DSS-665
ALARM CONTROL PANEL

DCU-670
SYSTEM CONTROL STATION

INSTALLATION AND PROGRAMMING MANUAL

DTI Security

A DIVISION OF DATURA INTERNATIONAL, INC.

DSS-665 ALARM CONTROL PANEL
&
DCU-670 SYSTEM CONTROL STATION

INSTALLATION MANUAL

INTRODUCTION

The DSS-665 Burglar and Fire Alarm Security System is a microprocessor based Alarm Control Panel (ACP) which offers sophisticated alarm control, detection, and reporting functions at a price considerably less than other panels with similar features. The panel, which is housed in a rugged steel cabinet, contains no user indicators or switches so its installation locations can be chosen to make the hook-up wiring most convenient. The DSS-665 ACP contains 9 individually programmable zones of protection (detection loops)[1]. All zones use a 4.7K ohm End-Of-Line (EOL) resistor for supervision. The 9 programmable zones can be configured to function as any one of 16 different types of detection circuits including fire.

The DSS-665 ACP also contains an integral 32 channel, multi-format digital communicator that is compatible with most major brand receivers. With its extended data reporting capability, it can send more than 100 different alarm and status reports to the Alarm Monitoring Center (AMC). The desired system configuration, optional features and other operating characteristics of both the ACP and the digital communicator are programmed into an EEPROM[2]. The panel is shipped pre-programmed with standard features which may be changed using the DCU-670 System Control Station (SCS) with an optional Programming Module (PGM-670)[3]. The DSS-665 ACP has a built-in alarm siren driver and 12 VDC bell output for local alarm sounding purposes, as well as all of the other optional features normally required in a modern state-of-the-art-plus security system.

The DCU-670[4] SCS is a surface mounted decorative remote control unit consisting of a 12 button keypad, 3 Emergency Dispatch Keys, 7 indicator lights, and an internal audio annunciator (beeper). This remote control provides all of the required input/output functions used in the daily operation of the system.

IMPORTANT
PLEASE READ AND FULLY UNDERSTAND THE DSS-670/DCU-670 "USERS" MANUAL[5] BEFORE PROCEEDING TO READ THIS MANUAL OR ATTEMPTING TO INSTALL THE SYSTEM. THE "USERS" MANUAL DESCRIBES THE NUMEROUS FEATURES, FUNCTIONS, AND OTHER USER INTERFACE REQUIREMENTS OF THE SYSTEM IN GREAT DETAIL. THEREFORE, "USERS" MANUAL INFORMATION WILL NOT BE REPEATED IN THIS MANUAL.

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[1] Expandable to 18 using the unique Zone-Doubling Feature. Refer to Appendix A.

[2] Electrically Erasable Programmable Read Only Memory. This latest technology allows the product to come pre-programmed from the factory. It also allows you the opportunity to reprogram the panel as often as you wish and protects the program in its entirety from total power loss.

[3] Allows the on-site installer to repeatedly make either minor or major programming changes quickly and completely.

[4] This is the same SCS as used by the more powerful DSS-670 ACP. In function and programming the two panels are similar; however, the DSS-665 is not downloadable or trappable.

[5] This is the same User's Manual as the DSS-670. From the User's Standpoint, the interface is identical to the DSS-670.

SECTION I
INSTALLATION

MECHANICAL INSTALLATION

Many features have been designed into the DSS-665 ACP and DCU-670 SCS to enable quick and simple system installation and troubleshooting. The ACP contains no user switches or indicators thus enabling the installer to select the mounting location most convenient for wiring. The decorative SCS may be installed in a variety of locations (up to 4) to offer the most convenience to the user.

Alarm Control Panel (ACP) - DSS-665

The ACP should be mounted in a convenient, dry location near a power outlet. We recommend the ACP not be mounted in an attic or any other similar location likely to contain excess heat. The ACP is typically mounted on a wall using screws, toggle or Molly bolts through the holes provided in the rear of the cabinet. Using the metal housing as a mounting template, mark and drill the two top mounting screw holes. Screw the top screws partially in and hang the housing on the screws in order to mark the exact location for the lower mounting screw holes.

Wiring from the external accessories is brought into the metal cabinet through one or more of the entry holes or knockouts provided. To avoid possible confusion, we suggest that the different wires be labeled and their polarity indicated. This is not only helpful during installation, but also at a later date if any troubleshooting is required.

In order to prevent possible accidental damage to the printed circuit board, we suggest that the board be removed only if repairs are necessary. When removing or working with the main printed circuit board, care should be taken to first discharge any static build-up by touching the metal housing before handling the board. Handle the printed circuit board by touching ONLY the edges of the board, heat sink, or terminal strips.

Battery leads are already attached to the printed circuit board and have quick-connect slide connectors for attachment to the battery.

System Control Station (SCS) - DCU-670[1]

The aesthetic appearance of the SCS enables it to be located in a variety of locations. This will allow the user maximum convenience in using the many features of the system and will encourage regular testing. The SCS is typically surface-mounted at a convenient location with the backplate serving as a mounting template. Remove the backplate by undoing the screw at the bottom and rotating the back up. Place the backplate against the wall, making sure it is level, then gently tap the break-away center punches with a hammer. The small indentations left in the wall will indicate the exact place for drilling the mounting holes. Use only the mounting holes provided. The SCS backplate is also designed to be mounted on either a single gang or double gang outlet box if desired. The wires are fed through the square hole provided. After fastening the backplate to the wall and connecting the wires, clip the top of the SCS over the backplate and rotate it down securing it with the 6-32 size screws provided (some walls may require different fasteners).

One or more of the Emergency Dispatch pushbuttons on the SCS may be disabled by cutting the traces on the printed circuit board as follows (Refer to Figure 1):

> A = Assault
> M = Medical[2]
> F = Fire
> All = All Dispatch Keys Disabled

FIGURE 1 - DISPATCH KEY DISABLE

A   M   F

ALL ──CUT TRACE HERE

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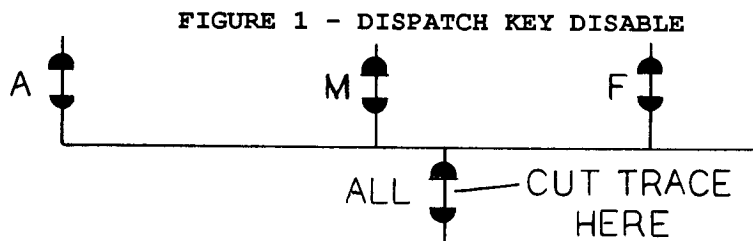
[1]The DCU-661 or its waterproof version, the DCU-661W, may also be used interchangeably with the DCU-670. The DCU-661(s) can be installed as remote arming/disarming station(s) and the DCU-670(s) as main control/programming station(s).

[2]A Medical Dispatch Cover Kit is available from DTI for those installations requiring total removal of the Medical Dispatch Key.

The SCS requires only a simple four-wire connection to the ACP. Use ordinary 4 conductor telephone cable for the SCS. Up to 4 SCS units may be connected with cable lengths up to a maximum distance of 300 feet. Any SCS cables longer than 50 feet should be "homerun" back to the ACP.

Digital Communicator Connection

Arrange to have an RJ31X or 32X jack installed near the ACP. Obtain a standard telephone extension cable terminated at one end with a modular RJ-11 plug and bare wire at the other (not a handset extension cable)[3]. Connect the bare wires to the RJ31X mating plug as shown in Table 1 or 2 below;

TABLE 1 - TELEPHONE CABLE CONSTRUCTION
(without Tamper)

Cable	6 Position Plug DSS-665 ACP	8 Position Plug RJ31X Mating	
Black	2	1	R1 (House)
no connection		2	
no connection		3	
Red	3	4	R (Ring)
Green	4	5	T (Tip)
no connection		6	
no connection		7	
Yellow	5	8	T1 (House)

TABLE 2 - TELEPHONE CABLE CONSTRUCTION
(with Tamper)

Cable	6 Position Plug DSS-665 ACP	8 Position Plug RJ31X Mating	
Brown	2	1	R1 (House)
Yellow	PigTail	2	Tamper (NC)
no connection		3	
Green	3	4	R (Ring)
Red	4	5	T (Tip)
no connection		6	
Black	PigTail	7	Tamper (NC)
Grey	5	8	T1 (House)

SYSTEM DESCRIPTION AND OPERATION

The built-in versatility of the DSS-665 Security System allows the product to be configured for most any imaginable installation requirement. Whether it be for the simpler installation where the operating and zoning versatility and complexity is not required, or for the larger and more demanding applications where a sophisticated user can effectively utilize its many features, the DSS-665 can be configured as a Burglar and/or Fire Alarm System to meet the needs of the most demanding market.

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[3]An alternate cable (P/N DRJ31X) can be ordered to connect the DSS-665 to a RJ31X or RJ32X jack. This cable has a normally closed pair of tamper wires included which can be used to trip an alarm if the cable is cut or unplugged from the RJ31X jack. It is built as shown in Table 2.

DSS-665 Alarm Control Panel (ACP)

The ACP contains 9 different independently programmable zones of protection (detection loops). If the "Zone Doubling" Option is selected then both the Normally Open (NO) and Normally Closed (NC) side of each zone is separately programmable thus providing 18 different detection loops[4]. All zones are supervised with EOL resistors. The status of these zones, including alarm memory, etc. are displayed on the corresponding lamp of the SCS. Each of these 9 (18) zones can be programmed[5] into the EEPROM at installation to function as any one of the following 16 different types of detection circuits.

LOOP DEFINITIONS

BURGLARY LOOPS: If the silent burglary alarm option has not been selected, violating a burglary loop will sound the bell or siren continuously for 1-15 minutes (as programmed). Violating a burglary loop will make the alarm memory lamps (Arm and Ready) blink until a valid disarm code is entered. Entering a valid disarm code will also silence the alarm. If the loop is enabled for reporting, violating a burglary loop will light the SCS transmit lamp during the report.

INSTANT: The Instant Loop is the standard burglary loop. It will trip an alarm instantly if violated while the system is armed. Instant Loops are normally used for window sensors and other protected areas that are not a common point of entry.

EXIT/ENTRY: The Exit/Entry Loop is the standard delayed burglary loop. It will not trip an alarm if violated during the exit delay after arming the system. Later, when the user returns and violates the loop, there will be a delay (entry time) before the alarm will be tripped. During this delay time, the system normally sounds a warning tone over the SCS beeper. Disarming the system before the end of the entry time prevents an alarm. The alarm will trip if the system is not disarmed in time even if the Exit/Entry Loop has been restored. The loop which starts the entry time is remembered for reporting and alarm memory. Exit/Entry Loops are used on exterior doors, other common points of entry, or anywhere a time delay before alarm is desired.

NOMAD: The Nomad Loop is a burglary loop which is automatically disabled during the entry and exit times but does not by itself initiate an entry time. At all other times it performs as an Instant Loop. This type of loop is sometimes referred to as a Follower Loop. The nomad loop is normally used for interior protection since one can go through it when walking between the SCS and the exit/entry door. Nomad Loops can replace instant loops in many applications.

DAY/NIGHT: A Day/Night Loop is a burglary loop which initiates a trouble signal if violated while the system is disarmed. If the loop is violated at the time of arming it will automatically be bypassed. Restoring the Day/Night Loop while the system is armed will not re-enable it. If the loop was good at time of arming then it will act as an Instant Loop. Day/Night Loops are normally used for window foil which may open during the day as the glass expands and restore in the cool of the night.

SECONDARY DELAY: The Secondary Delay Loop is a burglary loop which is not enabled until the loop is made good after the end of the exit time. One can arm into a violated Secondary Delay Loop without tripping an alarm. Upon return, violating the Secondary Delay Loop will start an entry time which can be programmed to be different from the normal entry time. The secondary entry time can be programmed to be as long as 4 minutes. The Secondary Delay Loop is normally used for garage doors.

MEDICAL: The Medical Loop is a 24 hour loop which sounds the SCS beeper and reports to the AMC. When the AMC acknowledges the receipt of the report, the beeper sound changes to tell the user that the message got through. The standard Medical sounds are 1/2 second on/off while transmitting and 2 seconds on/off after successful receipt of the message. The medical alarm will trip the blinking alarm memory lamps and light the transmit lamp. The medical alarm is cleared by entering a valid disarm code. The medical loop is used to summon paramedics or the like for serious medical emergencies.

ASSAULT: The Assault Loop is a 24 hour loop which sounds the same as a burglary alarm. It will trip a continuous bell or siren for a 1-15 minute period (as programmed). The assault alarm is cleared by entering a valid disarm code. The SCS alarm memory lamps will blink until the disarm code is entered. The SCS transmit lamp will light while the system is reporting to the AMC. The Assault Loop is used to summon the police.

SILENT ASSAULT: Silent Assault is the same as assault except that the alarm does not sound.

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[4]Refer to the Appendix on Advanced Programming/Installation for details on using the "Zone Doubling" Feature.

[5]Alternatively, the factory preprogrammed settings may be used for any or for all loops.

AUXILIARY: The Auxiliary Loop is a 24 hour loop which sends a report to the AMC when it is violated. It will not sound an alarm and it will not make the alarm memory lamps blink on the SCS. The transmit lamp on the SCS will light while the system is reporting to the AMC. The Auxiliary Loop can be used to monitor critical conditions such as temperatures of freezers or pipes, to report water leaks, or as a silent tamper or holdup loop.

DURESS: The Duress Loop is a 24 hour loop which will report to the AMC without lighting the transmit lamp on the SCS. No alarm will sound and alarm memory lamps will not blink. This loop type is used for duress/holdup alarms.

SPECIAL ARMING LOOPS: The DSS-665 may also be armed and disarmed with devices other than an SCS. By using one or more of the following Special Arming Loop types a keyswitch or a sophisticated standalone keypad such as the DTI DCU-20[6] turns any zone into an arming station.

MOMENTARY ARM/DISARM: The Momentary Arm/Disarm Loop will toggle the arm/disarm state of the system every time it is violated. It will not arm the system if an enabled burglary loop (other than day/night) is violated. A momentary violation of this loop acts the same as entering a valid arm/disarm code.

SHUNT DISARM/ARM: The Shunt Disarm/Arm Loop will disarm the system when it is violated by opening the loop. If the loop is violated by shorting the loop, the system will be force armed. Any loop which is violated will be put into trouble. This loop is used to arm and disarm the system using a shunt key switch or a radio link.

SHUNT ARM/DISARM: The Shunt Arm/Disarm Loop is the same as the Shunt Disarm/Arm Loop except the system arms at opening and disarms at closing of the loop.

SPECIAL DISARM: The Special Disarm Loop type will switch the system from disarm to special disarm when it is violated by closing. The system will switch from special disarm to normal disarm when the loop is violated by opening. The Special Disarm Loop will have no effect when the system is armed. This loop can be used to automatically partial arm the system at bedtime.

FIRE:[7] The Fire Loop is a 24 hour loop which will trip a fire alarm if it is violated by closing. The fire alarm will sound a pulsed bell or siren. The fire sound has priority over the burglary or assault sound. The alarm time is 1-15 minutes or not timed out (as programmed). The bell or siren will pulse 2 seconds on/off. If the Fire Loop is violated by opening, a trouble will result. The Fire Loop is disabled for a few seconds after arming and after activating the fire test/reset. The fire alarm can be silenced by activating the fire test/reset or by entering a valid disarm code. The alarm memory lamps on the SCS will blink until the disarm code is entered. This loop is used for smoke detectors and other fire sensors. The fire alarm can be silenced by entering the keys "#" followed by "8" at the SCS. This will also remove the 12 VDC power output from terminal 12 for a few seconds to reset latching smoke detectors, but it will not clear the blinking Arm/Ready lamps on the SCS. If the loop remains closed, the fire circuit will go into the silenced trouble condition with a blinking Trouble Lamp on the SCS(s). Clear the blinking Arm/Ready lamps by entering a valid disarm code.

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[6]The DCU-20 is also available in a waterproof version, the DCU-20W, and a 6 volt version, the DCU-20-6.

[7]FIRE DETECTOR INSTALLATION AND PLACEMENT

CAUTION

Early warning fire detection is best achieved by the installation of fire detection equipment in all rooms and areas of the household as follows:

A smoke detector installed in each separate sleeping area, (the vicinity of, but outside of the bedrooms), and heat or smoke detectors in living rooms, dining rooms, kitchens, hallways, attics, furnace rooms, closets, utility and storage rooms, basements and attached garages.

Since most household fires occur at night when everyone is asleep, the most important location is just outside of the bedrooms. If the bedrooms are spread out or if they are located in different sections of the house, one smoke detector should be placed near each of these sleeping areas.

In multi-level houses, one smoke detector may be sufficient to protect an entire floor. Since smoke rises, a stairwell in a home tends to become a natural "chimney" for smoke rising from one level to the next. Therefore, by locating a smoke detector near the top of the stairs leading to a main sleeping area, all bedrooms can be successfully protected using one unit.

UL listed energy limited cable must be used in a UL fire system. A listed internal sounding device is required for California State Fire Marshal listed systems. This equipment should be installed in accordance with the National Fire Protection Association's Standard 74. For additional information write: NFPA, Battery March Park, Quincy, MA 02210.

LOCAL: The Local Loop is a 24 hour loop which will sound the bell/siren for approximately one second whenever the loop is violated by opening. The system will not report and the alarm memory lamps on the SCS will not blink. This loop can be used to guard a pool or other areas, such as gun cabinets, dangerous to children. If the Local Loop is violated by closing, a 15 second beep is started at the SCS(s) which can be cleared only by using the master code. This loop can be used to announce trouble on an RF system or to guard areas such as liquor cabinets from children, servants, or relatives.

ZONING

As described in the User's Manual, the DSS-665 protection zones can be easily zoned in and out of the security system to provide for maximum versatility and convenience. Any or all of the Zones 1 through 8 can be programmed as Standard ByPass Zones in the EEPROM. These zones can be zoned in or out as a group (only while the ACP is disarmed) by entering "#" "6" on the SCS keypad. When these zones are bypassed , the SCS Bypass lamp will be lit. The user can also bypass 24 hour loops if they are included in this group; therefore care must be taken to ensure that only the desired zones are included. The Standard ByPass is typically used for shunting interior protection for At Home Arming.

The zones programmed as bypass enabled zones can individually be zoned in or out (sometimes referred to as shunted or bypassed) of the system while the ACP is disarmed. First display the status of the zones by entering "#" "1" at the SCS and then "enable" or "disable" the zone by pressing the key corresponding to the zone number. The corresponding lamp (beeper for Zone 8) will be off if that zone is bypassed (or in a trouble condition). When you return to the Operating and Display mode (by entering "#" "0"), the Bypass lamp at the SCS will blink if any combination of zones (other than the Standard Bypass Zones) is bypassed.

You can also program any combination of zones as Special Disarm Zones. The Special Zones and only the Special Zones will be disabled when the user disarms the system with the Special Disarm Code (a special secondary code). All other zones will remain armed. The status output (post) will pulse low during the Special Disarm state; this allows connection of a small speaker which will buzz during the Special Disarm state. Zones may not be bypassed during the Special Disarm state. The Special Disarm code can be given to people such as janitors that have limited area access. It can also be used to disable 24 hour zones not otherwise disabled such as safes or tamper switches, etc.

ALERT ZONES

Any of zones 1 through 8 can be programmed as Alert Zones. The Alert Mode can be enabled and disabled from the SCS. This mode (sometimes referred to as Chime Mode) allows the user to audibly monitor the status of these zones without Arming the system and thus causing an alarm. During initial installation and programming, ensure that the loops most applicable to this feature are assigned as alert zones. Alert Zones are most typically used for doors and can be thought of as a Daytime Announcing System.

ALARM PANEL OPTIONS

The Four-Digit Master Code, the Exit/Entry Times and Fire/Police Alarm Durations may all be programmed into the EEPROM at installation, and may only be changed via installer reprogramming of the EEPROM. Factory pre-programmed values are provided for all programmable parameters to minimize installation programming.

Using the Master Code, the user may then program or reprogram up to 7 Secondary Arm/Disarm Codes.

Several additional options including Power Up Arm, Quick Arm, and Silent Burglary are programmable at installation. For a complete list of options (and the factory preprogrammed values) refer to Table 3.

THE DCU-670 SYSTEM CONTROL STATION (SCS)

The DCU-670 is the user's point of system control. All daily operation, programming, alarm memory checks, and testing functions can be performed directly from the SCS(s). The seven indicator lamps and the SCS internal annunciator provide the user with visual and audible indication of the system status. For further information on user operating and programming features, please refer to the DSS-670 USER'S MANUAL[8].

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[8]From the User Standpoint the DSS-665 is similar to the more advanced Download ACP, the DSS-670. Therefore the the same Users Manual and Keypad are shared by both products.

DIGITAL COMMUNICATOR (DIALER)

CHANNELS AND FORMATS[9]

The DSS-665 contains an integral 32 channel digital communicator. This dialer can report its data to receivers at two different telephone numbers. Each telephone number can be up to 16 digits long. Five second pauses may be inserted into the phone numbers for PBX, etc. compatibility.

Do not program the phone number of a police or fire station unless assigned specifically by that agency and signal transmission has been checked for compatibility.

The communicator will either report the same or a different 3 or 4 digit account code, as programmed, to each receiver. Hexadecimal (sometimes referred to as Hex) digits may be used in either the account codes or the reporting codes. Each item has a factory preprogrammed code (Refer to Table 3), any or all of which may be reprogrammed at installation.

Each of the above items can be programmed into the EEPROM to report to either, neither, or both of the programmed telephone numbers. If an item is programmed to report to both phone numbers, it will alternate between them until it reports successfully to both or until a given telephone number has been attempted the programmed number of times (from 1 to 16). If the Backup Option is selected, the panel will halt after the first successful report to either telephone number.

Each of the telephone numbers may be enabled individually for Extended Data Reporting. An Extended Data Report (using the popular 10 PPS or 20 PPS Formats) is a second report following the first kiss-off. It adds zone or user code detail to the basic alarm report code. For example, a typical extended report for a Fire Dispatch Alarm using Extended Reporting follows:

```
Dial
                 handshake tone
2E5 1            normal fire report
2E5 1            second comparison message
                 kiss-off tone
111 B            "B" = 11 => Fire Dispatch
111 B            second comparison message
                 kiss-off tone
Hang Up
```

The extended data for the User Codes are: 1-7 for user codes 1-7, 8 for the Special Disarm Code, 9 for the Master Code, and 0 for the Duress Code or for Quick Arm.

The manual test report (#, 7) extended data is 1. The automatic test report extended data code is 9.

If the RADIONICS encoding option is not selected, then Zones 1-9 use extended data codes 1-9, Duress uses 0, Fire Dispatch is B, Medical Dispatch is C, Assault Dispatch is D, Low Battery is E, AC Loss is F, and Reset is 9.

If RADIONICS encoding option is selected, there will be extended data ONLY on Test, Cancel, Opening, Closing, Partial Arm, Restoral, and Trouble. On Trouble and Restoral, the extended code will be the "alarm" code for the zone in trouble or restored. Low Battery and AC Loss report as trouble reports.

Any or all of the phone numbers may be programmed for multiple reports. If multiple reports are enabled then several reports may be transmitted on telephone call.

The DSS-665 may be programmed so that each phone number will individually transmit in the Ademco/Silent Knight slow speed format[10], the Franklin high speed format[11], or the SEIA Digital Communicator Specification Format[12].

If you program a Cancel Code, the DSS-665 will then report the Cancel Code instead of the normal alarm code if the user Disarms the ACP before it has reported the alarm. If there are multiple alarms, only the first alarm will report at all. The Cancel Code is reported to the phone number that the alarm report would have gone to. The extended data is not changed.

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[9]Refer to the Section on Programming and Table 3 for a complete list of programmable digital communicator parameters and the Factory Preprogrammed Data.

[10]1900 Hz tones at 10 pps with handshake and kiss-off tones of 1400 Hz.

[11]1800 Hz tones at 20 pps with handshake and kiss-off tones of 2300 Hz.

[12]Refer to the Security Equipment Manufacturer's Association Digital Communicator Standard (Most Recent Version Dated May 1986).

The DSS-665 may also be programmed for Abort. If Abort is programmed then disarming the panel will clear all current reports. If the DSS-665 was in the middle of a report, it will hang up. If Abort is programmed, then there will be no Cancel reporting.

The start of the communicator dialing sequence may be delayed for up to 25 seconds after the alarm is tripped in the ACP.

AUTOMATIC TEST REPORTS
The ACP can be programmed to automatically report a Test Message to the Central Station from once every hour in once every 250 hours in one hours intervals; this feature may also be disabled.

The ACP may be programmed to send this message once every programmed period independent of other events; or, it may be programmed to send the test message if and only if no other message (alarm/opening/closing) is sent during the test message interval.

Once programmed, the test report offset (how long before the first test message is sent) is set as follows:

> At a SCS enter "*", followed by the Master Code, followed by "8", followed by "0XXX" where XXX is the delay until the first report (from 001 to 250) in hours. NOTE: All four digits including the first 0 must be entered.

LINE SEIZURE
All extension phones on the premises will be disconnected by a double pole, double throw relay (line seizure) in order to prevent the communicator from being blocked by outgoing calls or a phone left off the hook. To ensure a disconnect in the event an outgoing call was in process, the ACP executes a short hang-up and then attempts transmission.

RESTORAL REPORTS
If enabled any zone can report its restoral. The restore report is initiated at the point in time that the loop is rese-cured (closed) or at the end of the Restore Delay (installation programmable), whichever comes later. IMPORTANT: A Restoral Report is not the same as a Cancel Report; as such, it should never be treated as a reason, of itself, to cancel or delay a dispatch.

DIAL TONE DETECTION
In order to minimize response time, the ACP senses the initial local (PBX) or external (telephone company) dial tone. If the communicator detects a dial tone, the ACP dials using the programmed number(s). If a dial tone is not detected within 5 seconds, the system will dial assuming that a good connection has been made and that the dial tone is weak.

IMPORTANT
Connection of the fire alarm signal to a fire alarm headquarters or a central station shall be permitted only with approval of the local authority having jurisdiction.

The burglar alarm signal shall not be connected to a police emergency number.

The receiving unit to which this equipment transmits signals has not been evaluated by UL unless so indicated by the receiving unit manufacturer.

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ELECTRICAL CONNECTIONS

Refer to the Hook Up Diagram

TERMINAL	FUNCTION	DESCRIPTION
1 & 2	16 VAC IN	Connect the input terminals of a 16 VAC, 40 VA, UL Class 2 Transformer (e.g. Basler # BE116240) Use 18 AWG wire with a maximum length of 50 feet. Never plug the transformer into a switched receptacle.
3	12 VDC, 3 A	Fused high current output which can be used to power high alarm loads (e.g. high power siren drivers). If the fuse blows, then both the siren and bell outputs are disabled. High current requires backup battery to function correctly.
4(+) & 5(-)	Bell Output	Connect alarm bells and strobe lights to these terminals. Use 18 AWG wire with a maximum length of 50 feet. For UL Installations use Ademco AD8-12 or equivalent. Maximum Direct Output = 1 AMP. May be used as a control line for higher loads powered from Terminal 3.

NOTE: Total alarm output of Bell (Terminal 4) and speaker (Terminal 6) Outputs is current limited to 1.5 AMPS. Maximum recommended current is 1 AMP. Standby battery must be connected for proper alarm operation.

TERMINAL	FUNCTION	DESCRIPTION
5(-) & 6	Siren Driver	Connect a maximum of two 8 ohm, 10 watt minimum speakers in parallel to these terminals (e.g. Atlas Sound #AP-15U). Use 18 AWG wire with a maximum length of 50 feet. No external siren driver is necessary.
5,7,12,15,18,21, & 24	**COMMON**	All Common Terminals are marked with a **(-)**.
8(+) & 26(+)	Aux Power[13]	These terminals combined provide 12 VDC at up to 700 mA for keyboards and auxiliary equipment (i.e. space protectors) which are connected to the ACP. May be used with any Common.
9	Keyboard Clock	This terminal provides the clock signal for the SCS and is connected to the GREEN wire on the SCS. Up to 4 SCS may be connected in parallel with cable lengths up to 300 feet, using ordinary 4 conductor telephone cable. Home-run any SCS cables in excess of 50 feet. IMPORTANT: Do not run the SCS or any detection loop wires alongside (within 4 inches) of the Bell, 16 VAC, or 110 VAC lines.
10	Keyboard Data	This terminal provides the data signal for the SCS and should be connected to the YELLOW wire on the SCS.

NOTE: The RED Wire from the SCS is 12 VDC and may be connected to either Terminal 8 or 26. The BLACK Wire from the SCS is Common and may be connected to any common terminal.

TERMINAL	FUNCTION	DESCRIPTION
11(+)	Fire Power[14]	This terminal supplies 12 VDC, 150 mA max. to smoke detectors in the fire loop(s). The fire power is current limited at 150 mA and is momentarily turned off when a System Test is performed[15] and each time the system is Armed.

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[13]For UL installations, the combined current draw from terminals 8,26, & 11 must not exceed 500 mA.

[14]For UL installations, the combined current draw from terminals 8, 26, & 11 must not exceed 500 mA of which no more than 150 mA may be Fire Power.

[15]Using #, 8 keys on the SCS.

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POST	"Arm" Status	This post is an "Armed" status output and can be used to provide visual or audible indication of the Special Disarm Feature. It is an open collector transistor output that pulls to ground in the Armed State. During the Special Disarm period it is pulsed to ground. It is open in the normal disarmed state[16].

Zones 1 through 9 may be each programmed to any one of sixteen zone types[17]. The number of reportable sensors can be doubled with the Zone Doubling Feature[18] to 18. All zones are 4.7K EOL Resistor Supervised. All unused zones must be terminated with a 4.7K ohm EOL Resistor.

13 & 12	Zone 1	Loop input for Zone 1.
14 & 15	Zone 2	Loop input for Zone 2.
16 & 15	Zone 3	Loop input for Zone 3.
17 & 18	Zone 4	Loop input for Zone 4.
19 & 18	Zone 5	Loop input for Zone 5.
20 & 21	Zone 6	Loop input for Zone 6.
22 & 21	Zone 7	Loop input for Zone 7.
23 & 24	Zone 8	Loop input for Zone 8[19].
25 & 24	Zone 9	Loop input for Zone 9[20].

BATTERY LEADS	The battery standby time is a function of the auxiliary power load. A 6 AH battery (Yuasa #NP6-12 or Power-Sonic PS1260), a 4 AH battery (Yuasa #NP4-12 or PowerSonic PS1240) or 1.9 AH battery (Yuasa #NP1.9-12). The battery standby times depend on external loads as detailed in the footnote[21]. **IMPORTANT**: Be sure that you have at least four hours of battery backup time for UL Installations.

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[16]For more details call DTI and ask for a copy of Applications Note #2.

[17]Refer to the Section on Zone Types/Characteristics.

[18]Refer to the Advanced Programming/Installation Appendix for more information on "Zone Doubling."

[19]The DCU-670 SCS uses an annunciator buzzer rather than a light display to show the status of this zone. This zone is typically assigned as a non-shuntable circuit.

[20]This zone cannot be bypassed nor can it be programmed as a fast (10 msec) response loop. This zone is typically assigned as a fire loop.

[21]

BATTERY	STANDBY TIME	EXTERNAL LOAD
6 A-H	4 hours	4 Keypads + 800 mA combined Fire and Auxiliary Power.
6 A-H	18 hours	1 Keypad + No Fire or Auxiliary Power.
4 A-H	4 hours	2 Keypads + 500 mA combined Fire and Auxiliary Power.
1.9 A-H	5 hours	2 Keypads; No Auxiliary or Fire Power.

Standby Time is based on the requirement that the panel must be able to sound a 4 minute alarm (at 1 Amp Continuous) and digital communicator message completion at the end of the time. To compute exact standby time for your application use the following formula:

$$T = \frac{((B * 1000) - ((A + 350) * (A_t / 60))}{(260 + P_f + P_a + (K * 55))}$$

Where: T is Standby Time in Hours

B is battery capacity in Amp-Hours

A is combined bell and siren power

A_t is Alarm Time in minutes

P_f and P_a are Fire and Aux Power respectively

K is the number of SCS's

SECTION II
PROGRAMMING

OVERVIEW

The DSS-665 uses EEPROM technology for storing your installation programs. This technology allows you to reprogram the panel a virtually unlimited number of times and to only reprogram those parameters requiring it. It also allows DTI to ship you the DSS-665 with all the items pre-programmed to their most common values thus eliminating a number of initial programming steps.

The panel may be programmed directly from the keypad of the PGM-670 Programming Module.

WARNING!!! When the ACP is being programmed or reprogrammed, the normal alarm features are totally disabled. BE ABSOLUTELY SURE THE ACP IS NOT IN PROGRAMMING MODE BEFORE OPERATING. If you by accident leave the device in programming mode it will not arm and it will give you a constant Troubled indication at the SCS until it is switched out of programming mode.

FACTORY PRE-PROGRAMMED VALUES

The Factory Pre-Programmed Parameters are listed below. They are repeated in their keypad programming form on the DSS-665 Programming Worksheet (See Appendix B).

Normally Closed Loop Programs[1]

ZONE	TYPE	CODE	ENABLED[2]	AVAIL[3]
1	EntryExit	4	12	RTC12
2	Instant	5	12	RTC12
3	Instant	6	12	RTC12
4	Instant	7	12	RTC12
5	Instant	8	12	RTC12
6	Nomad	9	12	RTC12
7	Local	15	None	RTC12
8	Aux	10	12	RTC12
9	Fire	1	12	RTC12

Other Report Type Programs

EVENT	TYPE	CODE	ENABLED[3]	AVAIL[3]
Low Batt	NA	14	None	R12
AC Loss	NA	15	None	R12
Duress	Duress	2	12	12
DisKey1[3]	Fire	1	12	12
DisKey2[4]	Med	2	12	12
DisKey3[5]	Assault	3	12	12
Reset	NA	15	None	12
Test	NA	15	None	12
Cancel	NA	15	None	12
Opening	NA	15	None	12
Closing	NA	15	None	12
PartArm	NA	15	None	R12
Restoral	NA	15	None	12
Trouble	NA	15	None	R12

---

[1]The Panel is supplied with the "Zone Doubling" Option disabled. Therefore, the Normally Open (NO) loops are automatically the same loop type and are not listed.

[2]The following codes apply to the enabled section: R=Restore Report; T=Trouble Report; C=Chimes Ability; 1=Phone #1; 2=Phone #2.

[3]Emergency Dispatch Key #1; Flame Symbol.

[4]Emergency Dispatch Key #2; Red Cross Symbol.

[5]Emergency Dispatch Key #3; Police Badge Symbol.

Telephone Programming

Telephone #1: (empty). May program up to 16 digits including "F" (Pause).

Dialing Format: Pulse. May also be DTMF.

Account #1: 0000. May program either 3 or 4 Hex Digits.

Dial Attempts: 8. May be from 0 (Disabled) to 15.

Report Format(Phone 1): Radionics 20 pps. May program 10 or 20 pps or SEIA; may be Radionics or non-Radionics encoding.

Telephone #2: (empty)

Account #2: 0000

Dialing Format: Pulse.

Dial Attempts: 8

Report Format(Phone 1): Radionics 20 pps

ByPass Enabled Zones:
Zones 1-8. May be any combination of Zones 1-8.

Restoral Time:
5 minutes. May be 7 seconds - 30 minutes.

Fast Loops:
Normally Closed (NC): None. May be any combination of Zones 1-8.

Normally Open (NO): None. May be any combination of Zones 1-8.

Panel Set Up Options

Simplified KeyPad = No.

Zone Doubling Option = No.

Power Up Armed Option = No.

Silent Burglary Alarm = No.

Quick Arm (0 Key) Enabled = No.

Test Message Delay (Absolute or Relative)[6] = Relative.

Abort Option = No.

Telephone Number 2 -- BackUp ONLY? = Yes.

Alarm Times:

Fire Alarm = 5 minutes. May be 1-15 or Unlimited.

Police Alarm = 5 minutes. May be 1-15.

Standard ByPass Zones:

None. May be any combination of Zones 1-8.

Special Disarm Zones:

None. May be any combination of Zones 1-8.

User Codes (May be any combination of digits).

Auxiliary Codes: 1-9 Set To: (Empty)

Master Code: = 1234

Special Disarm Code: = (Empty)

Duress Code: = (Empty)

Delay Times:

Exit Time: = 45 seconds. May be 1-250 seconds.

Entry Time: = 45 seconds. May be 1-250 seconds.

Secondary Entry Time: = 90 seconds. May be 1-250 seconds.

Dialer Delay Time: = 0 seconds. May be 0 to 25 seconds.

AC Loss Delay Time: = 15 minutes. May be 0-250 minutes.

Auto Test Report Time: = 0 (Disabled). May be 1 to 250 hours or Disabled.

Loop Restoral Time: = 7 seconds. May be 7 seconds to 30 minutes in 7 second intervals.

Installer Signature Code:

Empty. May be up to 4 ASCII Characters.

---

[6]The Test Message Repetition Time is programmed elsewhere. If the Absolute option is selected then the Test Message is sent every specified interval independent of other reporting activity. If the Relative option is selected then the Test Message is sent at the specified interval if and only if no other message has been sent in the past interval. For example, if the test message interval is 24 hours and Opening/Closing Reports are enabled, then a Test Message will be received if and only if 24 hours pass without an Opening/Closing.

KEYPAD (PGM-670) PROGRAMMING:

The PGM-670 assists with keypad programming of the DSS-665. The PGM-670 requires no special installation; it is simply connected to the six pin header directly above the ACP terminal block.

BASICS

Before programming you must enter the programming mode. Upon connection (with the ACP powered) the PGM-670 automatically transitions the ACP into programming mode; it automatically returns the ACP to normal operation once removed. Wait 5 to 15 seconds. The keypad will signal you with multiple beeps that it is ready to program, then program as few or many locations as you need to from the keypad. **WARNING!!** Be sure to remove the PGM-670 when you have completed programming. If you do not, the ACP will go into a continuous trouble mode until you do!

To program new parameters you need to know two pieces of information; the location and the data. The Programming Worksheet (Appendix B) indicates the locations of all programmable items; each item is also annotated with the data code for the factory pre-programmed settings for your reference. You may wish to take a few moments to compare the Worksheet with the Factory Pre-programmed Data in the table above.

USING THE KEYPAD: You will be using the basic 12 keys on the PGM-670. The digits 0-9 will retain their numeric meaning. The * and # keys take on a special meaning:

"*" KEY = DATA ENTRY AND LOCATION DISPLAY KEY

You will use this key to display a location or to enter data.

"#" KEY = DATA DISPLAY KEY

You will use this key to display data at the current location.

ENTERING A LOCATION: Using the keypad, enter a 1 to 3 digit number representing the location address. Press the "#" key. The location is entered and its data content is displayed.

PROGRAMMING DATA: Using the keypad, enter a 1 to 3 digit number representing the new data programmed for the present location. Press the "*" key. The new data is entered, the location is automatically incremented by one, and the new location address is displayed.

ALTERNATING DATA/LOCATION DISPLAY: If the display is indicating the location address, pressing "#" displays the data stored at the location. If the display is showing the data, then pressing "*" displays the location address.

INCREMENTING LOCATION: Pressing the "*" repeatedly will increment the location address upward by one each time. It will display the location address on each increment.

Pressing the "#" key repeatedly will increment the location address upward by one each time (just like the "*" key). Unlike the "*" key it will display the data on each increment instead of the location address.

EXAMPLE:

To program the telephone number 408-555-1210 into the Telephone Number 1 location, enter the following key sequence.

Enter [1] [2] [8] [#]. 128 is the address of the first digit in Phone #1. The display will now read whatever the first digit is now; if the panel is new the setting will be zero (0)[7].

Next enter the data and increment by the key sequence [4] [*]. The display will now read 129. Continue the sequence to the end as follows: [10] [*] [8] [*] [5] [*] [5] [*] [5] [*] [1] [*] [2] [*] [1] [*] [10] [*]. The display will now read 138.

To review the data enter [1] [2] [8] [#]; the first digit will be displayed. Then enter [#] again to review each subsequent digit in turn.

FIGURE 2 – PROGRAMMING DISPLAY

---
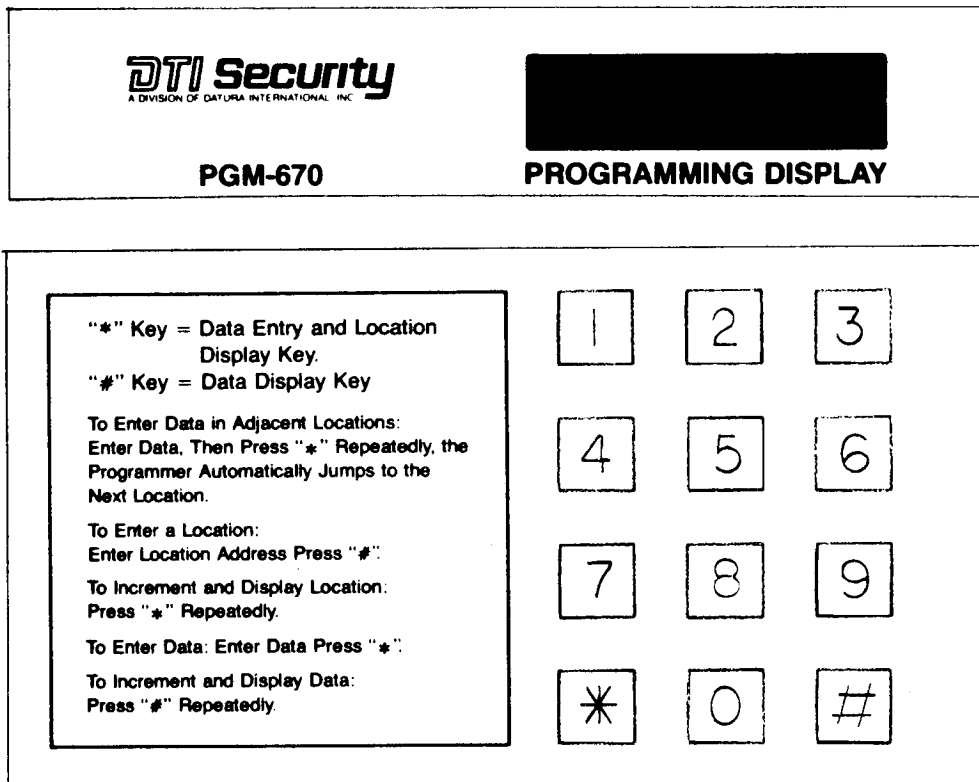
[7]IMPORTANT!! The telephone number is stored and programmed with zeros representing blanks (blanks are ignored when dialing). Zeros (for dialing) are represented as "10".

SECTION III
TROUBLESHOOTING

SYMPTOM:

No lamps or annunciator tones on the SCS.

CHECK:

Check the wiring. Check to ensure that there is 12 VDC between the Red and Black wires connected to the SCS. Ensure that you have power applied to the ACP. If there is 16 VAC applied to the AC inputs, then there should be 13.7 VDC at the Battery Leads.

SYMPTOM:

The Ready to Arm Lamp will not light.

CHECK:

Enter # 1 on the SCS to display the current state of the zones. A violated zone will cause its respective lamp to blink. A good zone will have approximately 6-7 VDC across its terminals. Anything below 3-5 V is a shorted loop and anything above 7.5-8.5 V is an open loop. Ensure that the EOL Resistor is 4.7K ohms.

SYMPTOM:

Low or no Auxiliary Power Output.

CHECK:

Remove all loads, one by one. The Auxiliary power output is current limited to 700 mA. If excessive loads are applied, the voltage will drop to keep the current below 700 mA.

SYMPTOM:

The light bulb on the DSS-665 Circuit Board is lit.

CHECK:

The battery is connected backwards or the battery leads may be shorted. The light may glow dimly for a few minutes when a dead battery is being charged but should appear off during normal operation.

SYMPTOM:

The AC Power Lamp does not blink at Arming.

CHECK:

The battery may be bad or disconnected. Enter # 3 at the SCS. The #6 Lamp will be on to display low battery alarm memory.

SYMPTOM:

The alarm does not sound for 2 seconds when # 8 is entered at the SCS.

CHECK:

If the siren sounds for only a short whoop, the battery may be weak or dead. Failure of the AC Power lamp to blink when the # 8 is entered indicates a low battery. To confirm a battery problem, enter # 3 at the SCS and the #6 lamp should light. If there is a trouble condition, the alarm will not sound. Check the Trouble Lamp on the SCS. If there is no trouble, and if the battery voltage is normal--then check the alarm fuse, the wiring, and the alarm sounding device.

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SYMPTOM:

Transmit Lamp on the SCS is blinking.

CHECK:

The communicator has attempted and failed to transmit to the AMC. The blinking lamp is cleared at arming, therefore the failure must have occurred since the last arming. Check the wiring. The two center wires in the phone cord (Red & Green) go to the telephone line and the Blue & White[1] wires go to the house phones. Do a test dial and check the programming of the telephone number(s).

If this occurs following remote programming, then try remote programming again. Because of the more complex nature of remote programming it may occasionally be necessary to try a different telephone line or remote program the board on the bench.

SYMPTOM:

The Transmit Lamp on the SCS does not turn on in an alarm condition.

CHECK:

The alarm is not being reported to the AMC. Check the programming sheet (or enter keypad programming mode and read the EEPROM memory location contents) to see if the alarm is enabled for reporting. Remember that there is a programmable restore period before an alarm can be reported a second time on the same event. NOTE: For a Duress Report the transmit light will not come on.

SYMPTOM:

AC Power Lamp at the SCS Blinks Constantly.

CHECK:

The ACP is operating on standby battery power. Check the AC Power outlet, 16 VAC transformer and all power wiring.

SYMPTOM:

The Auxiliary Power drops to 9V during the System Test and during Arming for a few seconds when no battery is attached[2].

CHECK:

This is normal. Under full load the ACP needs the battery reserve to assist in powering the worst case alarm.

SYMPTOM:

The Battery will not charge.

CHECK:

Remove the battery and briefly short the battery leads together. The light bulb on the ACP board should light. If there is an auxiliary load and the bulb does not light then the board is at fault. If the lamp lights then check that the voltage across the battery leads is 13.5 to 13.9 volts. If the voltage is normal, the battery is bad. If the voltage is too low then check that the input voltage (Terminals 1 & 2) is between 14 to 20 VAC.

SYMPTOM:

When the alarm is sounding, a faint siren sound may be heard from the circuit board even when no speaker is attached to the siren terminals.

CHECK:

This is normal as a capacitor on the circuit board may naturally resonate during alarm.

---

[1]May also be Brown & Grey depending on the type of cable you are using.

[2]This is a relatively common condition when bench testing the product. If this occurs in the field, a low battery message/warning will be automatically generated.

SYMPTOM:

The siren alarm output works when the bell alarm output doesn't or vice versa.

CHECK:

Disconnect the wires to the siren and the bell. Check the voltages during an alarm. The bell output should be about +12 VDC while the siren output should be about 4-6 VAC. If the voltages are normal, check the wiring and the speaker/bell. Make sure that you don't connect an external siren driver to the siren terminals. The siren driver is built into the ACP; you need only to connect a speaker.

SYMPTOM:

The Trouble Lamp at the SCS is on.

CHECK:

Disarm the ACP. If the Bypass Lamp is on, enter "#" + "7" to enable all of the zones. Enter "#" + "1". If any of Zones 1-7 is in trouble, its corresponding lamp will be unlit. If Zone 8 is in trouble, the SCS annunciator will be on. Any 24 hour loop which is violated when the ACP is disarmed will go into trouble until the loop is restored. Any loop which is violated when the ACP is powered up will go into trouble until it is restored. If all the Lamps are on and the audibles are off, then Zone 9 is in trouble. The voltage on any loop should be about 6-7 V. Less than 3-5 V is a short and greater than 7.5-8.5 V is an open.

RESETTING THE MICROCOMPUTER

The DSS-665 incorporates many features to ensure that the microprocessor which serves as the heart of the system does not get confused; these include hardware and software tests for the correct operation of the ACP. In the unlikely event that the ACP is exhibiting peculiar behavior, the system will normally completely reset the microprocessor program. You can enable the ACP at programming to report such occurrences to the Central Station.

SECTION IV: WARRANTY/REPAIR

DTI SECURITY LIMITED WARRANTY

DTI Security Instruments are warranted to be free from defects in material and workmanship for a period of 12 months from date of shipment to the original purchaser. Defective units shall be returned by the buyer at his/her own expense to the installing dealer who will forward the equipment to us for inspection and/or repair. During this warranty period, DTI Security will, at our option, repair or replace the unit without charge, provided that after our inspection, it is the opinion of DTI Security that the unit has not been subject to electrical or physical misuse.

In no event shall DTI Security be liable for any loss or damage, consequential or otherwise, arising out of the use by buyer, of failure of the product to operate, beyond the cost of the repair of the product. DTI Security makes no warranty of fitness or merchantability of the product. The installation of the product is the sole responsibility of the installing company, and DTI Security shall in no way be held responsible for such installation or use of the product, or for any other acts by the installer.

This warranty is exclusive and given in lieu of all other warranties, expressed or implied, and is void if the equipment has been visibly damaged by accident, misuse, or if the unit has been modified by anyone other than DTI Security.

Please contact the factory in California by calling (800) 238-8488; outside California at (800) 255-8488. You must obtain a Return Material Authorization Number before returning any product for repair. All products for repair should have the assigned RMA# clearly printed on the outside of the box and should be sent to: Datura International, Inc., 3291 S. Highway 99, W. Frontage Road, Stockton, CA 95205, Attn: Customer Service Department.

FCC NOTICES

The Federal Communications Commission (FCC) requires the following information be provided for all computing devices:

This product has been tested on a sample basis and found to comply with the limits set by the FCC for this type of device. These rules are designed to provide reasonable protection against interference to television and radio reception in a residential installation. There is, however, no guarantee that interference will not occur in a particular installation. If interference generated by this unit is suspected, remove power from the DSS-665 (including battery) and determine if the interference is still present with the unit turned off. If the interference disappears with all power removed, confirm by re-applying power to check that the interference is again present. If the interference did not disappear with the power turned off, then the unit is not causing the problem. If it is found that this equipment does cause unacceptable interference to television reception, the following steps can be taken to reduce and/or eliminate the problem.

1. If using an indoor antenna, have a quality outdoor antenna installed.
2. Rotate antenna until interference is reduced or eliminated.
3. Move the television receiver away from the unit.
4. Plug the unit and the TV/Radio receiver into different outlets not on the same circuit breaker.
5. If necessary contact the installer or a TV/Radio technician for additional suggestions.

The user may also refer to the following booklet prepared by the FCC and available from most public libraries or direct from the U.S. Government Printing Office: "How to Identify and Resolve Radio-TV Interference Problems" (Stock No. 004-000-0034504).

FCC Part 68 regulations require us to notify all customers in writing, as follows:

1. The DSS-665 may not be used on party lines.
2. Only upon request, the customer should notify the telephone company of the intent to install and/or permanently disconnect this device and give the FCC Registration Number and the Ringer Equivalence Number as specified on the equipment label.
3. Rights of the telephone company: Under certain circumstances the telephone company may temporarily discontinue service, and the telephone company may make changes in facilities and services which may affect the operation of this equipment; however, the user shall be given adequate notice in writing to allow the user to maintain uninterrupted service.
4. In the case of difficulties, the user must first disconnect the device from the telephone line jack. If the difficulty with the phone service still persists, the telephone company should be notified that they have a problem which requires correction, and prompt repair service should be requested (at no cost to the user). If the problem disappears when the unit disconnected, the fault is in the DSS-665. In this case, the user may not attempt to make any repairs, but must return the device to an authorized dealer or to the factory for repairs.

APPENDIX A
ADVANCED PROGRAMMING

The 9 EOL Resistor supervised zones may be split to form 18 separately reportable zones (loops) using the DTI Security "Zone Doubling" capability.

Using "Zone Doubling" in combination with Extended Reporting or the more powerful SEIA Standard Digital Communicator (built-in) the number of reportable alarm events is doubled at no additional cost. This works by treating a NO violation separately from a NC violation on the same physical zone. As described further on, it is also possible to wire NC devices to look like NO or vice versa; therefore any zone can separately report events associated with any two devices or combinations of devices.

EXCEPTION: The doubled zones must be treated as a combined zone for any of the following SCS operations: zone status indication, zone bypassing, and zone memory checking.

If the Zone Doubling option is enabled then both sides (NO/NC) of each zone must be programmed (before you could ignore the NO side). The default program for the NO side is identical to the default program for the NC side[1].

MAKING NO DEVICES LOOK LIKE NC AND VICE VERSA

In some cases there is a requirement to attach two normally closed contacts to the same Zone but at the same time differentiate their response. There is a procedure for the loop inputs which allows this. Figure A.1 demonstrates how Normally Closed contacts can be used on the same loop but with two different response programs. Note that there are no Normally Open contacts connected to this zone. By using this wiring configuration the opening of the NC contacts ("INSTANT") will result in the response programmed for the NO side of Zone 2[2].
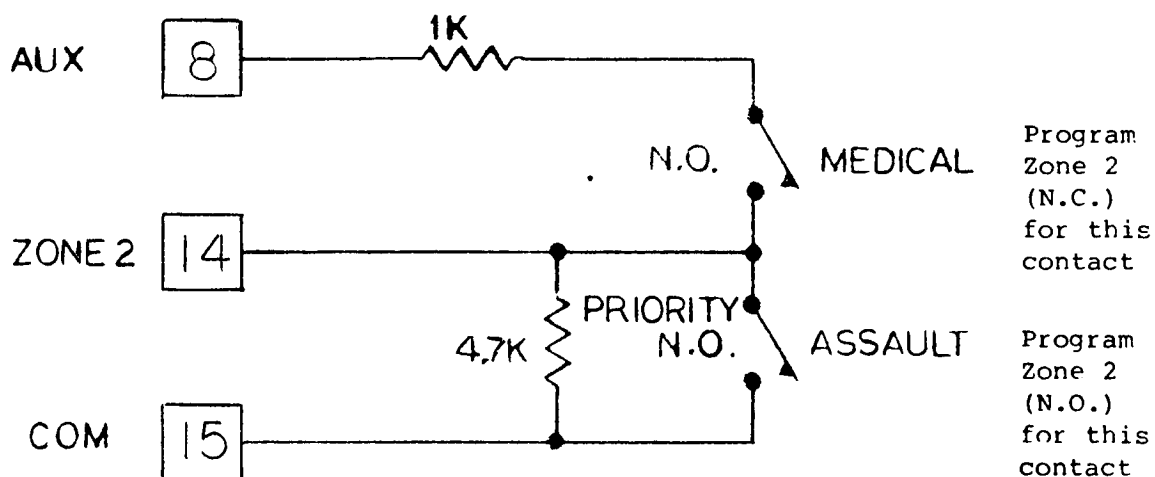
Figure A.1 NC Contacts Used on NO Loops

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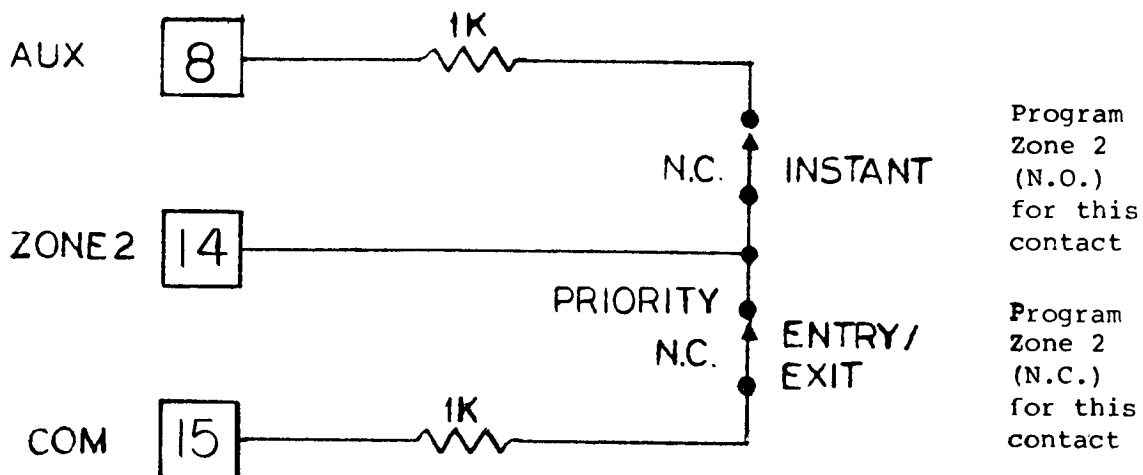
[1]Therefore, if none of the zone programs is changed from the default, the panel will report just as if the Zone Doubling Feature had not been enabled. If you don't understand this last sentence then read again the preceding text or call the DTI Customer Service Line for help.

[2]Zone 2 is used throughout as an example. However, this discussion applies equally to all nine zones.

Sometimes it is desired that Normally Open contacts be used in a Normally Closed loop type. Figure A.2 shows how to configure a zone with two Normally Open contacts but with two different responses. By using this configuration the closing of the NO contact ("MEDICAL") will result in the response programmed for the NC side of Zone 2.

Figure A.2 NO Contacts used on NC Loops

AUX   **8**   1K

N.O.   MEDICAL   Program Zone 2 (N.C.) for this contact

ZONE 2   **14**

PRIORITY
4.7K   N.O.   ASSAULT   Program Zone 2 (N.O.) for this contact

COM   **15**

ESTABLISHING ZONE PRIORITIES

When two loops sharing a zone are violated simultaneously one will always override the other. The installer may control which has priority by how the zone is wired.

For example, in Figure A.1 the E/E loop (Zone 2 (NC)) has priority over the Instant loop (Zone 2 (NO)). Similarly, in figure A.2, the Assault loop (Zone 2 (NO)) has priority over the Medical loop (Zone 2 (NC)).

When using the more common combination of one NC contact and one NO contact, either may be given priority. Figure A.3 shows the wiring configuration to give the NC loop priority and Figure A.4 shows the wiring configuration to give the NC contact priority.
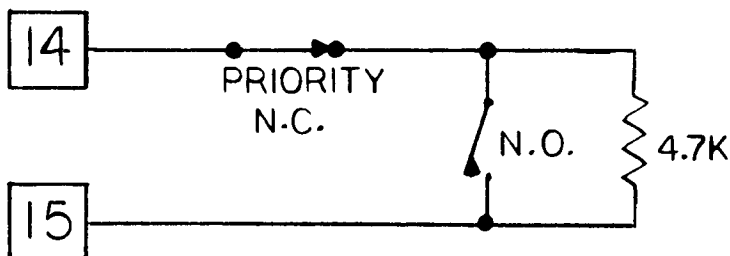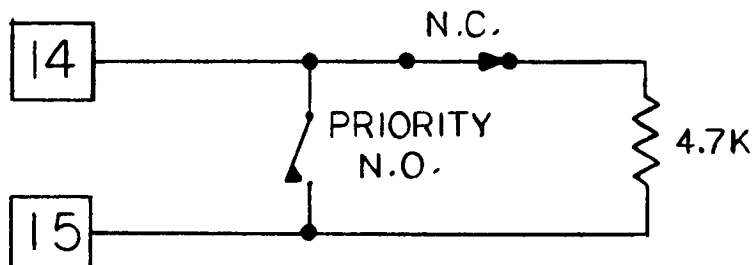
Figure A.3 NC Priority Wiring

14   PRIORITY N.C.   N.O.   4.7K

15

Figure A.4 NO Priority Wiring

14   N.C.   PRIORITY N.O.   4.7K

15

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APPENDIX B
DSS-665 PROGRAMMING WORKSHEET

Customer Name_____   Installer_____
Address_____   Installation Date_____
_____   Programming Date_____
Telephone_____

0=E/E 1=SECDLY 2=INSTANT 3=NOMAD 4=DAYNGT 5=MEDICAL
6=ASSAULT 7=SILASLT 8=AUX 9=DURESS 10=MKEY 11=FIRE
12=LOCAL 13=SHTD/A 14=SHTA/D 15=SPEC DA

Table B.1 Loop Type Codes

Restore Report Enable — — — — — — — — — — — — — — — —8
Trouble Report Enable — — — — — — — — — — — — — — —4
Chimes Enable — — — — — — — — — — — — — — — — — —2   Phone 2 Report — — — — — — — — — — — — — — — — —2
—   Phone 1 Report — — — — — — — — — — — — — — — —1
Option Set 1 = _____   Option Set 2 = _____
Table B.2 Loop Options 1   **Table B.3 Loop Options 2**

000-L1 NC LOOP TYPE(0)_____   001-L1 NC OPTIONS 1(0)_____
002-L1 NC REPORT CODE(4)_____   003-L1 NC OPTIONS 2(3)_____
004-L2 NC LOOP TYPE(2)_____   005-L2 NC OPTIONS 1(0)_____
006-L2 NC REPORT CODE(5)_____   007-L2 NC OPTIONS 2(3)_____
008-L3 NC LOOP TYPE(2)_____   009-L3 NC OPTIONS 1(0)_____
010-L3 NC REPORT CODE(6)_____   011-L3 NC OPTIONS 2(3)_____
012-L4 NC LOOP TYPE(2)_____   013-L4 NC OPTIONS 1(0)_____
014-L4 NC REPORT CODE(7)_____   015-L4 NC OPTIONS 2(3)_____
016-L5 NC LOOP TYPE(2)_____   017-L5 NC OPTIONS 1(0)_____
018-L5 NC REPORT CODE(8)_____   019-L5 NC OPTIONS 2(3)_____
020-L6 NC LOOP TYPE(3)_____   021-L6 NC OPTIONS 1(0)_____
022-L6 NC REPORT CODE(9)_____   023-L6 NC OPTIONS 2(3)_____
024-L7 NC LOOP TYPE(12)_____   025-L7 NC OPTIONS 1(0)_____
026-L7 NC REPORT CODE(15)_____   027-L7 NC OPTIONS 2(0)_____
028-L8 NC LOOP TYPE(8)_____   029-L8 NC OPTIONS 1(0)_____
030-L8 NC REPORT CODE(10)_____   031-L8 NC OPTIONS 2(3)_____
032-L9 NC LOOP TYPE(11)_____   033-L9 NC OPTIONS 1(0)_____
034-L9 NC REPORT CODE(1)_____   035-L9 NC OPTIONS 2(3)_____

036-L1 NO LOOP TYPE(0)_____   037-L1 NO OPTIONS 1(0)_____
038-L1 NO REPORT CODE(4)_____   039-L1 NO OPTIONS 2(3)_____
040-L2 NO LOOP TYPE(2)_____   041-L2 NO OPTIONS 1(0)_____
042-L2 NO REPORT CODE(5)_____   043-L2 NO OPTIONS 2(3)_____
044-L3 NO LOOP TYPE(2)_____   045-L3 NO OPTIONS 1(0)_____
046-L3 NO REPORT CODE(6)_____   047-L3 NO OPTIONS 2(3)_____
048-L4 NO LOOP TYPE(2)_____   049-L4 NO OPTIONS 1(0)_____
050-L4 NO REPORT CODE(7)_____   051-L4 NO OPTIONS 2(3)_____
052-L5 NO LOOP TYPE(2)_____   053-L5 NO OPTIONS 1(0)_____
054-L5 NO REPORT CODE(8)_____   055-L5 NO OPTIONS 2(3)_____
056-L6 NO LOOP TYPE(3)_____   057-L6 NO OPTIONS 1(0)_____
058-L6 NO REPORT CODE(9)_____   059-L6 NO OPTIONS 2(3)_____
060-L7 NO LOOP TYPE(12)_____   061-L7 NO OPTIONS 1(0)_____
062-L7 NO REPORT CODE(15)_____   063-L7 NO OPTIONS 2(0)_____
064-L8 NO LOOP TYPE(8)_____   065-L8 NO OPTIONS 1(0)_____
066-L8 NO REPORT CODE(10)_____   067-L8 NO OPTIONS 2(3)_____
068-L9 NO LOOP TYPE(11)_____   069-L9 NO OPTIONS 1(0)_____
070-L9 NO REPORT CODE(1)_____   071-L9 NO OPTIONS 2(3)_____

072-DURESS LOOP TYPE(9)_____
074-DURESS REPORT CODE(2)_____
076-DisKey1 LOOP TYPE(11)_____
078-DisKey1 REPORT CODE(1)_____
080-DisKey2 LOOP TYPE(5)_____
082-DisKey2 REPORT CODE(2)_____
084-DisKey3 LOOP TYPE(6)_____
086-DisKey3 REPORT CODE(3)_____
088-ALWAYS SET TO 13 FOR SEIA REPORT FORMAT(13)
089-LO BATT OPTIONS 1(0)_____
090-LO BATT REPORT CODE[1](14)_____
092-ALWAYS SET TO 14(14)_____
094-AC LOSS REPORT CODE(15)_____
096-ALWAYS SET TO 15_____
098-RESET REPORT CODE(15)_____
100 to 101-NOT USED.
102-TEST REPORT CODE(15)_____
104 to 105-NOT USED.
106-CANCEL REPORT CODE(15)_____
108 TO 109-NOT USED.
110-OPENING REPORT CODE(15)_____
112 to 113-NOT USED.
114-CLOSING REPORT CODE(15)_____
116 to 117-NOT USED.
118-PART ARM REPORT CODE(15)_____
120 to 121-NOT USED.
122-RESTORE REPORT CODE(15)_____
124 to 125-NOT USED.
126-TROUBLE REPORT CODE(15)_____

073-DURESS OPTIONS 1(0)_____
075-DURESS OPTIONS 2(3)_____
077-DisKey1 OPTIONS 1(0)_____
079-DisKey1 OPTIONS 2(3)_____
081-DisKey2 OPTIONS 1(0)_____
083-DisKey2 OPTIONS 2(3)_____
085-DisKey3 OPTIONS 1(0)_____
087-DisKey3 OPTIONS 2(3)_____

091-LO BATT OPTIONS 2(0)_____
093-AC LOSS OPTIONS 1(0)_____
095-AC LOSS OPTIONS 2(0)_____
097-NOT USED_____
099-RESET OPTIONS 2(0)_____

103-TEST OPTIONS 2(0)_____

107-CANCEL OPTIONS 2(0)_____

111-OPENING OPTIONS 2(0)_____

115-CLOSING OPTIONS 2(0)_____

119-PART ARM OPTIONS 2(0)_____

123-RESTORE OPTIONS 2(0)_____

127-TROUBLE OPTIONS 2(0)_____

-------------------------------	Long SEIA Format (Future) ------------8
Extended Reporting ------------------4	SEIA Reporting --------------------4
Multiple Reporting --------------------2	Radionics Format -------------------2
Tone (DTMF) Dialing ------------------1	20 PPS Tone Reporting ---------------1
Option Set 1 = _____	Option Set 2 = _____ 2
Table B.4 Phone Options 1	**Table B.5 Phone Options 2**

128-143 Phone #1 (Empty)_____3
144-147 Account Code #1(10,10,10,10)_____
148-Dialing Attempts(8)_____   149-PHONE OPTIONS 1(3)_____
150-PHONE OPTIONS 2(0)_____   151-NOT USED.

152 to 153-RESTORAL TIME(0,0)_____4

Zone 3 Selection --------------------8		Zone 7 Selection --------------------8
Zone 2 Selection --------------------4		Zone 6 Selection --------------------4
Zone 1 Selection --------------------2		Zone 5 Selection --------------------2
Zone 8 Selection --------------------1		Zone 4 Selection --------------------1
Zone 1-3,8 Total = _____		Zone 4-7 Total = _____
Table B.6 Zones 1-3,8 Selection_____		**Table B.7 Zones 4-7 Selection**

154-BYPASS ENABLE Z1-3,8(15)_____   155-BYPASS ENABLE Z4-7(15)_____
156-FAST NC ZONES 1-3,8(0)_____   157-FAST NC ZONES 4-7(0)_____
158-FAST NO ZONES 1-3,8(0)_____   159-FAST NO ZONES 4-7(0)_____

---

[1]The Low Battery Report Code must be set to 14 (Hexadecimal "E") for SEIA Report Format.

[2]To program as 10 PPS Set the Options 2 Total to Zero (0).

[3]Enter "0" to blank out. Enter "10" for zero. Enter "15" for five-second pause.

[4]To compute the entry, take the desired restoral time in seconds, divide by 7 (rounding down), then subtract 1. From that term, divide by 16. Put the quotient into location 153 and the remainder into location 152.

For Example: 7s = 0,0   1m = 8,0

8m = 3,4   20m = 11,10

160-175 Phone #2 (Empty)_____[5]
176-179 Account Code #2(10,10,10,10)_____
180-Dialing Attempts(8)_____   181-PHONE OPTIONS 1(3)_____
182-PHONE OPTIONS 2(0)_____
183-NOT USED_____

Simple KeyPad Option — — — — — — — — — — — — — -8   Quick Arm (0) Enable — — — — — — — — — — — — -8
Zone Doubling Option — — — — — — — — — — — — -4   Auto Test Delay Reset — — — — — — — — — — — -4
Power Up Arm Option — — — — — — — — — — — -2   Abort Enable — — — — — — — — — — — — — — — — -2
Silent Burg Alarm — — — — — — — — — — — — —-1   Phone #2 Backup Only — — — — — — — — — — — -1
Panel Options 1 =_____   Panel Options 2 =_____

Table B.8 Panel Options Selection

184-PANEL OPTIONS 1(0)_____   185-PANEL OPTIONS 2(5)_____
186-POLICE ALARM TIME(5)_____   187-FIRE ALARM TIME(5)_____
188-STD BYPASS ZONES 1-3,8(0)_____   189-STD BYPASS ZONES 4-7(0)_____
190-SPEC DISARM ZONES 1-3,8(0)_____   191-SPEC DISARM ZONES 4-7(0)_____
192 to 219-NOT USED.[5]
220 to 223-SPECIAL DISARM CODE(0000) ___ ___ ___ ___
224 to 227-MASTER CODE(1234) ___ ___ ___ ___
228 to 231-DURESS CODE(0000) ___ ___ ___ ___

232 to 239-INSTALLER SIGNATURE CODE ___ ___ ___ ___

240/241-EXIT TIME(13,2)_____[6]   242/243-ENTRY TIME(13,2)_____[6]
244/245-SEC ENTRY TIME(10,5)_____[6]   246/247-DIALER DELAY(0,0)_____[6]
248/249-AC LOSS DELAY(15,0)_____[7]   250/251-TEST REPORT TIME(0,0)_____[8]

    0 = 0,0   30 = 14,1   120 = 7,8

   10 = 10,0   45 = 13,2   240 = 0,15

   15 = 15,0   90 = 10,5

Table B.9 Timing Encoding Table

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[5]Used for user Auxiliary codes; usually programmed by the user during the normal course of operation of the SCS. Refer to the User's Manual.

[6]For these settings take the time in seconds, divide by 16; enter the quotient into the higher numbered locations and enter the remainder into the lower numbered location.

[7]For this setting take the time in minutes, divide by 16; enter the quotient into the higher numbered locations and enter the remainder into the lower numbered location.

[8]For this setting take the time in hours, divide by 16; enter the quotient into the higher numbered locations and enter the remainder into the lower numbered location. Enter zero (0) to disable the automatic test function.

APPENDIX C
DSS-665 SPECIFICATIONS

OPERATING VOLTAGE:

16/16.5 VAC, 40 VA, Class 2 Plug In Transformer.

STANDBY POWER:

12 VDC, 6 Amp Hour Gel Cell Battery (Optional) such as PowerSonic # PS-1260 or Yuasa NP6-12.

FUSE:

Siren Output, 3 amp.

ALARM OUTPUTS:

12VDC Bell Output and Integral Siren Driver (3 different sounds).

DIGITAL COMMUNICATOR

32 Channel with Line Seize Relay

- Zones 1-9 NO	- Cancel
- Zones 1-9 NC	- Test/24 Hr
- 3 Dispatch Keys	- Low Batt
- Duress	- Trouble
- Closing (Full)	- Restore
- Closing (Partial)	- AC Loss
- Openings	- System Reset

TRANSMISSION FORMAT:

Slow Speed (Silent Knight) 10 pps; Fast (Franklin) 20 pps; Radionics 20 pps; SEIA 300 baud.

FCC REGISTRATION #:

A969I9-13438-AL-R.

RINGER EQUIVALENCE #:

0.0 A

ALARM TIME-OUT:

1-15 Minutes. Programmable at Installation.

DETECTION CIRCUITS:

9 Individually Assignable Zones. Reporting may be doubled to 18 using "Zone Doubling" Option.

ZONE SPECIFICATIONS:

Supervised, 3 mA maximum zone current, RFI and Transient Suppression Built In.

LOOP RESPONSE:

200 milliseconds. Zones 1-8[1] Individually Selectable for 10 milliseconds.

EXIT/ENTRY TIMES:

Independently programmable from 0 to 250 seconds in 1 second intervals. Special Secondary Entry Zone independently programmable.

ARM/DISARM OPERATION:

Armed and Disarmed with a four digit code (Master, Special Disarm, Duress, or one of seven Secondary[2] Codes). If enabled, can be Quick Armed ("0" digit only).

PREALARM ANNUNCIATOR

Built into System Control Station.

AUXILIARY POWER:

12 VDC, 700 mA maximum (current limited) including System Control Stations. UL Installations must use no more than 500 mA.

---

[1]Zones 1-8 NC and Zones 1-8 NO are separately fast loop response programmable if the Zone-Doubling option is in use.

[2]Each is individually programmable and reprogrammable by the User.

SYSTEM TEST: Automatic and/or User-Initiated at the SCS.

ENCLOSURES: Alarm Control Panel (ACP) — 18 Gauge Steel.
                           System Control Station (SCS) — High Impact
                           ABS Plastic.

OPERATING TEMP: 32° F (0° C) to 120° F (50° C).

DIMENSIONS: DSS-665   (ACP)-9"W   X   15"L   X   3"D
                                      (228 mm X 381 mm X 76 mm).
                           DCU-670   (SCS)-6"W   X   4.5"L   X   1"D
                                   (152 mm X 114 mm X 25 mm).

COLOR: Fog.

INDICATORS: Armed LED, Ready-to-Arm LED, AC Power LED,
                           Trouble LED, ByPass LED, Alert/Instant LED,
                           Transmit LED.

EMERGENCY PUSHBUTTONS: Fire, Medical, and Assault.

INDEX

DTI Security
A DIVISION OF DATURA INTERNATIONAL, INC.

DSS-665
Alarm Control Panel

STANDBY BATTERY
12V 6AH GEL CELL
(P/N YUASA NP6-12
POWERSONIC PS-1260)

RED (+)
BLK (−)

CAUTION:
CONNECT BATTERY ONLY
WITH AC POWER APPLIED.
REFER TO BATTERY
TABLE IN MANUAL FOR
MORE DETAILS.

BASLER BE-116240

DO NOT PLUG
TRANSFORMER INTO
A RECEPTACLE
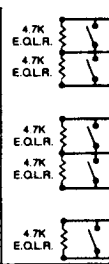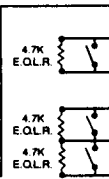CONTROLLED BY
A SWITCH

ZONE ASSIGNMENT

ZONE	LOOP TYPE N/O	N/C	LOCATION
1			
2			
3			
4			
5			
6			
7			
8			
9			

LOOP TYPES

0-Exit/Entry	8-Auxiliary
1-Secondary DLY	9-Duress
2-Instant	10-Momentary A/DA
3-Nomad	11-Fire
4-Day/Night	12-Local
5-Medical	13-Shunt DA/A
6-Assault	14-Shunt A/DA
7-Silent Assault	15-Special DA

SMOKE DET. 1
(P/N ESL 445C, 445CT)

CONTACTS
POWER

LAST DETECTOR

CONTACTS
POWER

ESL 204A POWER
SUPERVISION
UNIT

RED
BLK
BRN
BRN
47K E.O.L.R.
NOTE 3

ADEMCO
BELL #
AD6-12

ATLAS
SOUND
AP-15U
SPEAKER
8 OHM
10 WATT

BLACK
RED
GREEN
YELLOW

4.7K E.O.L.R.

Terminal	Description
1	16 VAC 40 VA 60 Hz — U.L. CLASS 2 TRANSFORMER
2	
(+) 3	+12VDC, 3A FUSED
(+) 4	ALARM OUTPUT 12 VDC NOTE 2
(−) 5	COMMON
6	SPEAKER OUTPUT 1 OR 2 SPEAKERS 8 OHM, 10 W MIN NOTE 2
(−) 7	GROUND (COMMON)
(+) 8	AUXILIARY POWER: 12 VDC NOTE 1
9	KEYBOARD CLOCK
10	KEYBOARD DATA
(+) 11	FIRE POWER OUTPUT 12 VDC 150MA MAX NOTE 1
(−) 12	COMMON
13	ZONE 1
14	ZONE 2
(−) 15	ARM STATUS POST COMMON
16	ZONE 3
17	ZONE 4
(−) 18	COMMON
19	ZONE 5
20	ZONE 6
(−) 21	COMMON
22	ZONE 7
23	ZONE 8
(−) 24	COMMON
25	ZONE 9
(+) 26	AUXILIARY POWER: 12 VDC

ALARM OUTPUT
FUSE: 3 AMP

"WARNING-For continued
protection against the risk of
fire, replace only with the same
type and rating of fuse."

F.C.C. I.D. #   A96919-13438-AL-R
RINGER EQUIVALENCE   0.0A
COMPLIES WITH FCC RULES
PART 68

COMMUNICATOR
CONNECTION
TYPE AMP RJ11-C
MODULAR CONNECTOR

HOOK-UP DIAGRAM NOTES:

1. Maximum combined current draw for Auxiliary and Fire Power Output Terminals 8, 11, 26 must NOT EXCEED 500 mA. For UL installations, the maximum current draw for terminals 8, 11, & 26 must not exceed 500mA.

2. Maximum combined current draw for Alarm Output Terminals 4 and 6 must NOT EXCEED 1 Amp (each speaker draws 0.35 Amp). A listed sounding device is required for California State Fire Marshal listed systems.

3. A 4.7K Ohm End-Of-Line Resistor must be connected across ANY unused zones at the panel. For U.L. installations, use P/N EOL-4700 End-Of-Line Resistor Module for all zones of protection.

4. Zone 8 has a buzzer output (NO LED). It may be assigned any zone type. Tamper is typically assigned to Zone 8.

5. WARNING: OWNERS INSTRUCTION NOTICE
Not to Be Removed By Anyone Except Occupant.

This equipment should be installed in accordance with the National Fire Protection Associations Standard 74 (National Fire Protection Association, Battery March Park, Quincy, MA 02210). Printed information describing proper installation, operation, testing, maintenance, evacuation planning, and repair service is to be provided with this equipment.

CONSULT INSTALLATION MANUAL FOR MORE DETAILED INSTRUCTIONS

P/N 103-000869 Rev. 1.