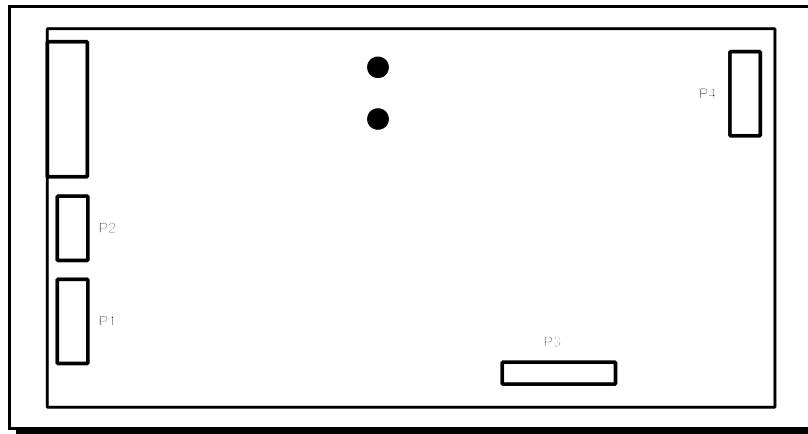




DACT-100A

Digital Communicator

INSTALLATION and OPERATION MANUAL



NOTICE

All information, documentation, and specifications contained in this manual are subject to change without prior notice by the manufacturer.

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INTRODUCTIONS AND FEATURES

DACT-100A: A single board Digital Communicator that can connect via Contact Closure Inputs on a single ribbon cable to a Mircom Fire Alarm Control Panel (FACP) such as the FA-200 Series. It can transmit Common Alarm, Common Supervisory, and Common Trouble information on two telephone lines.

- ✓ Communicates to a FACP via **Contact Closure Inputs** (DACT-100A).
- ✓ User Configurable with **CFG-100 Configuration Tool**. This includes a 4-Line LCD Display and Keypad in a rugged metal enclosure, with a ribbon cable to connect to the Communicator.
- ✓ Communicates to a **Central Monitoring Station** using **Ademco Contact ID** or **SIA DCS** Protocols.
- ✓ The **DACT-100A** can transmit Common Alarm, Common Supervisory and Common Trouble information on two telephone lines.

The **DACT Products** continuously supervise the state of each of two connected Telco Lines (at approximately 1 minute intervals) by a Line-DC level measurement. If supervision fails, a Line #1 or Line #2 Trouble event will be reported. Once a Line has been restored, a Line Trouble Restored event will be reported. The product will *a/ways* report events sorted in the order in which they are received / recognized. The products are capable of reporting multiple event to a single Account number, within a single call session. Up to 3 retries, for a single message not yet reported, will be made within a single call-attempt. A failure to communicate to either or both Accounts will generate a corresponding event which will be queued for reporting.

Notice for all DACT-100A Sold in Canada:

Mircom's **DACT-100A Digital Communicators** described in this manual are listed by Underwriters Laboratories Canada (ULC) for use in slave application in conjunction with a Listed Fire Alarm Control Panel under Standard ULC-S527 (Standard for Control Units for Fire Alarm Systems) and ULC/ORD-C693-1994 (Central Station Fire Protective Signalling Systems and Services). These Communicators should be installed in accordance with this manual; the Canadian / Provincial / Local Electrical Code; and/or the local Authority Having Jurisdiction (AHJ).

Industry Canada Notice:

The Industry Canada label identifies certified equipment. This certification means that the equipment meets certain telecommunications network protective, operational and safety requirements. Industry Canada does not guarantee the equipment will operate to the user's satisfaction. Before installing this equipment, users should ensure that it is permissible to be connected to the facilities of the local telecommunication company. The equipment must also be installed using an acceptable method of connection. The customer should be aware that compliance with the above conditions may not prevent degradations of service in some situations.

Repairs to certified equipment should be made by an authorized Canadian maintenance facility designated by the supplier. Any repairs or alteration made by the user to this equipment, or equipment malfunctions, may give the telecommunications company cause to request the user to disconnect the equipment. Users should ensure for their own protection that the **Earth Ground** connections of the power utility, telephone lines and internal metallic water pipe system, if present, are connected together. This is necessary both for proper operation and for protection.

CAUTION: *Users should not attempt to make such connections themselves, but should contact the appropriate electric inspection authority, or electrician, as appropriate.*

NOTICE: *The Ringer Equivalence Number (REN) assigned to each terminal device provides an indication of the maximum number of terminals allowed to be connected to a telephone interface. The termination on an interface may consist of any combination of devices subject only to the requirement that the sum of the Ringer Equivalence Numbers of all the devices does not exceed 5.*

Notice for all DACT-100A Sold in the U.S.A.:

Mircom's **DACT-100A Digital Communicators** described in this manual are listed by Underwriters Laboratories Inc. (ULI) for use in slave application in conjunction with a Listed Fire Alarm Control Panel under Standard 864 (Control Units for Fire Protective Signalling Systems). These Communicators comply with the National Fire Protection Association (NFPA) performance requirements for DACTs and should be installed in accordance with NFPA 72 Chapter 4 (Supervising Station Fire Alarm System). These Communicators should be installed in accordance with this manual; the National Electrical Code (NFPA 70); and/or the local Authority Having Jurisdiction (AHJ).

FCC Notice:

Type of Service: The **Communicator** is designed to be used on standard device telephone lines. It connects to the telephone line by means of a standard jack called the USOC RJ-11C (or USOC FJ45S). Connection to telephone company provided coin service (central office implemented systems) is prohibited. Connection to party lines service is subject to state tariffs.

Telephone Company Procedures: The goal of the telephone company is to provide you with the best service it can. In order to do this, it may occasionally be necessary for them to make changes in their equipment, operations or procedures. If these changes might affect your service or the operation of your equipment, the telephone company will give you notice, in writing, to allow you to make any changes necessary to maintain uninterrupted service.

In certain circumstances, it may be necessary for the telephone company to request information from you concerning the equipment which you have connected to your telephone line. Upon request of the telephone company, provide the FCC registration number and the ringer equivalence number (REN); both of these items are listed on the equipment label. The sum of all of the REN's on your telephone lines should be less than five in order to assure proper service from the telephone company. In some cases, a sum of five may not be useable on a given line.

If Problems Arise: If any of your telephone equipment is not operating properly, you should immediately remove it from your telephone line, as it may cause harm to the telephone network. If the telephone company notes a problem, they may temporarily discontinue service. When practical, they will notify you in advance of this disconnection. If advance notice is not feasible, you will be notified as soon as possible. When you are notified, you will be given the opportunity to correct the problem and informed of your right to file a complaint with the FCC. Contact your telephone company if you have any questions about your phone line. In the event repairs are ever needed on the Communicator, they should be performed by Mircom Technologies Ltd. or an authorized representative of Mircom Technologies Ltd. For information contact Mircom Technologies Ltd. at the address and phone numbers shown on the first page of this document.

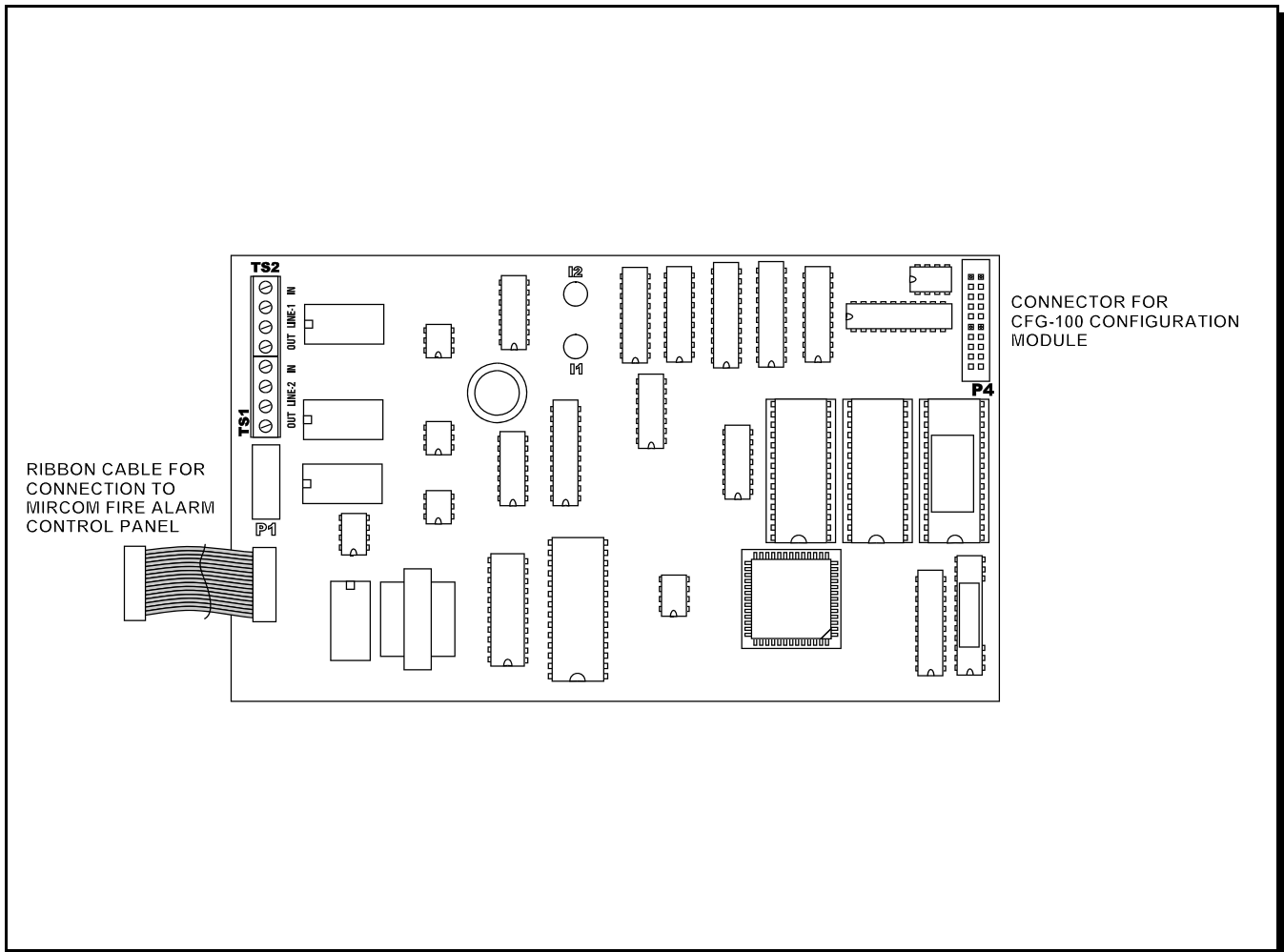
CONNECTIONS AND SETTINGS

DACT-100A MAIN BOARD:

There are no user configurable jumpers on this Communicator.

- P1** Ribbon Cable for connecting to Mircom Fire Alarm Control Panel (FACP).
- P2** RS-485 Connection for future expansion.
- P4** Connector for CFG-100 Configuration Module.
- I2** Status Indicator LED for Telco Line #1; Red when the line is in use, Amber when there is a line fault and OFF when the line is not in use.
- I1** Status Indicator LED for Telco Line #2; Red when the line is in use, Amber when there is a line fault and OFF when the line is not in use.

DACT-100A Main Board



FIELD WIRING

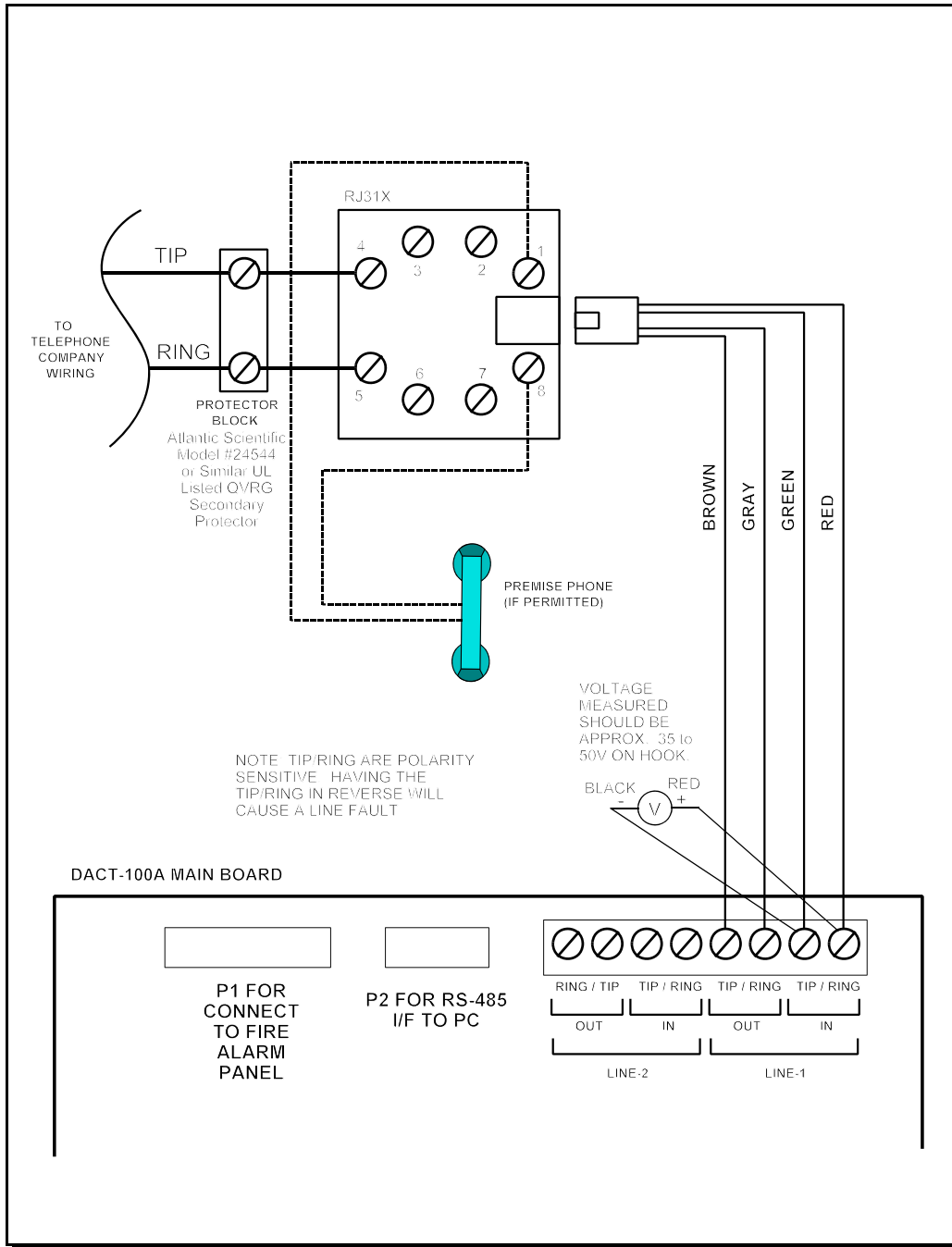
DACT-100A MAIN BOARD TERMINAL CONNECTIONS:

Wire the two telephone lines devices to terminals as shown.

- Line 1 Input (Tip/Ring):** To the first Telephone Line via the required RJ31X Connector.
- Line 1 Output (Tip/Ring):** To an optional Premise Telephone on the first Telephone Line via the required RJ31X Connector.
- Line 2 Input (Tip/Ring):** To the second Telephone Line via the required RJ31X Connector.
- Line 3 Output (Tip/Ring):** To an optional Premise Telephone on the second Telephone Line via the required RJ31X Connector.

Note that most AHJ's do not allow the connection of Premise Telephones. See wiring tables and specifications for more information.

NOTE: the terminal blocks are "depluggable" for ease of wiring.



POWER UP PROCEDURES

1. Unplug Fire Alarm Panel.
2. Connect cable from P2 on the DACT-100A board to the Fire Alarm Panel. Check the Fire Alarm manual for the DACT-100A cable location.
3. Hook up the CFG-100 Configuration Tool to P4 on the DACT-100A.
4. Hook up the telephone lines and telephone as shown on page 4.
For test purposes only you may tie the output of telephone line 1 into the input of telephone line 2.
5. Power up the Fire alarm and the message of the CFG-100 Configuration Tool should be:

```
Digital Communicator
[DACT is idle. . .]
Press any key to start login procedure . . .
```

6. Press any key to start the login procedure. The CFG-100 display will show the following screen:

```
Enter Passcode now
Passcode: _ _ _ _ _
Press <#> when done
or <*> to cancel.
```

7. Enter the passcode, 2222222 for installer.

```
Enter 2-digit ITEM
number to configure.
To scroll down list of items, press <#> or <*> to scroll up . . .
```

8. When you try to enter a 2-digit number, the following screen will appear,

```
Please enter ITEM #
ITEM Number: _ _
Press <#> when done
or <*> to cancel.
```

9. Set the DATE by entering 20, the following screens will appear,

```
Enter Date (dd/mm/yy)
Day of Month: _ _
Press <#> when done
or <*> to cancel.
```

```
Enter Date (dd/mm/yy)
Month of Year: _ _
Press <#> when done
or <*> to cancel.
```

```
Enter Date (dd/mm/yy)
Year of Century: _ _
Press <#> when done
or <*> to cancel.
```

10. Set the TIME by entering 21(Item number), the following screens will appear,

```
Enter Time (HH/MM/SS)
Seconds (00-59): _ _
Press <#> when done
or <*> to cancel.
```

```
Enter Time (HH/MM/SS)
Minutes (00-59): _ _
Press <#> when done
or <*> to cancel.
```

```
Time (HH/MM/SS)
Hours (00-23): _ _
Press <#> when done
or <*> to cancel.
```

11. Enter 30 and then the monitoring station account numbers and telephone numbers of the telephone lines being used. The following screens for telephone Line 1 will appear,

Enter 4-6 digit ID#
Account ID: _ _ _ _ _
Press <#> when done
or <*> to cancel.

Enter 31 to input the area code (prefix code) of telephone line 1. The following screen will appear,

First digits to dial
Prefix Code: _ _ _
Press <#> when done
or <*> to cancel.

Enter 32 to input the telephone number of line 1. The following screen will appear,

Local number to dial
Telephone #: _ _ _ _ _
Press <#> when done
or <*> to cancel.

Repeat step 11 for the second telephone line by entering Item numbers 40 and 41.

12. Set the Format to be generated by the DACT when reporting to the monitoring station for both telephone lines.

Enter 33 for Telephone Line 1

Enter 43 for Telephone Line 2

1=SIA, 2=Contact ID
Format is: _
Press <#> when done
or <*> to cancel.

1=SIA, 2=Contact ID
Format is: _
Press <#> when done
or <*> to cancel.

13. Enter 11 to initiate the test report, the screen will go through the following sequences:

Digital Communicator
[Testing Line DC]
Date Time
Press any key to start login procedure (scrolls horizontally)

If it stays in the testing line DC screen, then the polarity of the phone line may be reversed, the phone line is not operating properly or the DACT-100A is not the first piece of equipment on the telephone line. If the telephone line is good, the next screen should be,

Digital Communicator
[Wait for DIALtone]
Date Time

Note: It will wait for dial tone if selected as such, see Item 63 in System Configuration & Operation section.

If the screen stays in the Wait for Dialtone mode, then there is a telephone line failure, otherwise the next screen is,

Digital Communicator
[Dialling Station . . .]
Date Time

If the screen stays in the Dialling Station mode, then the telephone number of the receiving station may have been inputted incorrectly, otherwise the next screen is,

Digital Communicator
[Wait for rcvr ACK]
Date Time

If the screen stays in the Wait for receiver acknowledge mode, then the receiver may not be compatible, otherwise the next screen is,

Digital Communicator
[Reporting event . . .]
Date Time

The next screen is,

Digital Communicator
[Waiting for KISS]
Date Time

If the screen stays in the Waiting for KISS mode, then you should contact our Tech Support, otherwise when the test is complete the CFG-100 this screen will appear,

Digital Communicator
[DACT is idle . . .]
Date Time
Press any key to start login procedure . . .

The above sequence should occur only once for a successful report. If the "Reporting Event" fails the DACT-100A will try 3 more times within the same phone call. If this fails the DACT-100A will hang up and redial and try again.

SYSTEM CONFIGURATION & OPERATION

The Mircom Digital Communicators are configured by connecting the **CFG-100 Configuration Tool** to P4 of the DACT-100A Main Board. Once connected, if no text appears immediately on the LCD screen, hit any key on the numeric keypad.

The DACT supports two levels of restricted access to the **Configuration Mode** which allows for parameter configuration and control of operation. Each level is associated with a separate **Passcode** (up to 8-digit numeric code) and may be individually modified. Once a user gains access to the Configuration Mode, they are presented with a menu of selections according to the level of access granted. The **factory default** Passcodes are:

Level I - OPERATOR "11111111"
Level II - INSTALLER "22222222"

A **Restore-to-Factory-Defaults** can be initiated from the CFG-100 *without having to first access program mode*, by using the special Passcode ...

Restore-to-Factory-Defaults "12345678" (DO NOT use this passcode as a Level I or Level II passcode)

NOTE: When reviewing the configuration (account numbers, etc.) DO NOT hit the # key, use the * key to exit. Hitting the # key when reviewing the configuration will delete the existing data. This "deleting" feature is required when entries need to be removed; example 1-800 number changed to a local number.

Items accessible to Level(s) I and II

<u>ITEM Number</u>	<u>Access Level</u>	<u>Menu Category</u>	<u>Menu Label</u>	<u>Description</u>
00	I, II	Access Control	Logout of DACT	Exit from PROGRAM mode on LCD/Keypad.
01	I, II	Access Control	About DACT	Display copyright (company and date) and firmware version information on LCD.
02	I, II	Access Control	Change Passcode	Support modification to specific passcode associated with individual level(I=OPERATOR and II=INSTALLER).
10	I, II	Event Logging	Flush all events	Terminate any in-progress event reporting. Remove "report pending" trigger (i.e. cancel attempts to report queued events) and Force event queue (FIFO) to empty state (i.e. erase any queued event history).
11	I, II	Event Logging	Send Test-Report	Immediately initiate test-report generated to Account #1.
12	I, II	Event Logging	Abort-Reporting	Terminate any in-progress event reporting. Remove "report pending" trigger (i.e. cancel attempts to report queued events). NOTE: Unreported events are still resident within FIFO. Any future events logged will restart attempts at reporting ALL queued (unreported) event items. This action will also add a "Line (x) Trouble" event to the event queue.
13	I, II	Event Logging	AC-Power Loss (delay) Default is 6 Hours	Specify an (optional) delay time (in hours), from 00 (no delay) to 20 (maximum delay). A report of the "AC-Power Loss" event will be delayed by this value, and then only sent after the period has expired with the signal still present. A "restored" event of this signal will be reported immediately, but only if a prior "off-normal" event was successfully reported earlier.
20	I, II	Real Time Clock Parameters	Set System DATE	Assign local DATE (dd/mm/yy) to DACT Real-Time-Clock device. The Year field will be presented in 4-digit format on LCD status line, with automatic 20/21 century adjustment for Y2K compliance.
21	I, II	Real Time Clock Parameters	Set System TIME	Assign local TIME (ss/mm/hh) to DACT Real-Time-Clock device. The Hour field will be presented in 24-hour (military) format on LCD status line.
22	I, II	Real Time Clock Parameters	Auto-Report Time	Assign time (mm/hh) for DACT to perform periodic (24 hr intervals) Test-report generation to monitoring station . Must set real time clock (Item 21) to ensure 24 hr test will initialize.

Items accessible to Level II only

ITEM Number	Access Level	Menu Category	Menu Label	Description
30	II	Account (#1)	Account ID #1	Assign 4-6 numeric Account ID to be identified with Account #1 monitoring station receiver.
31	II	Account (#1)	Dial-Prefix #1	(OPTIONAL) Set up-to-8-digits to be first dialed by DACT when attempting to call Account #1 monitoring station receiver.
32	II	Account (#1)	Local Number #1	Set up-to-8-digits to be dialed (after Dial-Prefix #1 digits) by DACT when attempting to call Account #1 monitoring station receiver.
33	II	Account (#1)	Report Format #1 Default Contact ID	Choose report format (Contact ID or SIA) to be generated by DACT when reporting with Account #1 monitoring station receiver.
40	II	Account (#2)	Account ID #2	Assign 4-6 numeric Account ID to be identified with Account #1 monitoring station receiver
41	II	Account (#2)	Dial-Prefix #2	(OPTIONAL) Set up-to-8-digits to be first dialed by DACT when attempting to call Account #2 monitoring station receiver.
42	II	Account (#2)	Local Number #2	Set up-to-8-digits to be dialed (after Dial-Prefix #2 digits) by DACT when attempting to call Account #2 monitoring station receiver.
43	II	Account (#2)	Report Format #2 Default Contact ID	Choose report format (Contact ID or SIA) to be generated by DACT when reporting with Account #2 monitoring station receiver.
50	II	Report Priority	ALARM Events Default is Account 1	Choose which Account # (1 or 2) will be the <i>first</i> to be <i>attempted</i> to be reached by the DACT, when an ALARM event is to be reported. This is designated as the "primary" account and the other will become the "secondary". If the DACT cannot report to the primary, it will then <i>attempt</i> to report to the secondary. This cycle will <i>normally</i> continue until the event is eventually or the <MAXIMUM Attempts> has been achieved.
51	II	Report Priority	TROUBLE Events Default is Account 1	Choose which Account # (1 or 2) will be the <i>first</i> to be <i>attempted</i> to be reached by the DACT, when a TROUBLE event is to be reported. (See ITEM 50 for a description of the DACT report-attempt operation).
52	II	Report Priority	SUPERVISORY Events Default is Account 1	Choose which Account # (1 or 2) will be the <i>first</i> to be <i>attempted</i> to be reached by the DACT, when a SUPERVISORY event is to be reported. (See ITEM 50 for a description of the DACT report-attempt operation).
53	II	Event Logging	Ignore <SUPVSRY> Events, Default will Report Supervisory	This selection allows the overriding of the "normal" reporting of the supervisory events when set to 1. The DACT <u>will</u> report supervisory events when set to 2.
55	II	Report Priority	Max. Attempts Range is 5 to 10, Default is 6 Attempts	Set the "normal" upper limit for DACT attempts (<u>call-attempt pairs</u>) to report to monitoring station receivers.(See ITEM 50 for a description of the DACT report-attempt operation). After this count has been exceed, the DACT will assert the TROUBLE-SEND signal (and BUZZER) to the connected Fire-Panel.
60	II	Phone Line (1/2)	Dial-type Line 1	Configure Line 1 for DTMF (Tone) or Rotary (Pulse) Dialling.
61	II	Phone Line (1/2)	Dial-type Line 2	Configure Line 2 for DTMF (Tone) or Rotary (Pulse) Dialling.
62	II	Configuration	Reboot DACT	Test watchdog circuit by (1) halting program execution and (2) waiting for watchdog to reset DACT.
63	II	Phone Line(1&2)	Deaf Dialling Default dial tone(1)	To wait and listen for dial tone select 1 (default) or Ignore Dial Tone for use with "Cellular Telephone" select 2
64	II	Phone Line 2	Set Testing Date	Default testing date for Phone Line 2 is the 1 st day of the month. Selection can be made from 1 st to 28 th day of the month. Whenever Line 2 is used for a cellular phone, then the Deaf Dialling should be set to 2 (63 set to Ignore Dial Tone).

NOTE: All configurable items have default values assigned by the "Restore-to-Default" operation. All items must have a (non-zero) value assigned unless specifically identified as OPTIONAL within the table(s) above.

REPORTING FORMATS

For Central Station reports, the events are recorded as explained in the tables below.

ADEMCO CONTACT-ID

DACT-100A Internal Events:

Event Description	Event Family	Qualifier	Code	Group #	Contact #
Phone Line #1 trouble detected	Trouble	New event	1 351	00	000
Phone Line #2 trouble detected	Trouble	New event	1 352	00	000
Phone Line #1 trouble restored	Trouble	Restore	3 351	00	000
Phone Line #2 trouble restored	Trouble	Restore	3 352	00	000
Failure to report to an Account	Trouble	New event	1 354	Acct #	Acct #
Report to an Account successful	Trouble	Restore	3 354	Acct #	Acct #
Periodic (24 hr) Test Event (Normal)	Test	New event	1 602	00	000
Periodic (24 hr) Test Event (Off Normal)	Test	New event	1 608	00	000
Manually initiated dialer test	Test	New event	1 601	00	000

DACT-100A External Events:

Event Description	Event Family	Qualifier	Code	Group #	Contact #
Fire Alarm	Alarm	New event	1 110	00	000
Fire Alarm restored	Alarm	Restore	3 110	00	000
System Trouble detected	Trouble	New event	1 300	00	000
System Trouble restored	Trouble	Restore	3 300	00	000
Supervisory condition	Supervisory	New event	1 200	00	000
Supervisory restored	Supervisory	Restore	3 200	00	000

SECURITY INDUSTRIES ASSOC. SIA-DCS

DACT-100A Internal Events :

Event Description	Event Family	Qualifier	SIA Event Code	Parameter
Phone Line #1 trouble detected	Trouble	New event	LT	00
Phone Line #2 trouble detected	Trouble	New event	LT	00
Phone Line #1 trouble restored	Trouble	Restore	LR	00
Phone Line #2 trouble restored	Trouble	Restore	LR	00
Failure to report to an Account	Trouble	New event	RT	Acct #
Report to an Account successful	Trouble	Restore	YK	Acct #
Periodic (24 hr) Test Event (Normal)	Test	New event	RP	00
Periodic (24 hr) Test Event (Off Normal)	Test	New event	RY	00
Manually initiated dialer test	Test	New event	RX	00

DACT-100A External Events:

Event Description	Event Family	Qualifier	SIA Event Code	Parameter
Fire Alarm	Alarm	New event	FA	00
Fire Alarm restored	Alarm	Restore	FH	00
System Trouble detected	Trouble	New event	FT	00
System Trouble restored	Trouble	Restore	FJ	00
Supervisory condition	Supervisory	New event	FS	00
Supervisory restored	Supervisory	Restore	FR	00

COMPATIBLE FIRE ALARM CONTROL PANELS

Mircom DACT-100A: Compatible with **Mircom FA-201, FA-201U, FA-202, FA-202U, FA-204, FA-204U, FA-204E, FA-204EU** Fire Alarm Control Panels.

COMPATIBLE RECEIVERS

The **Mircom DACT-100A** is compatible with the following **Digital Alarm Communicator Receivers (DACR)** ...

<u>DACR Receiver Model</u>	<u>Protocols</u>
SurGard MLR2 Multi-Line Receiver (ULC, ULI Approved)	SIA-DCS and Ademco Contact ID
SurGard SLR Single-Line Receiver (ULC, ULI Approved)	SIA-DCS and Ademco Contact ID
Osborne-Hoffman Quickalert! II Receiver (ULI Approved)	SIA-DCS and Ademco Contact ID
Osborne-Hoffman OH-2000 Receiver (ULI Approved)	SIA-DCS and Ademco Contact ID
Silent Knight Model 9500 Receiver (ULI Approved)	SIA-DCS and Ademco Contact ID
Radionics Model D6500 Receiver (ULI Approved)	Ademco Contact ID
Radionics Model D6600 Receiver (ULI Approved)	SIA-DCS and Ademco Contact ID

SPECIFICATIONS

All Circuits are Power Limited

DACT-100A Digital Communicator:

- Connects to two Telephone Lines and performs DC Supervision.
- Connects to a Mircom FACP via a ribbon cable. This connection provides DC power and all signalling between the Communicator and the FACP.
- Transmits Common Alarm, Supervisory, and Trouble status to a Central Monitoring Station, using either Ademco Contact ID or SIA DCS Protocols.
- User configurable using the CFG-100 Configuration Tool with two levels of Password control.
- Current Consumption: Standby: 120 mA, Alarm: 45 mA

BATTERY CALCULATIONS

DACT-100A:

The **DACT-100A** Battery Calculations are performed as part of the calculations for the Fire Alarm Control Panel it will be used in. See the appropriate Mircom Installation and Operation Manual.

Warranty & Warning Information

Warning Please Read Carefully

Note to End Users: This equipment is subject to terms and conditions of sale as follows:

Note to Installers

This warning contains vital information. As the only individual in contact with system users, it is your responsibility to bring each item in this warning to the attention of the users of this system. Failure to properly inform system end-users of the circumstances in which the system might fail may result in over-reliance upon the system. As a result, it is imperative that you properly inform each customer for whom you install the system of the possible forms of failure.

System Failures

This system has been carefully designed to be as effective as possible. There are circumstances, such as fire or other types of emergencies where it may not provide protection. Alarm systems of any type may be compromised deliberately or may fail to operate as expected for a variety of reasons. Some reasons for system failure include:

•Inadequate Installation

A Fire Alarm system must be installed in accordance with all the applicable codes and standards in order to provide adequate protection. An inspection and approval of the initial installation, or, after any changes to the system, must be conducted by the Local Authority Having Jurisdiction. Such inspections ensure installation has been carried out properly.

•Power Failure

Control units, smoke detectors and many other connected devices require an adequate power supply for proper operation. If the system or any device connected to the system operates from batteries, it is possible for the batteries to fail. Even if the batteries have not failed, they must be fully charged, in good condition and installed correctly. If a device operates only by AC power, any interruption, however brief, will render that device inoperative while it does not have power. Power interruptions of any length are often accompanied by voltage fluctuations which may damage electronic equipment such as a fire alarm system. After a power interruption has occurred, immediately conduct a complete system test to ensure that the system operates as intended.

•Failure of Replaceable Batteries

Systems with wireless transmitters have been designed to provide several years of battery life under normal conditions. The expected battery life is a function of the device environment, usage and type. Ambient conditions such as high humidity, high or low temperatures, or large temperature fluctuations may reduce the expected battery life. While each transmitting device has a low battery monitor which identifies when the batteries need to be replaced, this monitor may fail to operate as expected. Regular testing and maintenance will keep the system in good operating condition.

•Compromise of Radio Frequency (Wireless) Devices

Signals may not reach the receiver under all circumstances which could include metal objects placed on or near the radio path or deliberate jamming or other inadvertent radio signal interference.

•System Users

A user may not be able to operate a panic or emergency switch possibly due to permanent or temporary physical disability, inability to reach the device in time, or unfamiliarity with the correct operation. It is important that all system users be trained in the correct operation of the alarm system and that they know how to respond when the system indicates an alarm.

•Automatic Alarm Initiating Devices

Smoke detectors, heat detectors and other alarm initiating devices that are a part of this system may not properly detect a fire condition or signal the control panel to alert occupants of a fire condition for a number of reasons, such

as: the smoke detectors or heat detector may have been improperly installed or positioned; smoke or heat may not be able to reach the alarm initiating device, such as when the fire is in a chimney, walls or roofs, or on the other side of closed doors; and, smoke and heat detectors may not detect smoke or heat from fires on another level of the residence or building.

•*Software*

Most Mircom products contain software. With respect to those products, Mircom does not warranty that the operation of the software will be uninterrupted or error-free or that the software will meet any other standard of performance, or that the functions or performance of the software will meet the user's requirements. Mircom shall not be liable for any delays, breakdowns, interruptions, loss, destruction, alteration or other problems in the use of a product arising out of, or caused by, the software.

Every fire is different in the amount and rate at which smoke and heat are generated. Smoke detectors cannot sense all types of fires equally well. Smoke detectors may not provide timely warning of fires caused by carelessness or safety hazards such as smoking in bed, violent explosions, escaping gas, improper storage of flammable materials, overloaded electrical circuits, children playing with matches or arson.

Even if the smoke detector or heat detector operates as intended, there may be circumstances when there is insufficient warning to allow all occupants to escape in time to avoid injury or death.

•*Alarm Notification Appliances*

Alarm Notification Appliances such as sirens, bells, horns, or strobes may not warn people or waken someone sleeping if there is an intervening wall or door. If notification appliances are located on a different level of the residence or premise, then it is less likely that the occupants will be alerted or awakened. Audible notification appliances may be interfered with by other noise sources such as stereos, radios, televisions, air conditioners or other appliances, or passing traffic. Audible notification appliances, however loud, may not be heard by a hearing-impaired person.

•*Telephone Lines*

If telephone lines are used to transmit alarms, they may be out of service or busy for certain periods of time. Also the telephone lines may be compromised by such things as criminal tampering, local construction, storms or earthquakes.

•*Insufficient Time*

There may be circumstances when the system will operate as intended, yet the occupants will not be protected from the emergency due to their inability to respond to the warnings in a timely manner. If the system is monitored, the response may not occur in time enough to protect the occupants or their belongings.

•*Component Failure*

Although every effort has been made to make this system as reliable as possible, the system may fail to function as intended due to the failure of a component.

•*Inadequate Testing*

Most problems that would prevent an alarm system from operating as intended can be discovered by regular testing and maintenance. The complete system should be tested as required by national standards and the Local Authority Having Jurisdiction and immediately after a fire, storm, earthquake, accident, or any kind of construction activity inside or outside the premises. The testing should include all sensing devices, keypads, consoles, alarm indicating devices and any other operational devices that are part of the system.

•*Security and Insurance*

Regardless of its capabilities, an alarm system is not a substitute for property or life insurance. An alarm system also is not a substitute for property owners, renters, or other occupants to act prudently to prevent or minimize the harmful effects of an emergency situation.

IMPORTANT NOTE: End-users of the system must take care to ensure that the system, batteries, telephone lines, etc. are tested and examined on a regular basis to ensure the minimization of system failure.

Limited Warranty

Mircom Technologies Ltd. warrants the original purchaser that for a period of two years from the date of manufacture, the product shall be free of defects in materials and workmanship under normal use. During the warranty period, Mircom Technologies Ltd. shall, at its option, repair or replace any defective product upon return of the product to its factory, at no charge for labor and materials. Any replacement and/or repaired parts are warranted for the remainder of the original warranty or ninety (90) days, whichever is longer. The original owner must promptly notify Mircom Technologies Ltd. in writing that there is defect in material or workmanship, such written notice to be received in all events prior to expiration of the warranty period.

International Warranty

The warranty for international customers is the same as for any customer within Canada and the United States, with the exception that Mircom Technologies Ltd. shall not be responsible for any customs fees, taxes, or VAT that may be due.

Conditions to Void Warranty

This warranty applies only to defects in parts and workmanship relating to normal use. It does not cover:

- damage incurred in shipping or handling;
- damage caused by disaster such as fire, flood, wind, earthquake or lightning;
- damage due to causes beyond the control of Mircom Technologies Ltd. such as excessive voltage, mechanical shock or
- water damage;
- damage caused by unauthorized attachment, alterations, modifications or foreign objects;
- damage caused by peripherals (unless such peripherals were supplied by Mircom Technologies Ltd.);
- defects caused by failure to provide a suitable installation environment for the products;
- damage caused by use of the products for purposes other than those for which it was designed;
- damage from improper maintenance;
- damage arising out of any other abuse, mishandling or improper application of the products.

Warranty Procedure

To obtain service under this warranty, please return the item(s) in question to the point of purchase. All authorized distributors and dealers have a warranty program. Anyone returning goods to Mircom Technologies Ltd. must first obtain an authorization number. Mircom Technologies Ltd. will not accept any shipment whatsoever for which prior authorization has not been obtained. NOTE: Unless specific pre-authorization in writing is obtained from Mircom management, no credits will be issued for custom fabricated products or parts or for complete fire alarm system. Mircom will at its sole option, repair or replace parts under warranty. Advance replacements for such items must be purchased.

Note: Mircom Technologies Ltd.'s liability for failure to repair the product under this warranty after a reasonable number of attempts will be limited to a replacement of the product, as the exclusive remedy for breach of warranty.

Disclaimer of Warranties

This warranty contains the entire warranty and shall be in lieu of any and all other warranties, whether expressed or implied (including all implied warranties of merchantability or fitness for a particular purpose) And of all other obligations or liabilities on the part of Mircom Technologies Ltd. neither assumes nor authorizes any other person purporting to act on its behalf to modify or to change this warranty, nor to assume for it any other warranty or liability concerning this product.

This disclaimer of warranties and limited warranty are governed by the laws of the province of Ontario, Canada.

Out of Warranty Repairs

Mircom Technologies Ltd. will at its option repair or replace out-of-warranty products which are returned to its factory according to the following conditions. Anyone returning goods to Mircom Technologies Ltd. must first obtain an authorization number. Mircom Technologies Ltd. will not accept any shipment whatsoever for which prior authorization has not been obtained.

Products which Mircom Technologies Ltd. determines to be repairable will be repaired and returned. A set fee which Mircom Technologies Ltd. has predetermined and which may be revised from time to time, will be charged for each unit repaired.

Products which Mircom Technologies Ltd. determines not to be repairable will be replaced by the nearest equivalent product available at that time. The current market price of the replacement product will be charged for each replacement unit.

WARNING: Mircom Technologies Ltd. recommends that the entire system be completely tested on a regular basis. However, despite frequent testing, and due to, but not limited to, criminal tampering or electrical disruption, it is possible for this product to fail to perform as expected.

NOTE: Under no circumstances shall Mircom Technologies Ltd. be liable for any special, incidental, or consequential damages based upon breach of warranty, breach of contract, negligence, strict liability, or any other legal theory. Such damages include, but are not limited to, loss of profits, loss of the product or any associated equipment, cost of capital, cost of substitute or replacement equipment, facilities or services, down time, purchaser's time, the claims of third parties, including customers, and injury to property.

MIRCOM MAKES NO WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE WITH RESPECT TO ITS GOODS DELIVERED, NOR IS THERE ANY OTHER WARRANTY, EXPRESSED OR IMPLIED, EXCEPT FOR THE WARRANTY CONTAINED HEREIN.

DACT-100A INFORMATION FORM

Account # Identification (max. 6 digits): _ _ _ _ _ _

Account #1 Telephone number (including area code): _____

Telephone number of receiving station (including area code): _____

Reporting Format: Contact ID

SIA

Account # 2 Identification (max. 6 digits): _ _ _ _ _ _

Account # 2 Telephone number (including area code): _____

Telephone number of receiving station (including area code): _____

Reporting Format: Contact ID

SIA

