Alarm Dialer Panel
Quick Start Guide

AV100 RTI

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TASC Systems Inc. • Canada

Head Office: 9415 – 202 Street, Langley, BC V2M 4B5 • Ph: 604-888-9711 • Fx: 604-888-2712

Connecting the Alarm Dialer Panel

Connections required for installing, programming and configuring the Alarm Dialer Panel are located at the rear of the Alarm Dialer Panel.

The following is a picture depicting the rear of the Alarm Dialer Panel:

The following is the pin-out for the Power Connector

Label	Description
Pin 1 – +13.8VDC	Requires a nominal 13.8VDC (11.5V-16V) negative ground power supply
Pin 2 – GND	Ground Connection

The following is the pin-out for the DB25 (female) Radio Interface Connector.

Label	Description
Pin 1 – PTT	Active Low used to key transmitter (unused)
Pin 2 – GND	Ground Connection
Pin 15 – RX Audio	Receive Audio
Pin 16 – GND	Ground Connection
Pin 17 – TX Audio	Transmit Audio (For test playback of recorded message only)
Pin 18 – GND	Ground Connection
Pin 19 – Carrier Detect	Provides indication on the top left of the display of when carrier is present (Indication active when input falls below +5VDC)
Pin 25 – GND	Ground Connection

The AUX Relay connector provides a set of normally open contacts capable of switching 20/30Amps at +12VDC.

The following is a quick reference chart of Tones, associated frequency and associated designation.

Tone Number	Frequency (Hz)	Designation
0	1981	0
1	1124	1
2	1197	2
3	1275	3
4	1358	4
5	1446	5
6	1540	6
7	1640	7
8	1747	8
9	1860	9
10	1055	‘G’ Group Digit
11	930	(Not Used)
12	2247	‘A’ Alarm Digit
13	991	(Not Used)
14	2110	‘R’ Repeat Digit

Operating the Alarm Dialer Panel

1. Connect +12VDC and GND to the Power Terminal. Please observe the correct polarity.
2. The POWER light on the front panel will illuminate RED to indicate proper power has been applied.
3. The device will beep briefly and the display will show “CARTEL 005”, indicating it is now booting
4. The time and date will be displayed for approximately 5 seconds, at this time verify the accuracy of the date/time and if necessary set the clock according to the above section “Setting the Real Time Clock”.
5. When the display says “IDLE STATE”, the unit is now ready for operation.
6. The Alarm Dialer Panel sits idle waiting for a matching 6-digit Tone sequence plus an alarm digit, which matches a known alarm string.
7. The Tone timing must be 40ms.

Front Panel Description

TEST: The TEST button causes an alarm condition on the Alarm Dialer Panel to occur. This event will be logged in the log as a “00000” event. The unit will perform the normal alarm sequence of events as if a real alarm tone sequence had been decoded.

CLEAR: The CLEAR button causes the audible alarm to be silenced during an alarm condition, however the alarm sequence is still executed.

CANCEL: The CANCEL button causes the audible alarm to be silenced as well as terminating the alarm sequence. This button will generate a ceasing event in the log.

Accessing the Event Log

The Log can be accessed by connecting the RS-232 port on the front of the Alarm Dialer Panel to any PC running a terminal emulator by using a “Straight-Through” serial cable. The terminal emulator must be configured for 1200 baud, 8 Data Bits, No Parity, 1 Stop Bit and No Flow Control, this commonly referred to as 8N1. After a connection is established, the Log can be downloaded by generating any character on the keyboard.

The Event Log is provided in the following format:

User Sector/Office, User Group, User ID1, User ID2, User ID3, Year, Month, Day, Hour, Minutes, Seconds and alarm condition (Active or Cleared).

Resetting The System

1. Simply connect any DTMF telephone set into the rear panel RJ-11 jack labeled “PROG”.
2. This allows the DTMF telephone set to act as a programming keyboard. The front panel will display the keystrokes or the results of the keystrokes once in programming mode.
3. Enter “ **123456** “ on the DTMF telephone set.
4. The display will briefly show “INITIALIZING GLOBAL EEPROM“ and then it will go back through the boot up sequence.
5. The system parameters have now been reset back to default.

Setting The Real Time Clock

1. Simply connect any DTMF telephone set into the rear panel RJ-11 jack labeled “PROG”.
2. This allows the DTMF telephone set to act as a programming keyboard. The front panel will display the keystrokes or the results of the keystrokes.
3. After connecting the DTMF telephone set, Enter “ #888 “ on the DTMF telephone set.
4. The display will ask for year, month and day in a two digit format e.g. 2004 -> 04
5. The display will then prompt you for the time in hours, minutes and seconds, based on a 24-hour clock.
6. Enter # to set clock or * to redo.

Programming the Alarm Dialer Panel

1. Simply connect any DTMF telephone set into the rear panel RJ-11 jack labeled “PROG”.
2. This allows the DTMF telephone set to act as a programming keyboard. The front panel will display the keystrokes or the results of the keystrokes once in programming mode.
3. After connecting the DTMF telephone set, entering programming mode is accomplished by lifting the receiver and entering the programming mode access code.
4. The access code consists of six digits plus two leading pound “ ## ” characters and a single trailing pound character. The default programming mode access code is: ##123456#. This code can be changed in the Global programming area.
5. When programming is complete use a “ ## “ to exit programming mode
6. Please refer to the attached *Programming Mode Flowchart* for reference on the available programming structure.

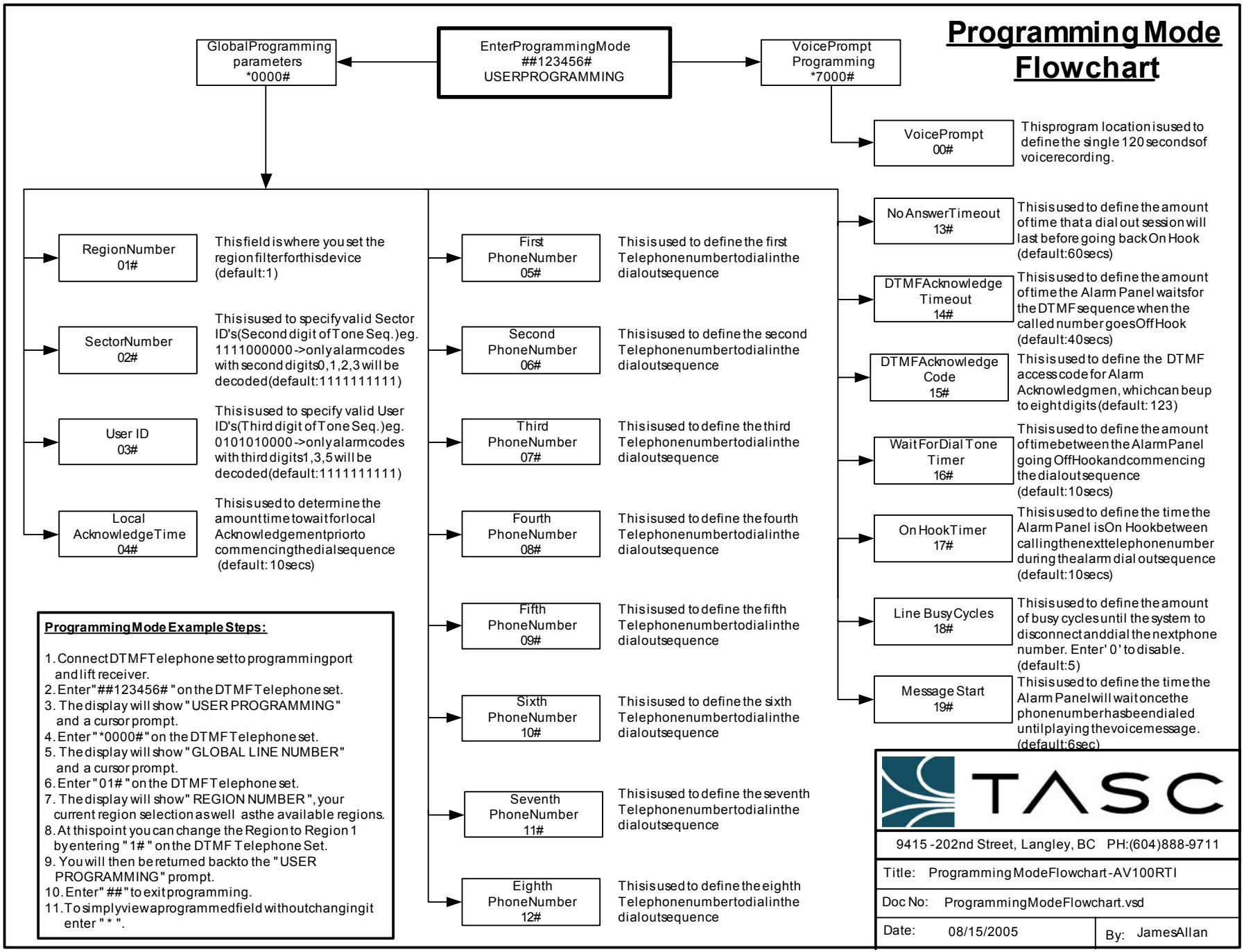
Programming Menu Structure Overview

1. After the correct programming mode access code has been entered, the display will read “ USER PROGRAMMING “
2. In general commands being sent to the STSS Alarm Dialer Panel will be of the form: 0000#03#1#. Every programming command starts with a “ * ” and ends with a “ # “. Depending on the command, there may be one or more additional “ # “ to act as delimiters between fields. It is also important to note that Data fields require that you enter the precise number of digits specified. Numbers that have fewer digits than the field requires, must use leading zeros.
3. The following diagram depicts the menu structure for the STSS Alarm dialer:
4. During Voice Programming, the “ * “ halts recording.

Programming The Voice Prompt

1. For recording, plug a telephone into the programming jack in the back of the unit and go to programming mode. The format used is: *7000#0#.
2. When recording, the system will stop recording either when the maximum time has been reached or the user enters any DTMF key, or the user stops speaking for 1 second.
3. To playback, the command used is *7000#0*. In order to hear the message you recorded, a speaker is needed to hook up to the TX Audio Pin 17 of the radio interface DB25 connector at the back of the unit.
4. When finished recording, the display will return to the USER PROGRAMMING menu.

Programming Mode Flowchart



Programming Mode Example Steps:

1. Connect DTMF Telephone set to programming port and lift receiver.
2. Enter "##123456# " on the DTMF Telephone set.
3. The display will show " USER PROGRAMMING" and a cursor prompt.
4. Enter " *0000#" on the DTMF Telephone set.
5. The display will show " GLOBAL LINE NUMBER" and a cursor prompt.
6. Enter " 01# " on the DTMF Telephone set.
7. The display will show" REGION NUMBER ", your current region selection as well as the available regions.
8. At this point you can change the Region to Region 1 by entering " 1# " on the DTMF Telephone Set.
9. You will then be returned back to the " USER PROGRAMMING " prompt.
10. Enter " ## " to exit programming.
11. To simply view a programmed field without changing it enter " * ".

TASC

9415 -202nd Street, Langley, BC PH:(604)888-9711

Title:	Programming Mode Flowchart - AV100RTI
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Alarm Dialer Panel Functional Description

The unit is intended for installation into a regular two-way relay repeater or base station. Each unit will be programmed to react to a specific user group or COI (Community of Interest). The STSS sequence is interpreted as a COI as follows:

First digit	*Region*
Second digit	Sector/Office
Third digit	User group
Fourth digit	User ID
Fifth digit	User ID
Sixth digit	User ID
Seventh digit	Emergency status

The unit shall function as follows:

1. The unit will continuously monitor two-way radio traffic. This is the idle state of the unit.
2. Upon receipt of an STSS sequence, the unit will check for a valid Region and Sector/Office.
3. If the Region and Sector/Office are validated, the unit will further check if it is an emergency sequence.
    a. If the sequence does not validate to the previously programmed COI or it is an emergency call, the unit will display the sequence on the front panel but will not log it and continue monitoring radio traffic.
    b. If the sequence is a valid COI for the unit and is an emergency call, the unit will enter into an Emergency state.
4. The unit in an Emergency state will react as follows:
    a. The emergency call is displayed on the LCD.
    b. The buzzer will sound continuously.
    c. The relay contacts will activate.
    d. The Emergency Active data will be sent to the RDP access port.
    e. User group and User ID, time and date stamp, and the Emergency Active state are logged into the devices event queue.

5. In this Emergency state, the unit will then wait for a fixed predetermined length of time for the alarm to be locally acknowledged.
    a. When the CLEAR button is pressed, the buzzer will silence and the relay contacts will deactivate. However, if the Emergency condition is still active (not acknowledged), the LCD will remain showing the Emergency.
    b. When the CANCEL button is pressed, the Emergency state will cease (the emergency condition is acknowledged) and the unit will react as follows:
        i. The LCD will revert to its idle state.
        ii. The buzzer will silence if not already silenced.
        iii. The relay will deactivate if not already deactivated.
        iv. The Emergency Clear data will be sent to the RDP access port.
        v. User group and User ID, time and date stamp, and the Emergency Clear state are logged into its event queue.
        vi. The unit will revert to its idle state (see 1.).
    c. The unit will also monitor the RDP access port for an Emergency CANCEL command originating from a Remote Display Panel.
6. If a local acknowledge is not received within the pre-allotted time, the unit will attempt to call one of up to eight preprogrammed telephone numbers. This sequence will repeat until a call is answered or a local acknowledge is received.

7. When a call is initiated, the unit will generate a voice message based on the STSS COI that initiated the emergency call.
    a. The voice annunciation will continue looping until the preprogrammed DTMF digit sequence is decoded and validated. This will cease the Emergency condition and the unit will hang up the telephone line to end the call. The unit will then react the same as if the Emergency condition was locally ceased (see 5.b.).
    b. If a valid DTMF acknowledge sequence is not received within the allotted time, the unit will end the call and dial the next telephone number (see 6.).
8. All programming of the unit is done via a DTMF Handset attached to the “PROG” port located at the rear of the Alarm Dialer Panel.
9. Programmable parameters are as follows:
    a. Region number
    b. Sector/Office number
    c. User Number
    d. Local acknowledge timeout before telephone dialing
    e. Telephone number 1
    f. Telephone number 2
    g. Telephone number 3
    h. Telephone number 4
    i. Telephone number 5
    j. Telephone number 6
    k. Telephone number 7
    l. Telephone number 8
    m. Telephone No-answer timeout
    n. Telephone DTMF acknowledge timeout
    o. Telephone DTMF acknowledge digit sequence
    p. Telephone “Wait for dial tone before dialing” timeout
    q. Line on-hook time
10. The logged Emergency call data queue may be accessed and cleared via the RS232 serial port.
11. The pushbutton switch labeled “TEST” when pressed will initiate an Emergency condition as if a valid STSS emergency call had been decoded from the radio receiver. The only difference will be that the log will indicate 00000 rather than specific User group and User ID information.
12. Ensure that a voice message has been programmed into the unit before utilizing the “TEST” feature. Failer to do so will cause undesired effects and the unit will need to have the power cycled to correct itself.