

**Addendum to
408 Time-Out and Flasher**

1. GENERAL

1.01 This Addendum is issued to caution the user of this equipment regarding the application of ringing power.

2. CHANGES

2.01 Add the following note to Section 408-101/3, Page 3, after paragraph 5.01:

CAUTION

The ringing power source connected to this equipment must include overload protection.

408 Time-Out and Flasher

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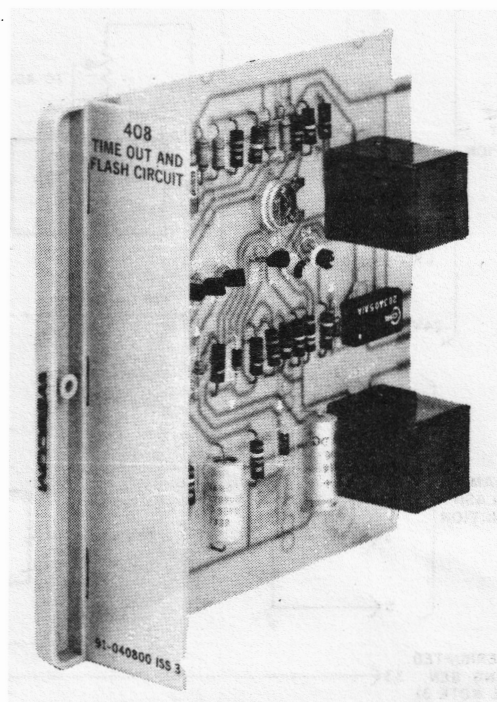


Figure 1. 408 Time-Out and Flasher Module

1. GENERAL

1.01 This Practice provides circuit description, installation information, and basic testing procedures for the Wescom 408 Time-Out and Flasher Module.

1.02 The 408 Time-Out and Flasher Module, Figure 1, is a plug-in, printed circuit module used to provide ringing and lamp flash interruption for subscriber station apparatus.

2. CIRCUIT DESCRIPTION

2.01 The 408 provides circuitry necessary to interrupt ringing and lamp potentials (provided from external sources) for as many as 12 station sets at a location. When used with a 406 or 409 Module or equivalent circuitry, a variable time-out circuit deactivates both the ringing inter-

rupter and the lamp flash if the signaled station is not answered within a predetermined time. Refer to Figure 2, the Functional Schematic Diagram of the 408, while reading the following circuit description.

2.02 The 408 is activated when a ground is applied to the HA lead via relay C in the 409. With ground on the HA lead, the unijunction timer in the Time-Out (TO) circuit is activated and the timing function begins. The TO ADJ potentiometer (R2) may be adjusted to vary the timing from approximately 30 seconds to 3 minutes. When the predetermined time has elapsed and the signaled station remains unanswered, relay TO (K1) operates and removes -24Vdc from the LK lead and hence from the coil of relay C in the associated 409. Relay C releases when battery is removed, which removes the HA lead ground and deactivates the 408.

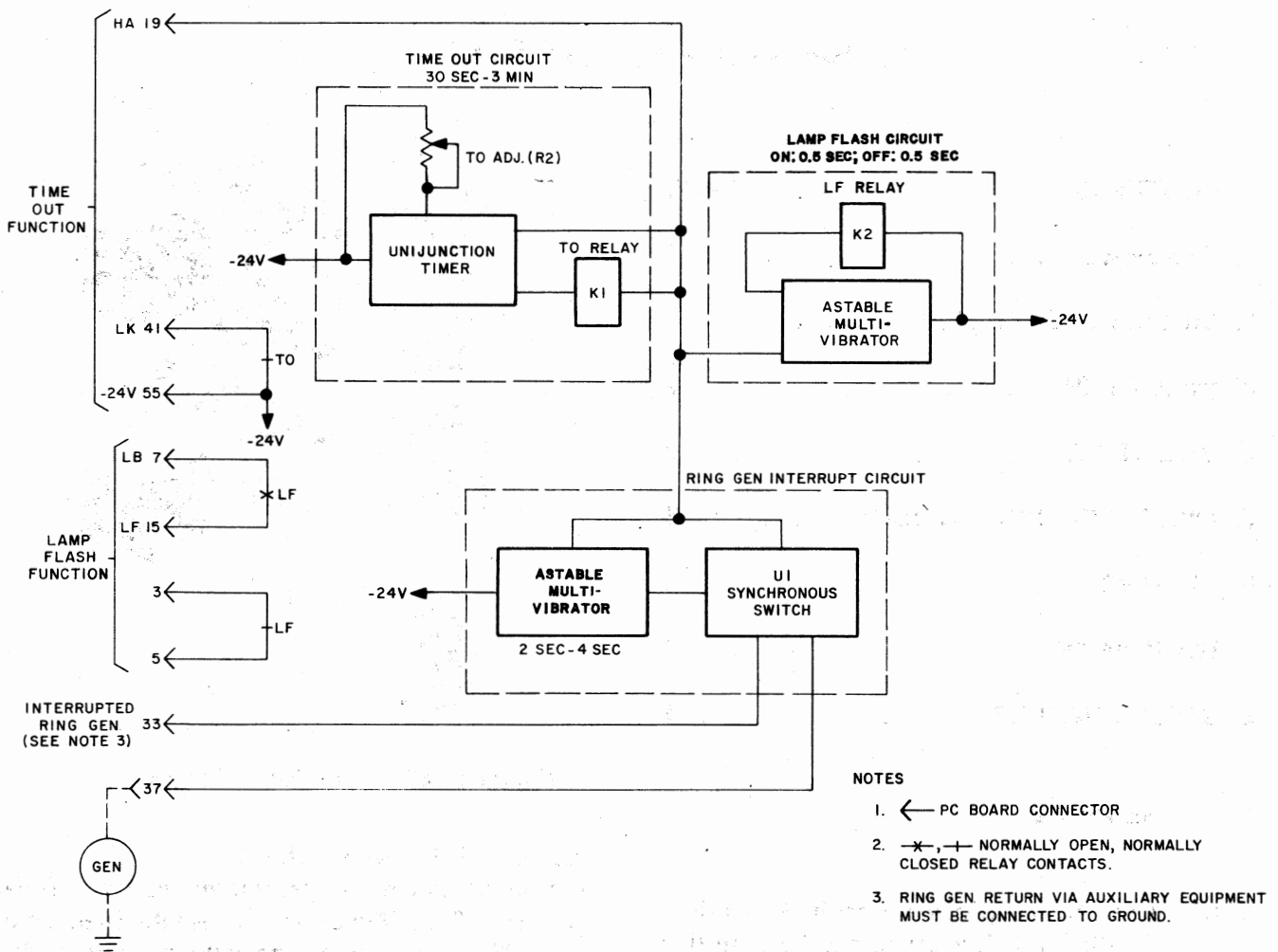


Figure 2. 408 Functional Schematic Diagram

2.03 The astable multivibrator in the Lamp Flash (LF) circuit is also activated when the HA lead is grounded. This multivibrator operates relay LF (K2) for 0.5 seconds on and 0.5 seconds off. The alternately closed and opened contacts of relay LF are used to interrupt the lamp potential presented to the signaled station. Lamp flash is deactivated when the HA lead is ungrounded.

2.04 An astable multivibrator in the ringing generator interrupt circuit is also activated when the HA lead is grounded. This multivibrator is used to control the operation of the synchronous switch (U1). The synchronous switch inter-

rupts the ringing generator potential at a rate of 2 seconds on and 4 seconds off. The ringing generator interruption circuit is deactivated when the HA lead is ungrounded. The ringing interruption occurs only at ringing energy zero crossings to minimize transient generation.

3. INSPECTION

3.01 Inspect the equipment thoroughly as soon as possible after delivery. If the equipment has been damaged in transit, report the extent of damage to the transportation company immediately.

3.02 Wescom equipment is identified by a model and issue number imprinted on the front panel. Each time a major engineering design change is made on the equipment, the issue number is advanced by one number on any following models that are manufactured. Therefore, be sure to include the issue number along with the model number when making inquiries about the equipment.

4. MOUNTING

4.01 The 408 is designed to mount in one module position of a Wescom Type 400 Mounting Assembly. Refer to Sections 400-103 and 400U-101/3 for information concerning these assemblies.

5. INSTALLER CONNECTIONS

5.01 The 408 makes electrical connection to the associated equipment through a 56-pin wire-wrap card connector provided as part of the 400 Mounting Assembly. Make all installer connections to this connector in accordance with Table 1.

Table 1. 408 Installer Connections

INSTRUCTION	56-PIN CONNECTOR ASSIGNMENT
CONNECT:	TO:
HA lead (TO start)	19
TO N.C. contacts (LK lead)	41
-24V input	55
Lamp Supply (LB)	7
Lamp Flash (LF)	15
Lamp Flash N.C. contacts	3 and 5
Ring gen input	37
Ring gen interrupted output	33

6. TESTING

6.01 After the installation is completed, place a call through the facility. Verify that the station is signaled at the proper interruption rate (2 seconds on, 4 seconds off) for ringing and lamp flash (0.5 seconds on, 0.5 seconds off). Verify that the 408 times out and discontinues signaling after the preset time has elapsed.

6.02 If trouble is encountered, check to determine that -24Vdc is applied to the module. Remove and reinsert the module. Verify that all installer connections have been performed in accordance with Table 1. Check the external ringing and lamp supplies for proper operation. Verify operation of the associated control circuitry (HA lead, LK lead operation). If technical assistance is required, contact the Wescom Technical Services Department by calling:

(312) 971-2010 or
TWX 910-695-4735

Canadian Customers:

(416) 453-2222 or
TWX 610-492-2697

7. WARRANTY

7.01 **STANDARD WARRANTY:** Wescom products are warranted to be free from defects in material, workmanship, and design given proper installation and regular maintenance. Wescom's obligations under this warranty are limited to correction and replacement at Wescom's production facility of any defective items received by Wescom, transportation prepaid, for a period of 18 months from the date of original shipment. Warranty and remedies on products not manufactured by Wescom are in accordance with the warranty of the respective manufacturer. **WESCOM MAKES NO OTHER WARRANTY OF ANY KIND WHATSOEVER, EXPRESSED OR IMPLIED; AND ALL IMPLIED WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE WHICH EXCEEDS THE AFORESAID OBLIGATIONS IS HEREBY DISCLAIMED BY WESCOM.**

7.02 Field repairs involving the replacement of components within a unit are not recommended. If an item is found to be defective, contact Wescom, Inc., by telephone or TWX, for instructions regarding replacement or repair.

7.03 If a replacement unit is required, it will be shipped in the fastest manner consistent with the urgency of the situation. Upon receipt of a replacement unit, return the defective unit in the carton in which the replacement was shipped, using the shipping label provided, to:

Wescom, Inc.
8245 Lemont Road
Downers Grove, Illinois 60515

Canadian Customers:

Wescom Canada, Ltd.
287 Glidden Road
Brampton, Ontario L6W1H9
Canada

Repair or Exchange Services

7.04 In addition to the standard Wescom Warranty Service, Wescom offers a repair or exchange service for those items out of warranty. Under this arrangement, faulty units may be shipped to Wescom for either complete repair and quality testing or exchanged for a replacement unit. To obtain details of this service and a schedule of prices, contact your local Wescom Sales Representative.

8. SPECIFICATIONS

8.01 Electrical and physical characteristics of the 408 are as follows:

- (a) **TIME-OUT RATING:** Ring time-out is adjustable from approximately 30 seconds to 3 minutes.
- (b) **LAMP FLASHER RATE:** 60 ipm.
- (c) **RING INTERRUPT TIMING:** 2 sec on/4 sec off.
- (d) **RING INTERRUPTER:** 10 to 60Hz, ground-connected ring generator supply, 60 to 150Vac RMS.
- (e) **POWER REQUIREMENTS:** Maximum current 75mA at -24V.
- (f) **OPERATING ENVIRONMENT:** Temperature, 35° to 120°F; Humidity to 95% (no condensation).
- (g) **DIMENSIONS:** Height, 5-19/32 inches; Width, 1-1/2 inches; Depth, 6 inches.
- (h) **WEIGHT:** 7-1/4 ounces.
- (i) **MOUNTING:** One module position of Type 400 Mounting Assembly.