

Nos. WS669 & 670 SHIELDED CIRCUIT BOARDS FOR SCREW PROGRAMMING

GENERAL INFORMATION:

The Nos. WS669 and WS670 Digital Communicator Shielded Circuit Boards enable No. 669 or No. 670 Digital Communicator Circuitry to be provided in the same cabinet with the protective system control (e.g.: Nos. 1024, BCI026 or BCI028 Alarm Processing Centers). Only the single 6V. DC rechargeable power supply of the alarm processing center is needed to operate both the communicator and the control.

Application, connection and operation of the No. WS669 and No. WS670 are the same as for a No. 669 and No. 670 Digital Communicator respectively. See the accompanying installation instructions.

DESCRIPTION:

The Nos. WS669 and WS670 each consist of a digital communicator circuit board, rear insulator, metal shield (for mechanical protection as well as electromagnetic shielding), slotted bracket, mounting clips and necessary hardware for programming and mounting in the cabinet. Also included are a No. 251 Transient Suppressor and a No. 508T Capacitor for connection to the control's "bell" circuit.

INSTALLATION AND WIRING:

See Diagram.

1. Remove the control's chassis from its cabinet.
2. Mount the communicator's slotted bracket inside the cabinet after first removing it from the assembly as received. Secure it to the left wall of the cabinet as shown, with one of the three screws provided.
3. Remove the shield from the circuit board by removing the two screws that hold it to the mounting clips.
4. Program the circuit board with the desired telephone number and subscriber information and arrange the various jumpers as described in the accompanying digital communicator instructions. Cut the blue jumper on the circuit board. Do not make connections to the circuit board's barrier strip at this time.
5. Place the insulator in the cabinet against the cabinet's rear wall. The insulator's diagonally cut corner should be at the lower left. Center the insulator's left hand edge on the slotted bracket.
6. Slip the long edge of the circuit board into the rear slots of the slotted bracket. Make sure the insulator is directly behind the circuit board and use the two remaining screws to fasten the two clips (along the board's right hand edge) to the back of the cabinet.
7. Install the metal shield in front of the circuit board by slipping its left hand edge into the front slots of the slotted bracket. Secure its right hand edge to the two clips with the screws removed in step 3.
8. Do the following to prevent excessive sounding device "circuit noise" from affecting the operation of the digital communicator:
 - a. Connect the No. 508T Capacitor (non-polarized) across the "bell" terminals of the control.

- b. Connect the No. 251 Transient Suppressor (also non-polarized) at the bell location, directly across the bell wires.

Note: If an electronic siren is used instead of a bell, the No. 251 can be omitted.

- c. Ground the cabinet of the control to the negative (-) side of the power supply (e.g.: terminal 20 in the Nos. 1024, BC1026 or BC1028).

9. Complete the connections to the digital communicator and control (replace the control's chassis in the cabinet) in the usual manner, as described in their individual installation instructions.

Power (6V. DC) for the digital communicator's red (+) and black (-) leads may be obtained from the control's 6V. DC continuous auxiliary output terminals. The blue jumper on the digital communicator's circuit board should have been cut in step 4.

The control's N.O. dry contact may be used to activate (trip) the digital communicator. Follow the accompanying No. 669 or No. 670 instructions.

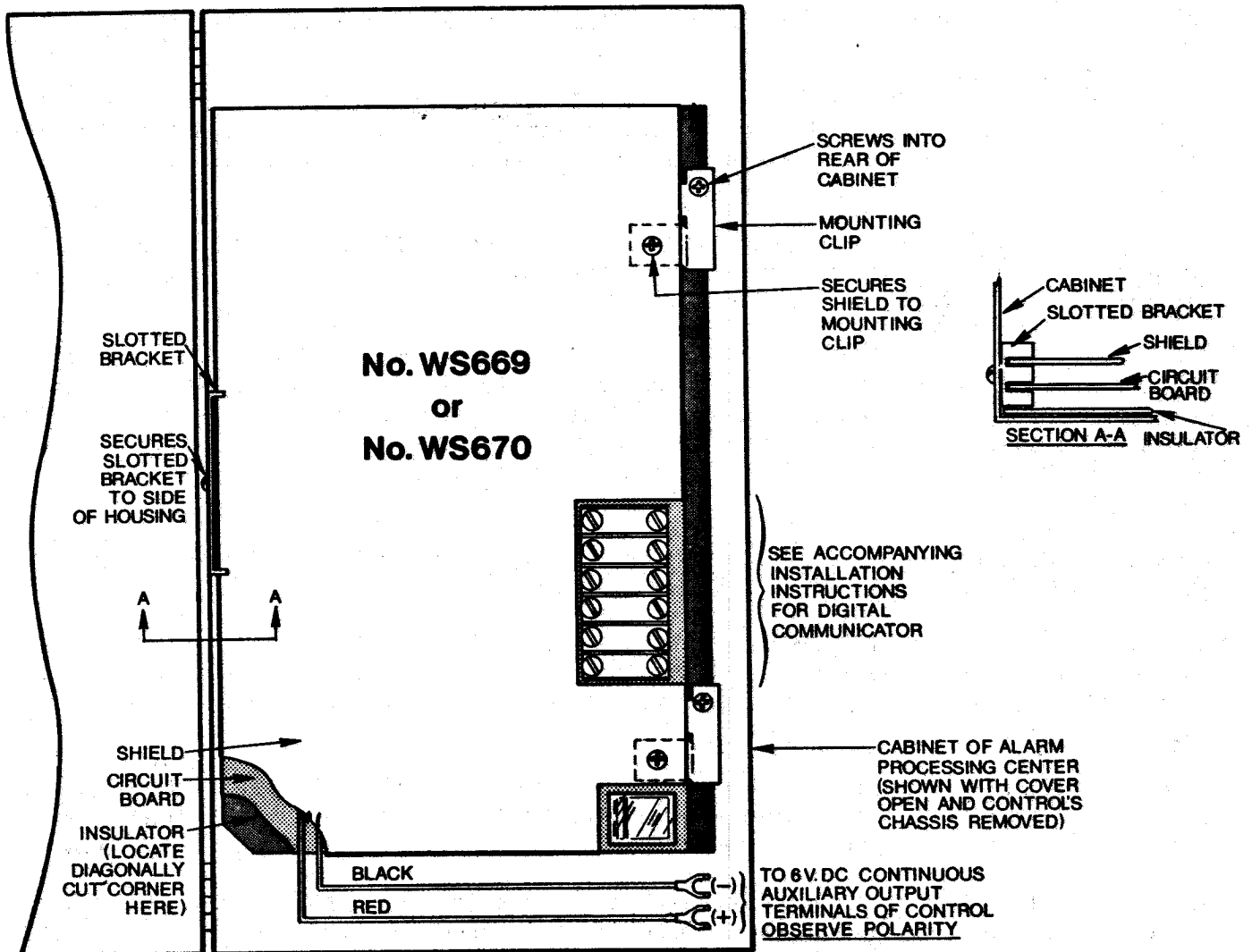


Diagram: MOUNTING DETAILS

GENERAL SPECIFICATIONS:

No. WS669 and No. WS670

Physical: Width: 7 1/2" (19.0 cm)
 Height: 11 3/4" (29.8 cm)
 Depth: 1 1/2" (3.8 cm)

Electrical: No. WS669: Same as No. 669
 No. WS670: Same as No. 670

Power from same 6V. DC rechargeable, filtered source as alarm system control.

**NOTES ON POWER:
NOS. 669 and 670**

WHEN USING NOS. 669 and 670 SCREW PROGRAMMED DIGITAL COMMUNICATORS WITH NO. 492 AND 493 POWER SUPPLIES

The RED mark on Nos. 492 and 493 positive (+) output terminal (terminal 3) indicates that it contains an improved, low resistance self-resetting circuit breaker that makes the unit suitable for powering these screw programmed digital communicators in addition to a bell.

A No. 508T Capacitor must be installed across the control's BELL terminal and a No. 251 Transient Suppressor must be installed at the bell, across its wires. With an electronic siren, only the No. 508T is needed.

When using older No. 492 and 493 power supplies (no RED mark) which power a bell, buzzer, or siren from the control instrument, a separate power source MUST be used to power the screw programmed digital communicator, as transients from the bell or siren cannot be filtered out with the No. 508T Capacitor and No. 251 Suppressor. This is not necessary when only silent alarms are transmitted.

WHEN USING NOS. 669 and 670 SCREW PROGRAMMED DIGITAL COMMUNICATORS WITH NO. 1022 ALARM PROCESSING CENTERS

No. 1022 Alarm Processing Centers having a RED mark on terminal 14, indicates that they contain an improved, low resistance self-resetting circuit breaker that makes each unit suitable for powering a No. 669 or No. 670 screw programmed digital communicator in addition to a bell.

A No. 508T Capacitor must be installed across the control's BELL terminal and a No. 251 Transient Suppressor must be installed at the bell, across its wires. With an electronic siren, only the No. 508T is needed.

When using older No. 1022 Alarm Processing Centers (no RED mark) which power a bell, buzzer, or siren, a separate power source must be used to power the screw programmed digital communicator, as transients from the bell or siren cannot be filtered out with the No. 508T Capacitor and No. 251 Suppressor. Of course this is not necessary when only silent alarms are transmitted.

TROUBLESHOOTING NOS. 669 & 670 SCREW PROGRAMMED COMMUNICATORS

<u>PROBLEM</u>	<u>CHECKS</u>
1. COMMUNICATOR WILL NOT START (LINE SEIZURE RELAY DOES NOT PULL IN).	A,D,E,J,M
2. COMMUNICATOR STARTS BUT WILL NOT DIAL OUT (LINE SEIZURE RELAY DOES PULL IN).	A,B,D,E,G,H,I,K,L,M,N
3. COMMUNICATOR DIALS INCORRECT TELEPHONE NUMBER.	A,B,D,E
4. COMMUNICATOR GETS THROUGH TO RECEIVER BUT DOES NOT TRANSMIT MESSAGE.	A,B,D,E,O,Q
5. RECEIVER HANGS UP BEFORE COMPLETION OF CODE TRANSMISSION BY THE COMMUNICATOR.	A,B,D,E,Q
6. COMMUNICATOR TRANSMITS INCORRECT OR JUMBLED CUSTOMER AND ALARM CODES.	A,B,D,E,G,I,J,Q
7. COMMUNICATOR TRANSMITS INCONSISTENT ALARM CODES ALTHOUGH CUSTOMER CODE IS CORRECT.	E,J,R,S
8. COMMUNICATOR TRANSMITS LOW BATTERY CODE (8) INSTEAD OF TEST CODE (9).	A,D,E
9. COMMUNICATOR DOES NOT SHUT-DOWN AFTER A VALID PAIR HAS BEEN RECEIVED BY THE RECEIVER.	C,P,Q,R
10. COMMUNICATOR SHUTS DOWN PROPERLY BUT STARTS AGAIN SHORTLY THEREAFTER.	C,E,R
11. COMMUNICATOR STARTS AS SOON AS POWER SUPPLY IS CONNECTED.	F
12. COMMUNICATOR DOES NOT RELEASE PHONE LINES TO HOUSE PHONES AFTER SHUT-DOWN.	M,N
13. COMMUNICATOR SENDS 4 TRANSMISSIONS TO RECEIVER AND THEN SHUTS DOWN.	T

For explanation of CHECKS, see following page.

TROUBLESHOOTING NOS. 669 & 670 SCREW PROGRAMMED COMMUNICATORS

- A. Check power supply. Only a well-filtered supply or lantern battery should be used to power the communicator. Use a voltmeter to determine if there is adequate voltage present at the red and the black power leads when the communicator is activated. If batteries are low, the voltmeter will show a substantial dip upon the activation of the communicator.
- B. If a rechargeable 6 volt DC battery pack is used, make certain that the blue jumper in the upper left-hand corner of the communicator is cut.
- C. A rechargeable power pack that pulses after ringout should not be used to power the communicator or the alarm panel which activates the communicator.
- D. If using a 6 volt lantern battery or a 4.8 volt DC rechargeable power pack, check that the blue jumper in the upper left hand corner of the communicator has NOT been cut.
- E. The communicator should not be powered by a supply which is also ringing an alarm bell unless a suppressor kit (No. 251 and 508T) is used.
- F. If a single power supply is used to power both the panel and the communicator, check to see that the positive leg of the alarm output is used to activate the communicator. The negative half of the panel alarm output is already completed to the communicator by the use of the single power supply.
- G. Check for correct screw programming. Make sure there are no columns without a screw and that each column has no more than one screw.
- H. If a prefix or area code is used, there should NOT be a screw in the fast dial hole.
- I. Check that all programming screws and nuts are tight.
- J. Check that the ABORT and RESTORE jumpers are pushed down completely on their selected posts. Also check the instruction sheet for proper jumper connections.
- K. Check that the telephone line disconnect switch (if installed) is in the NORMAL (up) position. When this switch is down the communicator is disconnected from the telephone lines.
- L. Check telephone line and line seizure connections. Terminals 1 and 7 should be connected to the incoming telephone lines. Terminals 8 and 2 should be connected to house telephones.
- M. Check that the line seizure relay is not jammed by its cover. The clear plastic cover of the relay in the lower left-hand corner of the PC board can be knocked askew when removing or installing the board for programming. Make sure the cover is on squarely and is snapped down on both sides.

- N. Check that you have the correct telephone wire pair. Approximately 48 volts DC should be present at the tip and ring pair with an "on hook" condition in most areas. If a Touch Tone line is used, polarity is important; try reversing phone lines at the communicator.
- O. Check the receiver end by dialing the number on a telephone. Listen for a one second acknowledgement tone after the receiver picks up. The acknowledgement tone tells the communicator to transmit. Without this tone, the communicator will not send its message.
- P. Check that the MANUAL/AUTO switch on the receiver is in the AUTO (automatic) position.
- Q. Check that the receiver is processing calls correctly by testing from a communicator which is known to be working correctly.
- R. Check that the test channel is only activated by a momentary dry closure because it will continue to dial and transmit as long as there is a closure present at its input. This will cause inconsistencies and failure to shut down.
- S. The lowest numerical code will transmit instead of the correct code if the lower code is not cleared (locked in).
- T. The 4 message shutdown option has been selected.