciator module is accomplished by performing all the steps of the sequence for the alarm module. Sequence charts will be provided to assist in testing the modules when requested. The sequence chart defines step by step simulated actions and the defined output responses. Any deviation from the sequence chart indicates a failure of the module under test. When installed, the modules under test have the component side exposed allowing for component level troubleshooting.

Annunciator Model	Adapter (P/N)	Supported System Modules
X12	X12 System (X0-AMX12-001)	Alarm Modules <ul style="list-style-type: none"> ROTD-0-()-() Flasher Horn Driver <ul style="list-style-type: none"> FHD-24-()-() Power Filter <ul style="list-style-type: none"> FF-24-()
	Analog Trip (X0-AMX12-002)	<ul style="list-style-type: none"> X50-()-()
	Ground Fault Detector (X0-AMX12-003)	<ul style="list-style-type: none"> GD-()-()-1
	Motion Detector (X0-AMX12-003)	<ul style="list-style-type: none"> SS2137-GP SS2137-HS
X11SN	X11SN System (X0-AMX11SN-001)	Alarm Modules <ul style="list-style-type: none"> X11SN()-()-()-()-() Flasher Horn Driver <ul style="list-style-type: none"> X11SNFL()-()-() X11SNFLPB()-()-() Auxiliary Relay <ul style="list-style-type: none"> X11SN()-AUX-()

Annunciator Model	Adapter (P/N)	Supported System Modules
X11CA	X11CA System (X0-AMX11CA-001)	Alarm Modules <ul style="list-style-type: none"> X11CA()-()-()-()-() Interface Module <ul style="list-style-type: none"> X11CA-IM()-()-() Auxiliary Relay <ul style="list-style-type: none"> X11CA()-AUX-()
X11CB	X11CB System (X0-AMX11CB-001)	Alarm Modules <ul style="list-style-type: none"> X11CB()-()-()-()-() Interface Module <ul style="list-style-type: none"> X11CB-IM Auxiliary Relay <ul style="list-style-type: none"> X11CB()-AUX-()

Table: Adapters and supported annunciator modules

Note: Module Specific Test Modules available on request.

4.1 Adapter Module Installation

All power to the test fixture must be removed before inserting the adapter into the test fixture. The adapter is plugged directly into the console via the guide rails and connects to the three interface connectors J1, J2 & J3. Once properly installed, all the available slots must be populated, including the module under test. Prior to applying power all the applicable toggle switches must be set to their normal position.

5.0 CONFIGURATION & TESTING

The UATF along with the appropriate adapter provides the ability to test any module that is supported by the annunciator system model.

All the card slots must have the appropriate functioning modules installed including the module under test, before any testing can be accomplished. Each of the supporting modules must be proven to be fully functioning, referred to as a golden standard in the context of this manual.

5.1 Preparing the UATF for the Testing an Annunciator Module

Connect the appropriate adapter to the UATF. The following steps must be taken to assure the UATF is properly configured and ready for the testing.

5.1.1 Configuring the System Power Source

Verify that the test fixture's power switch is in the OFF position. Choose appropriate system power source options below:

- **Internal Power Source** - When utilizing the internal power source, plug the power cord into a live AC outlet. Note that the system's internal power source can be configured for 24 or 48 VDC operation as an option when ordering the UATF.
- **External Power Source** - When utilizing an external power source (power cord is not connected), determine the external power required and set the toggle switch (EXT PWR) to the required setting (24 or 48VDC). Connect the external power source utilizing standard 4mm banana jack to EXT PWR+ and EXT PWR- while the power source is turned OFF.
WARNING: Care must be taken to observe the polarity of the connections.

5.1.2 Configuring the Field Contact Voltage Source

Choose the appropriate Field Contact power source below:

- When utilizing the internal 24 or 48VDC power source as the field contact voltage, set the EXT FCV/INT FCV toggle switch to the INT FCV position.
- When utilizing an external power source for the field contact voltage, set the EXT FCV/INT FCV toggle switch to the EXT FCV position. Connect the external field contact voltage power source utilizing standard 4mm banana jack to EXT FCV+ and EXT FCV- while the power source is turned OFF.
WARNING: Care must be taken to observe the polarity of the connections.

5.1.3 Connecting External Flash Synchronization Signals

When external flash synchronization signals are required, connect the Slow and Fast external synchronization signals to the jacks EXTERNAL FLASH SOURCE – FF, SF, & COM utilizing standard 4mm banana jack.

5.1.4 Configure Toggle Switches Prior to Applying Power

- Set all the field contact toggle switches (FC1-FC4) to their NORMAL position.
Note: Switch actuator pointed DOWN for normally open field contacts and UP for normally closed field contacts.
- Set all the first-out toggle switches (MEA - MED) in the DOWN position.

5.1.5 Applying Power to the Test Fixture

- For Internal Power – Set the main power switch (PWR) to the ON position. The switch will illuminate when power is present.
- For External Power: Turn the external power source ON and verify the External Power LED41 (V+) is illuminated.

5.1.6 External Field Contact Voltage Source

- When utilizing an external field contact voltage source, turn on the external field contact voltage source. Verify the External Field Contact Voltage LED42 (FCV) is illuminated.
- When the internal power supply is providing the field contact voltage for the system, there is no need to supply a field contact voltage to the test fixture.

5.2 Testing a Module

APPLIES TO: All Models

The same procedure is used to test all modules in the adapter. To verify the module under test replace the golden standard of the module in the adapter.

STEP 1: Verify that all Power is removed.

STEP 2: Install the appropriate adapter that supports the module under test.

STEP 3: Verify that all the required golden standard modules are installed in adapter excluding the module under test.

STEP 4: Install the module under test into the remaining slot.

STEP 5: Apply the appropriate power.

STEP 6: Perform a full functional test of the module under test using the sequence chart provided for the Alarm Module.

STEP 7: Verify that all the outputs function according to each sequential step as specified in the sequence chart.

STEP 8: Disconnect the power.

STEP 9: Remove the module under test from the adapter.

STEP 10: Tag the module with the results of the tests.

STEP 11: Repeat STEP 4 through STEP 10 for the remaining module(s) to be tested



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