

6073 DTMF/Dial Decoder

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1. general description

1.01 The Tellabs 6073 DTMF/Dial Decoder module (figure 1) provides one, two, or three-digit selective signaling from either a dual-tone multi-frequency (DTMF) or rotary-dial source. Upon receipt of the correct DTMF or dial-pulse (DP) digits, the 6073 module activates one of 12 discrete signaling output leads which provides an active ground potential for external loads referenced to any negative voltage between -22 and -56 Vdc. The 6073 module is used in a variety of applications that require local or remote activation of external circuitry. Also, when used with the Tellabs 291 or 292 Conference/Alerting system, the 6073 module provides the means for any conference subscriber to activate a siren or other emergency device by simply dialing a single-digit code.

1.02 This practice section is revised to provide current regional office telephone numbers in section 7.

1.03 As stated above, each of the 12 signaling output leads available on the 6073 module provides a ground for external loads referenced to any voltage between -22 and -56 Vdc. Each ground output is capable of sourcing up to 100mA of continuous current.

1.04 Each of the 6073 module's 12 output leads is assigned a single-digit code corresponding to each of the 12 digits available on the keypad of a DTMF telephone (0 through 9, * and #). When used with a rotary-dial phone, only 10 of the 6073's twelve outputs can be individually accessed because only 10 digits (0 through 9) are available on a rotary-dial phone. Codes of two and three digits can be user-selected via option switches on the module's printed circuit board.

1.05 Each of the 12 outputs can be individually switch-optional for either momentary or latched operation. When optional for momentary operation, the output lead is activated whenever the last valid digit is detected and remains active for a time interval whose duration is switch-selectable for 125, 250, 500, or 1,000ms. Please note that this pulse-width option is common to all outputs optional for momentary operation, i.e., is not individually selectable for each output. For those out-

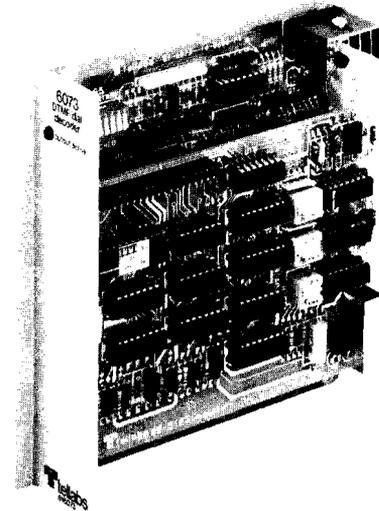


figure 1. 6073 DTMF/Dial Decoder module

puts optional for latched operation, the respective output lead is activated when the last valid digit is detected and remains active until a ground is applied to either the master reset lead (MRST) or the individual reset lead associated with that output.

1.06 Master set (MSET) and master reset (MRST) leads on the 6073 module can be used to control group activation and deactivation of all output leads. In addition, individual reset leads allow the latched outputs to be separately reset; thus, dial-up, dial-down operation is available via a wiring option.

1.07 Three additional output leads, TONE ACTIVE, OUTPUT STATUS, and INVERTED OUTPUT STATUS, are provided for external control and status-indication functions. The TONE ACTIVE output lead is active for as long as any legal DTMF tone is detected. The OUTPUT STATUS lead goes active and remains so for as long as any output is active. The INVERTED OUTPUT STATUS lead provides an inverted output-status indication, remaining at ground potential while the 6073 module is idle and going open when any output becomes active.

1.08 A front-panel *output-active* LED on the 6073 module lights to indicate a busy condition when any of the 12 output leads are active. This LED responds to active leads optional for either momentary or latched operation.

1.09 An interdigital timer on the 6073 module automatically resets the internal decoder circuitry if more than a nominal 6-second delay occurs between dialed digits when a two or three-digit code is dialed. This feature eliminates the need for the

calling party to go on-hook if an incorrect digit is dialed. If an incorrect digit is dialed, the calling party simply waits 6 seconds and redials.

1.10 An internal voltage regulator permits the 6073 module to operate on filtered, ground-referenced -22 to -56Vdc input. The maximum current requirement is 80mA with all outputs active. The 6073 module incorporates power-on reset circuitry to ensure that all outputs go idle within 500ms after power is applied.

1.11 A Type 10 module, the 6073 DTMF/Dial Decoder mounts in one position of a Tellabs Type 10 Mounting Shelf, versions of which are available for relay-rack or apparatus-case installation. When used in conference/alerting applications, the 6073 module mounts in position 11 of the prewired, connectorized Tellabs 291 or 292 common equipment shelf. Rack-mounted Type 10 Shelves and the 291 and 292 shelves each occupy 6 inches of vertical rack space.

2. application

2.01 The 6073 DTMF/Dial Decoder module can serve a wide variety of applications requiring selective signaling or control functions from a one, two, or three-digit code. Below are described some of the applications in which the 6073 module can be used.

2.02 When used in the Tellabs 291 or 292 Conference/Alerting System and optioned for single-digit operation, the 6073 module provides the means for any conference subscriber to activate a community siren by depressing the * pushbutton of his/her conference telephone set. In another conference/alerting application, the 6073 module can provide selective signaling of specific crew mem-

bers needed for a particular emergency. For instance, if an emergency requires firemen and paramedics, the dispatcher can selectively signal only these crews while not disturbing personnel who are not required to respond to the emergency.

2.03 Figure 2 shows a typical 4wire selective signaling application. In this example, the 6073, in conjunction with Tellabs' 4001, 4203, and 6105 modules, provides a multistation selective signaling network over a private 4wire facility. Each 6073 module can provide 1, 2, or 3-digit selective signaling for up to 12 stations in the network. For further information on this application, contact Tellabs Technical Marketing Services group at (312) 969-8800.

2.04 The 6073 module can be used in a variety of applications requiring telephone-accessed remote control of external devices. Figure 3 shows a typical remote-control application which uses a Tellabs 9196 Loop-Start Access Module to provide automatic-answering capability for the 6073. In this

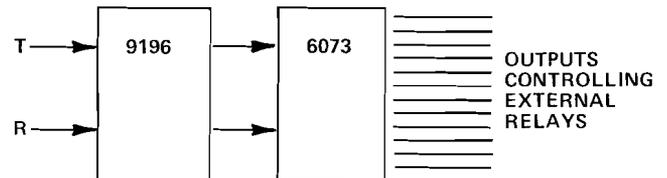


figure 3. Typical remote-control application

configuration, an individual at a remote location dials a directory number assigned to the 9196. The 9196 auto-answers and connects the 6073 across the line. After the 6073 is accessed, remote activation of up to 12 external devices is accomplished by dialing the preselected 1, 2, or 3-digit code assigned to each of the 6073's twelve outputs.

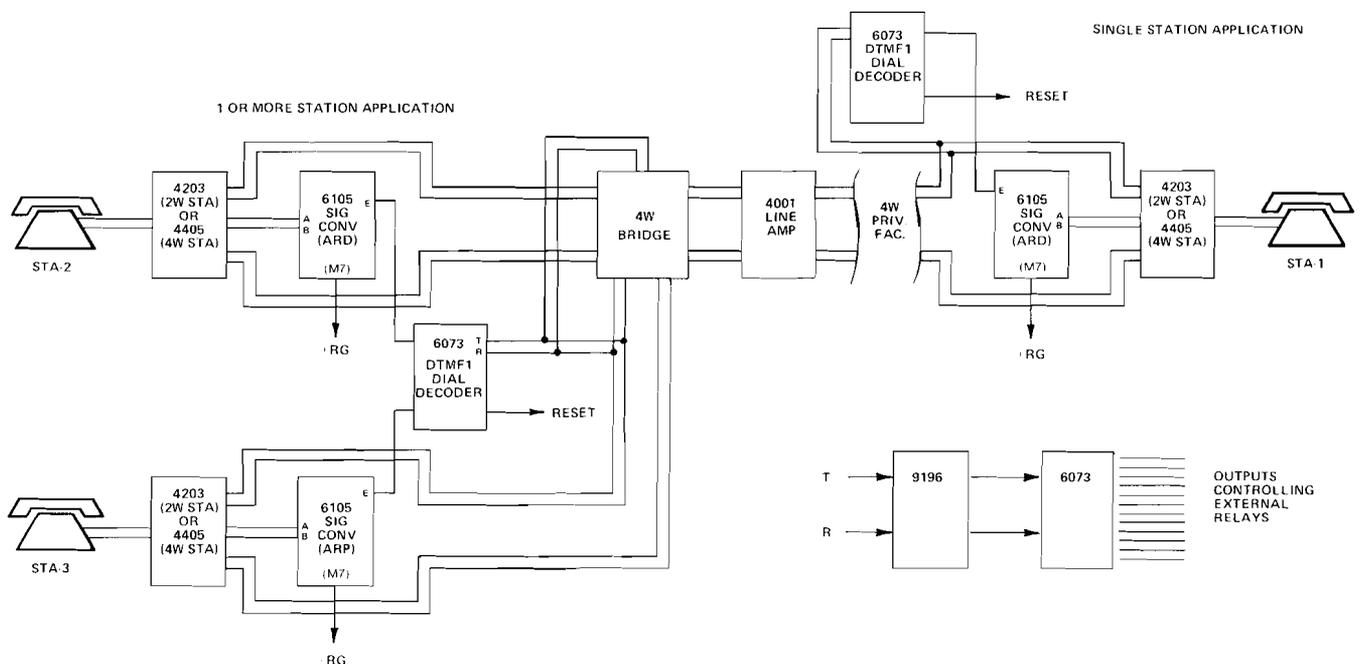


figure 2. Typical 4Wire selective signaling application

2.05 A dial-up, dial-down mode of operation can be implemented by wiring one of the 6073's output leads, optioned for momentary operation, to the reset (RST) input of a second output optioned for latched operation. In this arrangement, the output of the second code is activated in the normal manner, latched active, and then deactivated when the momentary code is dialed.

2.06 Because of its high-impedance input, many 6073 modules may be bridged across a telephone line with no loading problems. Specifically, up to 144 DTMF/Dial Decoders can be placed across a telephone line, providing up to 1728 individually activated outputs.

2.07 Master activation and deactivation of all outputs on the 6073 may be performed via the master set (MSET) and master reset (MRST) leads. A momentary ground applied to the MSET input activates all output leads, while a momentary ground applied to the MRST input deactivates all active outputs. The MSET and MRST inputs can be used in conjunction with an output optioned for momentary operation to provide master activation (all-call) or deactivation of all outputs via a single one, two, or three-digit code.

2.08 Master control of the 6073 can be achieved via the DISABLE input. When this lead is held at ground, all decoding by the module is inhibited. Wiring the output lead of a digit optioned for latched operation to the module's DISABLE input lead provides the means to control operation of the 6073 from a single code. In this mode, once the latched digit's output lead is activated, no further decoding takes place until the latched digit's output lead is deactivated via either the latched digit's RST lead or the module's MRST lead.

3. installation

inspection

3.01 The 6073 DTMF/Dial Decoder module should be visually inspected upon arrival in order to find possible damage incurred during shipment. If damage is noted, a claim should immediately be filed with the carrier. If stored, the module should be visually inspected again prior to installation.

mounting

3.02 The 6073 module mounts in one position of a Tellabs Type 10 mounting shelf or in position 11 of the Tellabs 291 or 292 System's common equipment shelf. The module plugs physically and electrically into a 56-pin connector at the rear of the shelf.

installer connections

3.03 Before making any connections to the mounting shelf, make sure that power is off and modules are removed. Modules should be put into place only after they are properly optioned and after wiring is completed.

3.04 Table 1 lists external connections to the 6073 module. All connections are made via wire-

| connect: | to pin: |
|---------------------------------------|---------|
| T (DTMF tip) | 25 |
| R (DTMF ring) | 27 |
| SLC (series loop current) | 32 |
| LCR (loop current return) | 34 |
| MRST (master reset lead) | 49 |
| MSET (master set lead) | 23 |
| TAO (tone active output) | 56 |
| DI (disable input) | 5 |
| SO (status output) | 7 |
| ISO (inverted status output) | 12 |
| 0 OUT (digit 0 output lead) | 21 |
| 0 RST (digit 0 reset lead) | 37 |
| 1 OUT (digit 1 output lead) | 13 |
| 1 RST (digit 1 reset lead) | 29 |
| 2 OUT (digit 2 output lead) | 15 |
| 2 RST (digit 2 reset lead) | 9 |
| 3 OUT (digit 3 output lead) | 8 |
| 3 RST (digit 3 reset lead) | 10 |
| 4 OUT (digit 4 output lead) | 6 |
| 4 RST (digit 4 reset lead) | 11 |
| 5 OUT (digit 5 output lead) | 4 |
| 5 RST (digit 5 reset lead) | 1 |
| 6 OUT (digit 6 output lead) | 3 |
| 6 RST (digit 6 reset lead) | 2 |
| 7 OUT (digit 7 output lead) | 45 |
| 7 RST (digit 7 reset lead) | 51 |
| 8 OUT (digit 8 output lead) | 43 |
| 8 RST (digit 8 reset lead) | 39 |
| 9 OUT (digit 9 output lead) | 19 |
| 9 RST (digit 9 reset lead) | 31 |
| * OUT (digit * output lead) | 47 |
| * RST (digit * reset lead) | 53 |
| # OUT (digit # output lead) | 50 |
| # RST (digit # reset lead) | 41 |
| -BATT (-22 to -56 Vdc filtered input) | 35 |
| GND (ground) | 17 |

table 1. External connections to 6073

wrapping at the 56-pin connector at the rear of the module's mounting-shelf position. Pin numbers are found on the body of the connector.

option selection

3.05 Six option switches must be set before the 6073 is placed into service. These switches and their functions are described in paragraphs 3.06 through 3.09. Locations of these switches on the module's printed circuit board are shown in figure 4.

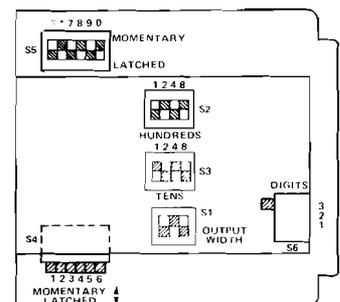


figure 4. Option switch locations

3.06 Switch S6 is a three-position slide switch that options the 6073 module for one, two, or three-digit operation. Set S6 to position 1 for one-digit operation, to position 2 for two-digit operation, or to position 3 for three-digit operation.

3.07 Switches S2 and S3 are used to program access codes of two or three digits into the 6073 via a binary code. These switches are identical except that S2 is only used when the module is optioned for three-digit operation. In the case of three-digit

operation, S2 is used to program the first (hundreds) digit of the code, while S3 is used to program the second (tens) digit. If two-digit codes are desired, only S3 need be used. Remember, the last (ones) digit of the code corresponds to the digits available on the specific telephone used, i.e., 0 through 9, * and # for DTMF; 0 through 9 for rotary dial. Table 2 lists the proper switch settings for optioning the access codes into the 6073 module. Table 3 provides step-by-step procedures for proper access code selection.

| DIGIT | S2-1/S3-1 | S2-2/S3-2 | S2-3/S3-3 | S2-4/S3-4 |
|-------|-----------|-----------|-----------|-----------|
| 1 | ON | OFF | OFF | OFF |
| 2 | OFF | ON | OFF | OFF |
| 3 | ON | ON | OFF | OFF |
| 4 | OFF | OFF | ON | OFF |
| 5 | ON | OFF | ON | OFF |
| 6 | OFF | ON | ON | OFF |
| 7 | ON | ON | ON | OFF |
| 8 | OFF | OFF | OFF | ON |
| 9 | ON | OFF | OFF | ON |
| 0 | OFF | ON | OFF | ON |
| * | ON | ON | OFF | ON |
| # | OFF | OFF | ON | ON |

table 2. Switch S2 and S3 settings for 6073 access-code selection

| | | | |
|--|---|---|---|
| Example: Programming single-digit codes into 6073 module. | | | |
| Step 1 Set S6 to 1 | Step 2 No further optioning required. Codes will be: 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, *, # | | |
| Example: Programming two-digit codes into 6073, with 1 as first (tens) digit. | | | |
| Step 1 Set S6 to 2 | Step 2 Set S3-1 to ON | Step 3 No further optioning required. Codes will be: 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 1*, 1# | |
| Example: Programming three-digit codes into 6073, with 1, 2 as first (hundreds) and second (tens) digits, respectively. | | | |
| Step 1 Set S6 to 3 | Step 2 Set S2-1 to ON | Step 3 Set S3-2 to ON | Step 4 No further optioning required. Codes will be: 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 12*, 12# |

table 3. 6073 access code selection

3.08 Switches S4-1 through S4-6 and S5-1 through S5-6 are used to select momentary or latched operation for each of the 6073's twelve signaling outputs. For latched operation, set the switch for the corresponding output to the OFF position. For momentary operation, set the switch for that particular output to the ON position. The

switch numbers, the digit whose signaling lead each switch controls, and the switch positions are indicated on the printed circuit board adjacent to these switches.

3.09 Switches S1-1 through S1-3 are used to control the output pulse width of those outputs optioned for momentary operation. Select either 125, 250, 500, or 1,000ms by setting S1-1 through S1-3 as directed in table 4.

| OUTPUT PULSE WIDTH | S1-1 | S1-2 | S1-3 |
|--------------------|------|------|------|
| 125ms | ON | ON | ON |
| 250ms | ON | ON | OFF |
| 500ms | ON | OFF | OFF |
| 1000ms | OFF | OFF | OFF |

table 4. Output pulse width selection

Note: The pulse width selected is common to all outputs optioned for momentary operation. It is not individually selectable for each output. If the last digit of the code is accidentally redialed within this 125, 250, 500 or 1,000ms interval, the output pulse width is doubled. For example, if the module is optioned for 500ms momentary operation, the output will be extended to 1,000ms if the last valid digit is dialed twice within the 500ms interval. Also, for either momentary or latched operation, the last valid DTMF digit must be depressed for at least 40ms before any activation of output leads occurs.

4. circuit description

4.01 This circuit description is intended to familiarize you with the 6073 DTMF/Dial Decoder module for engineering and application purposes only. Attempts to test or troubleshoot the 6073 internally are not recommended and may void your warranty. Procedures for recommended testing and troubleshooting in the field are limited to those prescribed in section 7 of this practice. Refer to the 6073 block diagram, section 5 of this practice, as an aid in following the circuit description.

4.02 The 6073 module provides 12 identical digit logic circuits, each with separate signaling and reset leads. The module is factory-equipped with a DTMF receiver and a dial-pulse detector.

4.03 The DTMF input stage provides a balanced high-impedance input that is surge-protected against possible transients on the 2wire line. This input stage feeds into an integrated DTMF receiver, which outputs a logic signal to the digit decoder circuitry.

4.04 The loop current detector is a dual optoisolator that provides a nonpolarized input via pins 32 and 34. This current detector provides dial-pulse information to the dial pulse decoder circuitry, which counts these pulses and provides a binary output for use in the digit decoder circuitry.

4.05 When a digit is detected by either the *DTMF receiver* or the *dial pulse decoder*, a four-bit binary pattern is outputted to the *digit decoder* circuitry, where it is compared with the numbers programmed via DIP switches *S2* and *S3*. A trigger pulse that informs the *digit decoder* circuitry that dialing is taking place is also generated. When the correct digit or series of digits is dialed (determined by switches *S2*, *S3*, and *S6*), the output stage is enabled, thus allowing the last digit to be forwarded to the respective output *latch*.

4.06 The trigger pulse is also used to control other functions on the 6073 module. First, it is used to update a counter that informs the *digit decoder* circuitry of the number of digits that have been dialed. When the number of digits optioned by *S6* is reached, the *decoder* is then reset, allowing a new set of numbers to be accepted. Second, the trigger pulse starts an interdigital timer, which waits up to 6 seconds for the next digit to be accepted. If no digit is received within this 6-second period, the *decoder* then resets itself and waits for the next set of digits.

4.07 The 12 output stages consist of individual *latches* for each output and transistor drivers to control external loads. The *latches* are set by either a ground placed on the MSET input lead (pin 23) or by the *digit decoder* when the proper code is dialed. When a digit output is activated and optioned for latched operation, the output *latch* is held active until a ground is placed on either the MRST input (pin 49) or the individual RST lead. When a digit output optioned for momentary operation is set, the output *latch* remains active until a reset pulse is applied from the *momentary output timer*. This *momentary output timer* is activated whenever a digit output goes active and provides an output pulse after a time period determined by the setting of DIP switch *S1*.

4.08 The 6073 provides a "status output" lead (pin 7) and an "inverted status output" lead (pin 12) that are derived by logic-ORing the outputs of the 12 output *latches*. The output of this OR gate is fed into an open-collector transistor driver and also to an inverter, which feeds into another open-collector transistor driver, providing the two output status leads. The output of the OR gate also drives the front panel LED, indicating an active output.

4.09 The 6073's *power supply* is a series voltage regulator that allows the module to operate on filtered input potentials from -22 to -56 Vdc. A power-on reset circuit resets all digit outputs within 500ms after power is applied to the module.

signal level (each tone)

-24 to $+6$ dBm

signal duration

40ms minimum

pause time

40ms minimum

tone detect bandwidth

$\pm 1.5\%$

tone reject bandwidth

$\pm 3.0\%$

60Hz tolerance

2 volts rms

dial tone tolerance

0dB (ref. to lower-amplitude tone)

noise tolerance

-12 dB (ref. to lower-amplitude tone)

rotary dial input

input current

20 to 100mA

on-hook recognition

300 ± 30 ms

off-hook recognition

100 ± 10 ms

end-of-digit recognition

100 ± 10 ms

common specifications

output interface

open collector transistor

maximum output load

100mA at -22 to -56 Vdc

voltage requirements

-22 to -56 Vdc, filtered, ground referenced

current requirements

60mA idle, 80mA with all outputs active

number of outputs

12

output pulse width (momentary mode)

125, 250, 500, or 1000ms ($\pm 10\%$), switch-selectable

interdigital timeout

6 ± 0.6 seconds

input current (any input)

3mA maximum

power-on reset

all outputs go idle within 500ms after power is applied

operating environment

32° to 149° F (0° to 65° C), humidity to 95% (no condensation)

dimensions

5.58 inches (14.17cm) high

1.42 inches (3.61cm) wide

5.90 inches (15.14cm) deep

weight

9.5 ounces (269g)

mounting

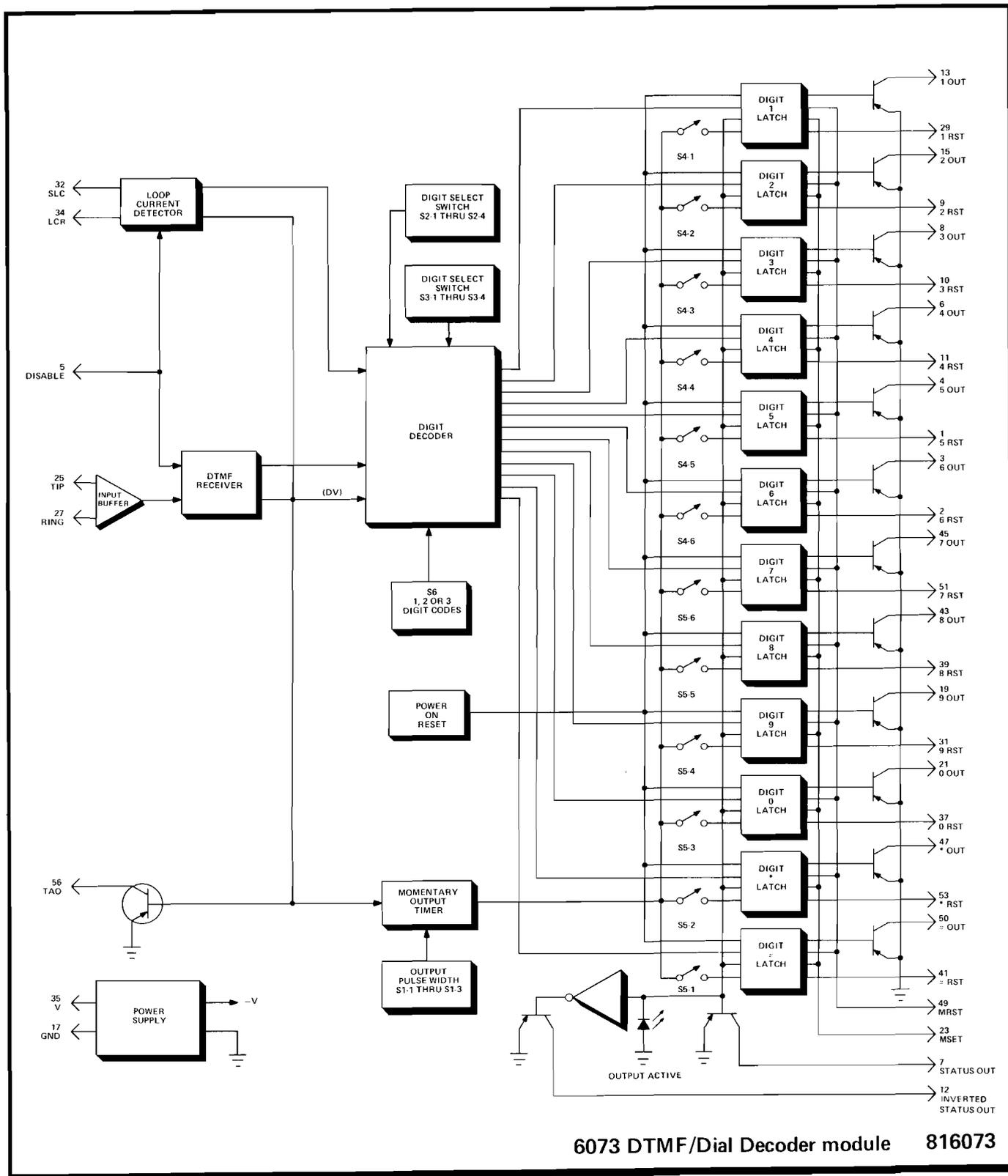
relay rack or apparatus case via one position of a Tellabs Type 10 mounting shelf; also mounts in position 11 of a Tellabs 291 or 292 System's common equipment shelf

6. specifications

DTMF input

input impedance

100 kilohms



6073 DTMF/Dial Decoder module 816073

5. block diagram

7. testing and troubleshooting

7.01 The *testing guide checklist* in this section may be used to assist in the installation, testing or troubleshooting of the 6073 DTMF/Dial Decoder. The checklist is intended as an aid in the localization of trouble to a specific module. If a module is suspected of being defective, a new one should be substituted and the test conducted again. If the substitute module operates correctly, the original module should be considered defective and returned to Tellabs for repair or replacement as directed below. We strongly recommend that no internal (component-level) testing or repairs be attempted on the 6073 module. Unauthorized testing or repairs may void the module's warranty. Also, if the module is part of a registered system, unauthorized repairs will result in noncompliance with Part 68 of the FCC Rules and Regulations.

Note: *Warranty service does not include removal of permanent customer markings on the front panels of Tellabs modules, although an attempt will be made to do so. If a module must be marked **defective**, we recommend that it be done on a piece of tape or on a removable stick-on label.*

7.02 If a situation arises that is not covered in the checklist, contact Tellabs Customer Service as follows (telephone numbers are given below):

USA customers: Contact Tellabs Customer Service at your Tellabs Regional office.

Canadian customers: Contact Tellabs Customer Service at our Canadian headquarters in Mississauga, Ontario.

International customers: Contact your Tellabs distributor.

US atlantic region: (203) 798-0506

US capital region: (703) 478-0468

US central region: (312) 357-7400

US southeast region: (305) 834-8311

US southwest region: (214) 869-4114

US western region: (714) 850-1300

Canada: (416) 624-0052

7.03 If a 6073 is diagnosed as defective, follow the *replacement* procedure in paragraph 7.04 when a critical service outage exists (e.g., when a system or a critical circuit is down and no spares are available). If the situation is not critical, follow the *repair and return* procedure in paragraph 7.05.

replacement

7.04 To obtain a replacement 6073 module, notify Tellabs via letter or telephone (see addresses and numbers below), or via TWX (910-694-3530 in the USA, 610-492-4387 in Canada). Be sure to provide all relevant information, including the 8X6073 part number that indicates the issue of the module in question. Upon notification, we shall ship a replacement module to you. If the module in question is in warranty, the replacement will be shipped at no charge. Pack the defective 6073 in the replacement module's carton, sign the packing slip included with the replacement, and enclose it with the defective module (this is your return authorization). Affix the preaddressed label provided with the replacement module to the carton being returned, and ship the carton prepaid to Tellabs.

repair and return

7.05 Return the defective 6073 module, shipment prepaid, to Tellabs (attn: repair and return).

in the USA:

Tellabs, Inc.

4951 Indiana Avenue

Lisle, Illinois 60532

telephone (312) 969-8800

in Canada:

Tellabs Communications Canada, Ltd.

1200 Aerowood Drive, Unit 39

Mississauga, Ontario, Canada L4W 2S7

telephone (416) 624-0052

Enclose an explanation of the module's malfunction. Follow your company's standard procedure with regard to administrative paperwork. Tellabs will repair the module and ship it back to you. If the module is in warranty, no invoice will be issued.

testing guide checklist on page 8

testing guide checklist

| test | test procedure | normal result | if normal conditions are not met, verify: |
|---------------------------------------|--|---|---|
| rotary-dial decoding (momentary mode) | Set S1-1 through S1-3 to ON. Set S6 to 1. Set S4-1 through S4-6 and S5-1 through S5-6 to <i>momentary</i> . Dial each digit (0 through 9) consecutively. | Outputs 0 through 9 are activated for approximately 125ms, starting when the corresponding digit is dialed <input type="checkbox"/> . Status output is activated for 125ms when each digit is dialed <input type="checkbox"/> . Front-panel LED also lights for same time interval <input type="checkbox"/> . | Disable input not at ground potential <input type="checkbox"/> . Option switches properly set <input type="checkbox"/> . Power <input type="checkbox"/> . Wiring <input type="checkbox"/> . Replace 6073 and retest <input type="checkbox"/> . |
| rotary-dial decoding (latched mode) | Set S6 to 1. Set S4-1 through S4-6 and S5-1 through S5-6 to <i>latched</i> . Dial each digit (0 through 9) consecutively. | Outputs 0 through 9 go active (after dialing is completed) when the respective digit is dialed <input type="checkbox"/> . Status output goes active when first digit is dialed and remains activated <input type="checkbox"/> . Front panel LED lights <input type="checkbox"/> . | Disable input not at ground potential <input type="checkbox"/> . Option switches properly set <input type="checkbox"/> . Power <input type="checkbox"/> . Wiring <input type="checkbox"/> . Replace 6073 and retest <input type="checkbox"/> . |
| individual output reset | Place a ground on each of the RST leads. | Outputs 0 through 9 are deactivated as a ground is placed on the corresponding RST lead <input type="checkbox"/> . Status output lead is deactivated when last output is reset <input type="checkbox"/> . | MSET lead not at ground potential <input type="checkbox"/> . Option switches properly set <input type="checkbox"/> . Power <input type="checkbox"/> . Wiring <input type="checkbox"/> . Replace 6073 and retest <input type="checkbox"/> . |
| master output activation | Momentarily place a ground on the MSET input lead. | All outputs go active <input type="checkbox"/> . Status output goes active <input type="checkbox"/> . | MRST and RST leads not at ground potential <input type="checkbox"/> . Option switches properly set <input type="checkbox"/> . Power <input type="checkbox"/> . Wiring <input type="checkbox"/> . Replace 6073 and retest <input type="checkbox"/> . |
| master output deactivation | Momentarily place a ground on the MRST input lead. | All outputs are deactivated <input type="checkbox"/> . Status output is deactivated <input type="checkbox"/> . Inverted status output goes active <input type="checkbox"/> . | MSET lead not at ground potential <input type="checkbox"/> . Option switches properly set <input type="checkbox"/> . Power <input type="checkbox"/> . Wiring <input type="checkbox"/> . Replace 6073 and retest <input type="checkbox"/> . |
| DTMF decoding | Set S4-1 through S4-6 and S5-1 through S5-6 to <i>momentary</i> position. Set S6-1 through S6-3 to ON. Key each digit (0 through 9, *, #) consecutively. | Outputs 0 through # are activated for approximately 125ms as each key is pressed <input type="checkbox"/> . Status output is momentarily activated <input type="checkbox"/> . Inverted status output is momentarily deactivated <input type="checkbox"/> . Tone active output is activated for as long as key is pressed <input type="checkbox"/> . | Disable or RST lead not at ground potential <input type="checkbox"/> . Option switches properly set <input type="checkbox"/> . Power <input type="checkbox"/> . Wiring <input type="checkbox"/> . Replace 6073 and retest <input type="checkbox"/> . |
| two-digit operation | Set S6 to 2. Set S4-1 through S4-6 and S5-1 through S5-6 to <i>momentary</i> . Set S3-1 and S3-3 to ON. Dial 5, then 0. | 0 output goes active for 125ms after 5, 0 is dialed <input type="checkbox"/> . | Disable or RST lead not at ground potential <input type="checkbox"/> . Correct digits dialed <input type="checkbox"/> . Option switches properly set <input type="checkbox"/> . Power <input type="checkbox"/> . Wiring <input type="checkbox"/> . Replace 6073 and retest <input type="checkbox"/> . |
| three-digit operation | Set S6 to 3. Set S3-1 and S3-3 to ON. Set S2-1 and S2-3 to ON. Dial 5, 5, 0. | 0 output goes active for 125ms after 5, 5, 0 is dialed <input type="checkbox"/> . | Disable or RST lead not at ground potential <input type="checkbox"/> . Correct digits dialed <input type="checkbox"/> . Option switches properly set <input type="checkbox"/> . Power <input type="checkbox"/> . Wiring <input type="checkbox"/> . Replace 6073 and retest <input type="checkbox"/> . |