®ADEMCO

Model 685 Digital Alarm Receiver Software Upgrade Package

No. 685PR248

Software Revision 5.1 (or higher)

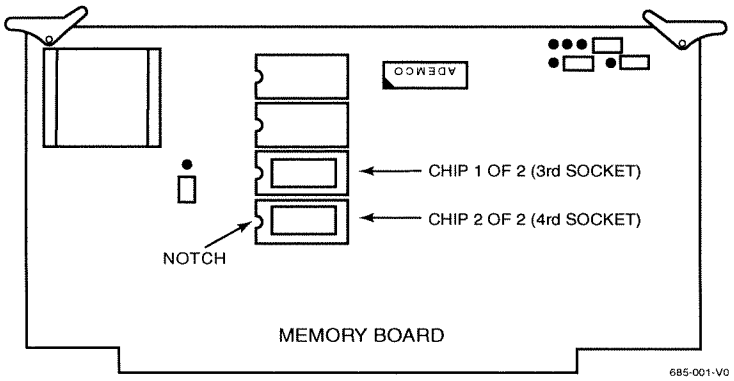
Introduction

The No. 685PR248 consists of an upgrade package of two EPROMs (software Rev. 5.1 or higher) which, when installed in place of the existing EPROM(s) in the No. 685 Digital Alarm Receiver, will provide a number of enhancements to the No. 685.

Contained herein are instructions for replacing the existing EPROM(s) in the No. 685 Receiver, a description of the new features available when the No. 685PR248 upgrade has been installed, plus a description of the features added with previously released firmware revision 4.9.

Installation of the New EPROMS

1. Remove all power (AC and Battery) from the 685 Receiver.
2. Remove the top cover from the 685 by removing 4 screws. Locate the Memory board in slot J3. (See Diagram 3 in the 685 manual.) Pull up on the inside handles of the ejectors at the upper corners of the board, and partially raise the Memory board. Remove the connectors attached to the board (noting their positions), and then remove the board completely.
3. On the Memory board, locate the EPROM chip(s) in the third, and possibly fourth socket from the top (see Diagram below). The EPROM(s) will be covered with a paper label. Carefully remove the existing EPROM from the **third** socket from the top. If an EPROM is located in the **fourth** socket from the top, remove it also. Set these EPROM(s) aside.
4. Carefully insert the EPROMs supplied. The EPROM marked **Chip 1 of 2**' goes in the **third** socket and the EPROM marked '**Chip 2 of 2**' goes in the **fourth** socket. Note that the notch on each EPROM must face toward the left, as shown in the diagram.



5. Insert the Memory board in slot J3, making sure that the connectors previously removed in step 2 are reconnected. Fully seat the board. Replace the top cover.
6. Apply AC power to the 685. The left display should indicate the word PROM and display REV. 5.1 or higher. The time and date displays should light and show 12:00 AM 01/01. After a few seconds the printer should show a message similar to the following:

ADEMCO MODEL 685 RECEIVER
REV. 5.1 Jul. 8, 2002
(C) 2002 PITTWAY CORP.
12:00 AM 01/01 10 RCVB 1555 5555 7 (V) SYSTEM RESET

7. Reconnect the battery.
8. Set-up is now complete. Set the time and date as described in the 685 manual.

In Case of Difficulty

1. If the display of the 685 does not show the date and time, it is possible that the EPROMs are not plugged in properly. Check that:
   a) The EPROM marked "Chip 1 of 2" is in the third socket from the top. The EPROM marked "Chip 2 of 2" is in the fourth socket.
   b) The notch on each chip faces left.
   c) None of the pins have bent under the chips. It may be necessary to remove the chips in order to check this.
2. If further difficulty is encountered, contact ADEMCO Factory Tech Support at:

1–800–645–7492

Description of New Features

This revision level provides the following feature enhancements:

1. Additional Contact ID codes handled

Support has been added for the following Contact ID codes:

147, 314, 377, 378, 435, 436, 466, 578, 579, 654, 900–902, 910, 911

2. Support for new dot-matrix display hardware

Receivers using the new dot-matrix display modules must use Rev 5.1 or higher firmware.

Description of Features Previously Added In Revision 4.9

This revision level provided the following feature enhancements:

1. **Paper-saving printer mode:**

   This mode allows for a reduction in the amount of printer paper used when the 685 is operating into a computer that supports the ACK/NAK protocol. If the computer is ACKing messages properly, the 685 can be set to inhibit printing on the serial and parallel printers. In order for this feature to activate, the following setup is required:

   a) Computer present and operating in ACK/NAK mode.

   b) The OFF-COM dipswitch behind the flip-down door must be set to the right (COM).

   c) The AUTO-MA dipswitch behind the flip-down door should be set to the right (MA). Note that this dipswitch may be used to activate and de-activate this feature, as desired.

   NOTES:

   1. Non-validated messages that normally do not get sent to the computer, such as NO TRANSMISSION and BAD TRANSMISSION messages, will always be printed, regardless of the setting of the AUTO-MA switch.
   2. Messages that are re-sent to the computer will be printed. This will occur if a message does not get ACKed on the first attempt.

2. **Support for Listen-in and Video look-in**

   The software has special handlers for Contact ID codes 606 "Listen-in to follow", and 609 "Video Look-in to follow."

   If a code 606 is received, the 685 will hold the line open for an additional 60 seconds before hanging up. This gives an operator time to pick up a phone in order to listen in.

   If a code 609 is received, the 685 will put a pulse out on an output port pin corresponding to the line card slot. In the future, a relay module will be connected to the port and used to trigger a video receiver so that it can establish a connection with a video transmitter at the premises.

3. **Support for Contact ID reception via Long Range Radio**

   Contact ID messages may be passed from an AlarmNet 685-5N or a SafetyNet 685-5NR line card to the 685. This feature is only available on 685-5N line cards whose firmware revision level is**Rev. 8.4 or higher.** In addition, the AlarmNet receiver must have revision level**Rev. 2.8 or higher** firmware. SafetyNet radio receivers of any manufactured revision are capable of receiving Contact ID formats. In addition, the transmitter must be capable of sending its message using Contact ID.

   For additional information, contact AlarmNet technical support at 800–222–6525.

4. **Additional Contact ID codes handled**

   Support added for the following Contact ID codes:

   124, 125, 146, 162,163, 311–313, 326, 327, 337–339, 341–344, 357, 385–389, 391–393, 423–434, 442, 461–465, 501, 526, 527, 531, 532, 553, 575–577, 609, 611–616, 641, 642, 651

List of Supported Contact ID Codes and Messages Output to Printer of 685

NOTES

1. New codes are indicated with a * in the left-hand column.
2. Unless otherwise noted in the line directly below the message, a restoral will be the same as that for an event except that the leading word will be changed to RESTORE. For example, the text for event type 110 and its restoral would be as shown below.

   FIRE – Fire Alarm = ***Event message***

   RESTORE – Fire Alarm = *Restoral message*

3. Brackets [ ] have been used to denote messages that will not be received, either because the message will not be used in the near future, or because the condition does not exist, i.e., System Reset Restore.
4. When the pound sign (#) appears at the end of the message text, the sensor or user number sent by the control will be added to the end of the printout.

Medical

100 Medical	*EMERG* – Personal Emergency – #
101 Pendant transmitter	*EMERG* – Personal Emergency – #
102 Fail to report in	*EMERG* – Fail to Check In – #

Fire Alarms – 110

110 Fire Alarm	*FIRE* – Fire Alarm – #
111 Smoke	*FIRE* – Smoke Detector – #
112 Combustion	*FIRE* – Combustion – #
113 Water flow	*FIRE* – Water Flow – #
114 Heat	*FIRE* – Heat Sensor – #
115 Pull Station	*FIRE* – Pull Station – #
116 Duct	*FIRE* – Duct Sensor – #
117 Flame	*FIRE* – Flame Sensor – #
118 Near Alarm	*FIRE* – Near Alarm – #

Panic Alarms – 120

120 Panic Alarm	*PANIC* – Panic – #
121 Duress	*PANIC* – Duress – User #
122 Silent	*PANIC* – Silent Panic – #
123 Audible	*PANIC* – Audible Panic – #
124 Duress – Access granted	*PANIC* – Duress Access Grant – #
125 Duress – Egress granted	*PANIC* – Duress Egress Grant – #

Burglar Alarms – 130

130 Burglary	*BURG* – Burglary – #
131 Perimeter	*BURG* – Perimeter – #
132 Interior	*BURG* – Interior – #
133 24-Hour	*BURG* – 24 Hour – #
134 Entry/Exit	*BURG* – Entry/Exit – #
135 Day/night	*BURG* – Day/Night – #
136 Outdoor	*BURG* – Outdoor – #
137 Tamper	*BURG* – Tamper – #
138 Near alarm	*BURG* – Near Alarm – #
139 Intrusion verifier	*BURG* – Intrusion verifier – #

General Alarm – 140

	140 General Alarm	*ALARM* – General Alarm – #
	141 Polling loop open	*ALARM* – Polling Loop Open
	142 Polling loop short	*ALARM* – Polling Loop Short
	143 Expansion module failure	*ALARM* – Exp. Module Fail – #
	144 Sensor tamper	*ALARM* – Sensor Tamper – #
	145 Expansion module tamper	*ALARM* – Exp. Module Tamper – #
	146 Silent Burglary	*BURG* – Silent Burglary – #
*	147 Sensor Supervision	TROUBLE – Sensor Super. – #

↑ * = New code

24-Hour Non-Burglary – 150 and 160

150 24 Hour Non-Burg	*ALARM* – 24 Hr. Non-Burg. – #
151 Gas detected	*ALARM* – Gas Detected – #
152 Refrigeration	*ALARM* – Refrigeration – #
153 Loss of heat	*ALARM* – Heating System – #
154 Water Leakage	*ALARM* – Water Leakage – #
155 Foil Break	TROUBLE – Foil Break – #
156 Day Trouble	TROUBLE – Day Zone – #
157 Low bottled gas level	*ALARM* – Low Gas Level – #
158 High temp	*ALARM* – High Temperature – #
159 Low temp	*ALARM* – Low Temperature – #
161 Loss of air flow	*ALARM* – Air Flow – #
162 Carbon Monoxide detected	*ALARM* – Carbon Monoxide – #
163 Tank level	TROUBLE – Tank level – #

Fire Supervisory – 200 and 210

200 Fire Supervisory	SUPER. – Fire Supervisory – #
201 Low water pressure	SUPER. – Low Water Pressure – #
202 Low Co2	SUPER. – Low CO2 – #
203 Gate valve sensor	SUPER. – Gate Valve – #
204 Low water level	SUPER. – Low Water Level – #
205 Pump activated	SUPER. – Pump Activation – #
206 Pump failure	SUPER. – Pump Failure – #

System Troubles – 300 and 310

300 System Trouble	TROUBLE – System Trouble
301 AC Loss	TROUBLE – AC Power
302 Low system battery	TROUBLE – Low Battery
303 RAM Checksum bad	TROUBLE – Bad RAM Checksum [Restore not applicable]
304 ROM checksum bad	TROUBLE – Bad ROM Checksum [Restore not applicable]
305 System reset	TROUBLE – System Reset [Restore not applicable]
306 Panel program changed	TROUBLE – Programming Changed [Restore not applicable]
307 Self-test failure	TROUBLE – Self Test Failure
308 System shutdown	TROUBLE – System Shutdown
309 Battery test failure	TROUBLE – Battery Test Failure
310 Ground fault	TROUBLE – Ground Fault – #
311 Battery Missing	TROUBLE – Battery Missing
312 Power Supply Overcurrent	TROUBLE – Pwr. Supp. Overcur. – #
313 Engineer Reset	STATUS – Engineer Reset – User # [Restore not applicable]
* 314 Primary Power Supply Failure	TROUBLE – Pri Pwr Supply Fail – #

Sounder / Relay Troubles – 320

320 Sounder/Relay	TROUBLE – Sounder/Relay – #
321 Bell 1	TROUBLE – Bell/Siren #1
322 Bell 2	TROUBLE – Bell/Siren #2
323 Alarm relay	TROUBLE – Alarm Relay

↑* = New code

Sounder / Relay Troubles – 320 (continued)

324 Trouble relay	TROUBLE – Trouble Relay
325 Reversing relay	TROUBLE – Reversing Relay
326 Notification Appliance Ckt. # 3	TROUBLE – Notification Appl. Ckt #3
327 Notification Appliance Ckt. # 4	TROUBLE – Notification Appl. Ckt #4

System Peripheral Trouble – 330 and 340

330 System Peripheral	TROUBLE – Sys. Peripheral – #
331 Polling loop open	TROUBLE – Polling Loop Open
332 Polling loop short	TROUBLE – Polling Loop Short
333 Exp. module failure	TROUBLE – Exp. Module Fail – #
334 Repeater failure	TROUBLE – Repeater Failure – #
335 Local printer paper out	TROUBLE – Printer Paper Out
336 Local printer failure	TROUBLE – Local Printer
337 Exp. module DC loss	TROUBLE – Exp. Mod. DC Loss – #
338 Exp. module Low Batt.	TROUBLE – Exp. Mod. Low Batt – #
339 Exp. module Reset	TROUBLE – Exp. Mod. Reset – #
341 Exp. module Tamper	TROUBLE – Exp. Mod. Tamper – #
342 Exp. Module AC loss	TROUBLE – Exp. Module AC Loss – #
343 Exp. Module self-test fail	TROUBLE – Exp. Self-test fail – #
344 RF Rcvr Jam Detect – #	TROUBLE – RF Rcvr Jam Detect – #

Communication Troubles – 350 and 360

350 Communication	TROUBLE – Communication Trouble
351 Telco 1 fault	TROUBLE – Phone Line # 1
352 Telco 2 fault	TROUBLE – Phone Line # 2
353 LR Radio xmitter fault	TROUBLE – Radio Transmitter
354 Fail to communicate	TROUBLE – Fail to Communicate
355 Loss of Radio super.	TROUBLE – Radio Supervision
356 Loss of central polling	TROUBLE – Central Radio Polling
357 LR Radio VSWR	TROUBLE – Radio Xmttr. VSWR – #

Protection Loop – 370

	370 Protection Loop	TROUBLE – Protection Loop – #
	371 Protection loop open	TROUBLE – Prot. Loop Open – #
	372 Protection loop short	TROUBLE – Prot. Loop Short – #
	373 Fire trouble	TROUBLE – Fire Loop – #
	374 Exit error alarm (zone)	*ALARM* – Exit Error – #
	375 Panic zone trouble	TROUBLE – PA Trouble – #
	376 Hold-up zone trouble	TROUBLE – Hold-Up Trouble – #
*	377 Swinger trouble	TROUBLE – Swinger Trouble – #
*	378 Cross-zone trouble	TROUBLE – Cross Zone Trouble – # [Restore not applicable]

Sensor – 380 and 390

380 Sensor trouble	TROUBLE – Sensor Trouble – #
381 Loss of super. – RF	TROUBLE – RF Sensor Super. – #
382 Loss of super. – RPM	TROUBLE – RPM Sensor Super. – #
383 Sensor tamper	TROUBLE – Sensor Tamper – #
384 RF low battery	TROUBLE – RF Sensor Batt. – #
385 Smoke det. Hi sens.	TROUBLE – Smoke Hi Sens. – #

↑* = New code

Sensor – 380 and 390 (continued)

386 Smoke det. Lo sens.	TROUBLE – Smoke Lo Sens. – #
387 Intrusion det. Hi sens.	TROUBLE – Intrusion Hi Sens. – #
388 Intrusion det. Hi sens.	TROUBLE – Intrusion Lo Sens. – #
389 Sensor self-test failure	TROUBLE – Sensor Test Fail – #
391 Sensor Watch failure	TROUBLE – Sensor Watch Fail – #
392 Drift Comp. Error	TROUBLE – Drift Comp. Error – #
393 Maintenance Alert	TROUBLE – Maintenance Alert – #

Open/Close – 400, 440, 450

400 Open/Close	OPENING CLOSING
401 O/C by user	OPENING – User # CLOSING – User #
402 Group O/C	CLOSING – Group – User #
403 Automatic O/C	OPENING – Automatic CLOSING – Automatic
404 Late to O/C	OPENING – Late CLOSING – Late
405 Deferred O/C	[Event and Restore not applicable]
406 Cancel	OPENING – Cancel
407 Remote arm/disarm	OPENING – Remote CLOSING – Remote
408 Quick arm	[Event not applicable] CLOSING – Quick arm
409 Keyswitch O/C	OPENING – Keyswitch CLOSING – Keyswitch
* 435 Second Person Access	[Report not applicable – Local only]
* 436 Irregular Access	ACCESS – Irregular Access – User #
441 Armed STAY	OPENING – Armed STAY – User # CLOSING – Armed STAY – User #
442 Keyswitch Armed STAY	OPENING – Keys. Arm STAY– User # CLOSING – Keys. Arm Stay – User #
450 Exception O/C	OPENING – Exception CLOSING – Exception
451 Early O/C	OPENING – Early – User # CLOSING – Early – User #
452 Late O/C	OPENING – Late – User # CLOSING – Late – User #
453 Failed to Open	TROUBLE – Fail to open [Restore not applicable]
454 Failed to Close	TROUBLE – Fail to close [Restore not applicable]
455 Auto-arm Failed	TROUBLE – Auto-arm Failed [Restore not applicable]
456 Partial Arm	CLOSING – Partial Arm – User #
457 Exit Error (user)	CLOSING – Exit Error – User #
458 User on premises	OPENING – User on Prem.– User #
459 Recent Close	TROUBLE – Recent Close – User # [Restore not applicable]

↑* = New code

Open/Close – 400, 440, and 450 (continued)

461 Wrong Code Entry	ACCESS – Wrong Code Entry [Restore not applicable]
462 Legal Code Entry	ACCESS – LegalCodeEntry – User # [Restore not applicable]
463 Re-arm after Alarm	STATUS – Re-Arm After Alarm – User # [Restore not applicable]
464 Auto-arm Time Extended	STATUS – Auto-Arm Time Ext.– User # [Restore not applicable]
465 Panic Alarm Reset	STATUS – PA Reset [Restore not applicable]
* 466 Service On/Off Premises	ACCESS – Service On Prem – User # ACCESS – Service Off Prem – User #

Remote Access – 410

411 Callback request made	REMOTE – Callback Requested [Restore not applicable]
412 Success– download/access	REMOTE – Successful Access [Restore not applicable]
413 Unsuccessful access	REMOTE – Unsuccessful Access [Restore not applicable]
414 System shutdown	REMOTE – System Shutdown
415 Dialer shutdown	REMOTE – Dialer Shutdown
416 Successful upload	REMOTE – Successful Upload [Restore not applicable]

Access control – 420

421 Access denied	ACCESS – Access Denied – User # [Restore not applicable]
422 Access report by user	ACCESS – Access Gained – User # [Restore not applicable]
423 Forced Access	*PANIC* – Forced Access – #
424 Egress Denied	ACCESS – Egress Denied – # [Restore not applicable]
425 Egress Granted	ACCESS – Egress Granted – # [Restore not applicable]
426 Access Door propped open	ACCESS – Door Propped Open – #
427 Access point DSM trouble	ACCESS – ACS Point DSM Trbl. – #
428 Access point RTE trouble	ACCESS – ACS Point RTE Trbl. – #
429 Access program mode entry	ACCESS – ACS Prog. Entry – User # [Restore not applicable]
430 Access program mode exit	ACCESS – ACS Prog. Exit – User # [Restore not applicable]
431 Access threat level change	ACCESS – ACS Threat Level Chg
432 Access relay/trigger fail	ACCESS – ACS Relay/Trig Fail – #
433 Access RTE shunt	ACCESS – ACS RTE Shunt – #
434 Access DSM shunt	ACCESS – ACS DSM Shunt – #

↑ * = New code

System Disables – 500 and 510

501 Access reader disable	DISABLE – Access Rdr. Disable – #

Sounder / Relay Disables – 520

520 Sounder/Relay Disable	DISABLE – Sounder/Relay – #
521 Bell 1 disable	DISABLE – Bell/Siren #1
522 Bell 2 disable	DISABLE – Bell/Siren #2
523 Alarm relay disable	DISABLE – Alarm Relay
524 Trouble relay disable	DISABLE – Trouble Relay
525 Reversing relay disable	DISABLE – Reversing Relay
526 Notification Appliance Ckt #3 disable	DISABLE – Notification Appl. Ckt #3
527 Notification Appliance Ckt # 4 disable	DISABLE – Notification Appl. Ckt #4

System Peripheral Disables – 530 and 540

531 Module Added	SUPER. – Module added [Restore not applicable]
532 Module Removed	SUPER – Module Removed [Restore not applicable]

Communication Disables – 550 and 560

551 Dialer disabled	DISABLE – Dialer Disable
552 Radio xmitter disabled	DISABLE – Radio Disable
553 Remote Upload/Download disabled	DISABLE – Rem. Up/Download Disable

Bypasses – 570

570 Zone bypass	BYPASS – Zone Bypass – #
571 Fire bypass	BYPASS – Fire Bypass – #
572 24 Hour zone bypass	BYPASS – 24 Hour Bypass – #
573 Burg. bypass	BYPASS – Burg. Bypass – #
574 Group bypass	BYPASS – Group Bypass – #
575 Swinger Bypass	BYPASS – Swinger Bypass – #
576 Access zone shunt	ACCESS – ACS Zone Shunt – #
577 Access point bypass	ACCESS – ACS Point Bypass – #
* 578 Zone bypass	BYPASS – Vault Bypass – #
* 579 Zone bypass	BYPASS – Vent Zone Bypass – #

Test/Misc. – 600

601 Manually triggered test	TEST – Manually Triggered [Restore not applicable]
602 Periodic test report	TEST – Periodic [Restore not applicable]
603 Periodic RF xmission	TEST – Periodic Radio [Restore not applicable]
604 Fire test	TEST – Fire Walk Test – User #
605 Status report to follow	STATUS – Status Follows [Restore not applicable]
606 Listen-in to follow	LISTEN – Listen-in Active [Restore not applicable]
607 Walk test mode	TEST – Walk Test Mode – User #
608 System Trouble Present	TEST – System Trouble Present [Restore not applicable]

↑ * = New code

Test/Misc. – 600 (continued)

609 Video xmitter active	LISTEN – Video Xmitter Active [Restore not applicable]
611 Point tested OK	TEST – Point Tested OK – # [Restore not applicable]
612 Point not tested	TEST – Point Not Tested – # [Restore not applicable]
613 Intrusion Zone Walk Tested	TEST – IntrnZone Walk Test – # [Restore not applicable]
614 Fire Zone Walk Tested	TEST – Fire Zone Walk Test – # [Restore not applicable]
615 Panic Zone Walk Tested	TEST – PA Zone Walk Test [Restore not applicable]
616 Service Request	TROUBLE – Service Request

Event Log – 620

621 Event Log reset	TROUBLE – Event Log Reset [Restore not applicable]
622 Event Log 50% full	TROUBLE – Event Log 50% Full [Restore not applicable]
623 Event Log 90% full	TROUBLE – Event Log 90% Full [Restore not applicable]
624 Event Log overflow	TROUBLE – Event Log Overflow [Restore not applicable]
625 Time/Date reset	TROUBLE – Time / Date Reset – User # [Restore not applicable]
626 Time/Date inaccurate	TROUBLE – Time / Date Invalid
627 Program mode entry	TROUBLE – Program Mode Entry [Restore not applicable]
628 Program mode exit	TROUBLE – Program Mode Exit [Restore not applicable]

Scheduling – 630

630 Schedule change	TROUBLE – Schedule Changed [Restore not applicable]
631 Exception schedule change	TROUBLE – Exc. Shed. Changed [Restore not applicable]
632 Access schedule change	TROUBLE – Access Shed. Changed [Restore not applicable]

Personnel monitoring – 640

641 Senior Watch Trouble	TROUBLE – Senior Watch Trouble
642 Latch-key Supervision	STATUS – Latch-key Super – User # [Restore not applicable]

Miscellaneous – 650 and 900

*	654 System Inactivity	TROUBLE – System Inactivity
*	900 Download Abort	REMOTE – Download Abort [Restore not applicable]
*	901 Download Start/End	REMOTE – Download Start – # REMOTE – Download End NA – #
*	902 Download Interrupted	REMOTE – Download Interrupt – # [Restore not applicable]
*	910 Auto-close with Bypass	CLOSING – Auto Close-Bypass – #
*	911 Bypass Closing	CLOSING – Bypass Closing – #

↑ * = New code

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K3479V1 8/02