TLR

PC Alarm Receiver

Installation guide for Alarm Receiver card (TLR)

Contents

Version 000707

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Installation guide for Alarm Receiver card (TLR)

TLR Alarm Receiver card

Twin line alarm receiver card (TLR) for PC and PC compatible computers is a MCDI product. It carries a five year limited warranty.

How to install the TLR card

The TLR card is designed to fit a slot in an IBM PC or PC compatible computer type PC AT, 386, 486, and up. A standard chassis is compulsory for this product to fit.

Remove the top of the computer chassis, slide the card in the first free slot. Make sure that the metal holder at the end of the card is pointed toward the back of the chassis. The BUS connector should point toward the bottom of the chassis and be pushed firmly in the BUS. Use a screw to hold the back bracket firmly to the chassis of the computer.

Setting up TLR

On the upper part of the card there are six Jumper positions JP1 to JP6, three Rotary switches S2, S3, S4 and a chaining connector J1. JP7 is for reset.

JP1 and JP2 are jumpers to set TLR for COM (1 to 4) port address.. Find an available (not used) address among 3F8, 2F8, 3E8, 2E8. For this:

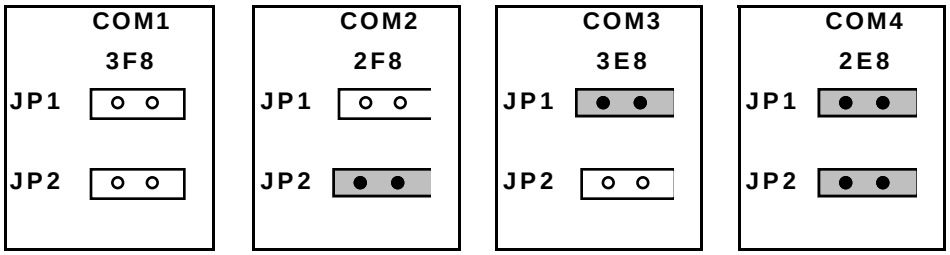
```
C:/>debug <enter>
-d40:0 <enter>
0040:0000          F8   03   F8   02   E8   03   E8   02   ........................................

                  (COM1)    (COM2)    (COM3)    (COM4)
-q <enter>      to quit debug
```

Example: If the -d40:0 table displays the following data:

```
0040:0000          F8   03   F8   02   00   00   00   00   ........
```

It means that 3E8 and 2E8 corresponding to ports COM3 and COM4 are available.

Chose one of the available addresses and set jumpers JP1 and JP2 accordingly. Dark rectangular below has jumper installed. White rectangular form has no jumper.



To select IRQ start with number 5 because most systems use numbers well below 5 for standard devices.

JP3 to JP6 are jumpers used to tell the computer which IRQ is used.

JP3 = IRQ3

JP4 = IRQ4

JP5 = IRQ2

JP6 = IRQ5

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S2 Number given to second phone line (0 to 7). This number is transmitted to the software managing the alarms, with each event received. This numbering is optional and depends on the management of the Central.

S3 Number given to the first phone line (0 to 7) This number is transmitted to the software managing the alarms, with each event received. This numbering is optional and depends on the management of the Central.

S4 Number given to the receiver. Arbitrary value, available to the management of the Central.

JP7 Reset contact for the card.

J1 Connector for chaining more than one TLR card. This allows only one external printer to serve all cards. When more than one card is installed, use the jumper to link all cards and connect the DB25 parallel printer cable to the lowest COM card which must physically be the rightmost. The rightmost card is found by looking inside the computer from the front. The cable chaining and the data flow make this arrangement compulsory to allow printer status verification.

External connectors

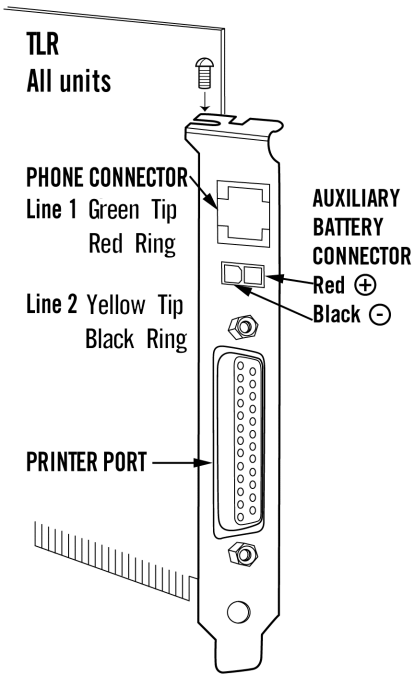
Printer port

Connector port for IBM compatible parallel printer type DB25. When more than one card is installed in the same computer, one printer only can be used for all cards in the same computer. See SETUP

Phone jack

Phone connector type RJ14C/W. Connect four wires for two lines.

Line 1	Green	Tip
	Red	Ring
Line 2	Yellow	Tip
	Black	Ring



Battery connector

A six (6) volt battery connector is designed to feed **6 volts** to the card in case the computer fails. A 6 foot wire is supplied. Connect the red wire to the positive side and the black wire to the negative side of the battery. Battery type recommended: Rechargeable sealed lead-acid for constant voltage.

During normal operation, the card takes its power from the computer and charges the battery. When the computer fails the card takes its power from the battery and keeps on receiving alarms. TLR buffer holds a maximum of to 256 events depending on the formats. Card keeps printing during fail time. When computer comes back on, buffer is emptied to the computer. If more than 256 events are received in the buffer during fail time, the card writes over the oldest one with all events exceeding 256. The written records are available on printer, however.

Battery size (power) is dependent on the period it must maintain the receiver operating while PC is off. As a rule of the thumb, define the number of hours a fully charged battery must support the system and divide by two (2) to get the A-H.

Example: To support the receiver for 8 hours requires a 4 A-H rechargeable battery.

Formats and characters transmitted

Receiving

Acron, Radionics,Silent Knight, Sur-Gard Ademco Contact ID Ademco Express

Pulse	10,20,40 bps 3x1 - 4x1 - 4x2	Dual Round
	10,20,40 bps 4x2	Checksum
	10,20,40 bps 3x1 - 4x1 Extended	Dual Round
Handshake and kissoff:		1400hz / 2300hz
Pulse:		1800hz / 1900hz
Sescoa SS protocol		Not supported
DTMF		10 char/sec.

To TLR printer port

When computer ceases to answer	"Computer absent"	is sent to TLR port
When computer answers	"Computer restore"	is sent to TLR port

Listen-in, Two way voice

Listen-in function

Some alarm panels offer the option for the Central station operator to listen for sound in the premises where the alarm signal originates.

Alarm panels supporting “Listen-in” keep telephone line open after having sent a signal, to allow sound monitoring. Telephone line will be closed by the Central station subject to operator action or receiver setup.

Listen-in criteria

Receiver TLR is triggered into “Listen-in” mode for incoming events according to panel setup for specific protocol.

Contact ID protocol has specific code for Listen-in. See Panel setup.

DTMF protocols use the AEx signal where x can be 0 to F at the Installer’s choice.

In 4x2 format, TLR is triggered into Listen-in upon receiveing an E alarm code. SETTLR L is a prerequisite.

Receiver action upon reception of “Listen-in” trigger

Upon reception of event in the Listen-in category, TLR receiver maintains the telephone line open for a period of up to 180 seconds or less then 180 seconds upon reception of any telephone tone from the keypad.

Operator control for “Listen-in”

Operator must be warned by Monitoring software of account “listen-in” capability. Operator has a maximum of 180 seconds from time of alarm reception to telephone pickup. Failure to pickup telephone in this delays will cause line hang-up by TLR receiver.

Once the line is seized by Central station local telephone, the hang-up action of TLR will have no effect.

To close communication with alarms signal site in the first 180 seconds when TLR is in action, operator must press any key on the telephone keypad before hanging up. The TLR will hang up before 180 seconds only upon reception of a tone from telephone keypad.

To close communication with alarms signal site after 180 seconds of event reception, simply hang-up the telephone. This is because the TLR is not in function anymore, its delay having expired.

TLR Native mode to Computer and printer

General format

HH:mm	MM/DD[/YY] RL CCCC A[AAA]<CR>	Receiver definition --->	Baud rate : 1200
HH:mm	MM/DD[YY] RL CCCC AAAA GG ZZZ<CR>	(TLR)	Parity: : No
			Bits : 8
			Stop bit : 1

HH	-Hours	mm	-Minutes
MM	-Month	DD	-Days
YY	-Year	R	-Receiver #
L	-Line (No)	CCCC	-Account #
AAAA	-Alarm (2 to 6 char.)	GG	-Group #
ZZZ	-Zone (No)	<CR>	-Return

Printer and line supervision messages, information sent to computer

HH:MM	MM/DD[YY]	RL	Customer	XYY
Time	Date	Receiver	Customer A01	Printer problem (Paper out, Offline,Fault)
Time	Date	Receiver	Customer R01	Printer has been reset
Time	Date	Receiver	0000 00	Bad transmission

Protocol for interfacing with Central Monitoring Software

FORMAT 3x1, 4x1

HH:mm_ _MM/DD[/YY] _ _ RL_CCCC_ØA<CR>	Default
HH:mm_ _MM/DD[/YY] _ _ RL_CCCC_A<CR>	Option 4x1 set by SETTLR
HH:mm_ _MM/DD[/YY] _ _ RL_CCC_A<CR>	Option 3x1 set by SETTLR
HH:mm_ _MM/DD[/YY] _ _ RL_ØCCC_AA<CR>	Option 3x1 extended compressed 4x2
HH:mm_ _MM/DD[/YY] _ _ RL_CCCC_AA<CR>	Option 4x1 extended compressed 4x2
	Option zero removed 3x1,4x1, extended

FORMAT 4x2

HH:mm_ _MM/DD[/YY] _ _RL_CCCC_AZ<CR>

FORMAT 4x3 (SESCOA SS)

HH:mm_ _MM/DD[/YY] _ _RL_CCCC_AZZ[Z]<CR>

SESCOA SS not implemented

FORMAT 4x3 (SUR GARD)

HH:mm_ _MM/DD[/YY] _ _RL_CCCC_AZZ<CR>

FORMAT ADEMCO HIGH SPEED

HH:mm_ _MM/DD[/YY] _ _RL_CCCC_AAAA_AAAA_A<CR>

FORMAT ACRON

HH:mm_ _MM/DD[/YY] _ _RL_CCCC_AAAAAAAA<CR>
HH:mm_ _MM/DD[/YY] _ _RL_ _CCC_AAAAAAAA<CR>

FORMAT FBI SUPER FAST

HH:mm_ _MM/DD[/YY] _ _RL_CCCC_A Z[ZZ]<CR>

FORMAT CONTACT ID

HH:mm_ _MM/DD[/YY] _ _RL_CCCC_18_TAAA_GG_ZZZ<CR>

@CR	Heartbeat	
HH	Hour	
:	Character ":"	
mm	Minute	
DD	Day	
_	1 space	
__	2 spaces	
MM	Month	
[YY]	Year [Present/Absent]	(Option set by SETTLR)
/	Character "/"	
R	Receiver number	(Option set by switch on receiver)
L	Line number	(Option set by switch on receiver)
C	Account number	
A	Alarm	
Z	Zone	
G	Group (Partition)	
T	Type(E or R)	(Contact ID)
Ø	Zero	
<CR>	EOS	(Carriage Return)
<ACK>	Receiver retransmits data to computer every 2 second until ACK is received by TLR (ACK=06H or $06)	

TLR Ademco 685 emulation mode to Computer and printer

See ADEMCO 685 User Manual for information transmission standard

Receiver definition ---> (TLR)

Baud rate	:	1200
Parity:	:	No
Bits	:	8
Stop bit	:	1

Data retransmit to another computer (PC685.EXE)

Application running under DOS. It is a dedicated application collecting data from TLR receiver and transferring it to another computer via the COM1 port. It emulates the ADEMCO 685 for data being transferred to output. No other Ademco 685 function is emulated

Setup

Install in a computer having TLR receivers.

START: PC685 [N] N is the baud rate of COM1. Other default parameters are: No,8 bits,1 stop bit

Baud rate definition:	0	=	9600	3	=	1200
	1	=	4800	4	=	600
	2	=	2400			

Example: "PC685 3" (1200 bps)

Input is always coming from TLR

Output is on COM1

Printer is compulsory and on LPT1

TLR cards' fixed positions:	Card 1:	COM2 / IRQ3
	Card 2:	COM3 / IRQ4
	Card 3:	COM4 / IRQ5

Commands: <Halt-Q> to exit <T> for system test

System test: Same as A685

[<T> System test]

08:39 97/07 10RCVD 555 555 9
08:39 97/07 10RCVD 555 555 9
08:39 COMPUTER ABSENT
08:39 97/07 10RCVD 555 555 9

Data flow

Data is always sent three ways: To main frame, To CRT display, To printer.

The heartbeat is only sent to Main frame.

When main frame ACK date flows normally. If no ACK is received from Main frame, a second transmission is made. If still no ACK a beep starts to request operator intervention.

To stop beep touch any key.

The operator follows the Central procedures at this step.

The data transfer to Main Frame resumes when acceptable data is sent and ACK by Main Frame

End

Startup commands

At startup the TLR default option can be changed. Parameters used are listed below. The conventional way to send the command is by entering, in DOS, the SETTLR command with the option parameters in any order et hitting the Enter key. If the Ademco 685 option is selected, all the other option chosen will be in effect but their result might be apparent only on the printer connected to the TLR parallel port. For example the date is not transmitted to the computer in Ademco mode nor is the Heartbeat.

Example 1:	C:/>SETTLR	Original mode, default options
Example 2	C:/>SETTLR _ 685THYER <ENTER>	Ademco 685 mode, all options
Example 3	C:/>SETTLR _ YETHRL <ENTER>	All options

The options, in short:

TLR clock reset from PC Time:	Each SETTLR run updates TLR time is to PC time.	
Native mode	C:/>SETTLR	
ADEMCO 685 emulation mode	C:/>SETTLR _ 685	(Underscore sign= blank space)
Answer after one or two rings	C:/>SETTLR _ T	(Underscore sign= blank space)
Heartbeat in Native mode	C:/>SETTLR _ H	(Underscore sign= blank space)
Compressed extended 3x1 or 4x1	C:/>SETTLR _ E	(Underscore sign= blank space)
Zero removed in 3x1 and 4x1	C:/>SETTLR _ R	(Underscore sign= blank space)
Date including the year	C:/>SETTLR _ Y	(Underscore sign= blank space)
Printer on TLR port	C:/>SETTLR _ P	(Underscore sign= blank space)
Listen in activation in 4x2 format	C:/>SETTLR _ L	(Underscore sign= blank space)
Invert Handshake sequence	C:/>SETTLR _ D	(Underscore sign= blank space)
Stop SETTLR from reading COM X (X=1,2,3,4)	C:/>SETTLR _ 1234	(Enter COM number not to be read)
Time Bias adjustment	C:/>SETTLR _ +xx or -xx	(increase or decrease clock speed)

The options in detail:

TLR original mode, enter command: "SETTLR" in DOS. This program defines for the TLR the date and time, taken from the computer. After startup the time and date will always come from the TLR, even if the computer fails or stops.

C:/>SETTLR <ENTER>

When computer transmits Account No 0000 and alarm code 00, it means a bad transmission has occurred. The originator of the event must retransmit.

TLR ADEMCO 685 emulation mode, enter command: "SETTLR _ 685" in DOS. This option tells the TLR to send data to the computer in the Ademco 685 format. All selected options, not compatible with this mode, will have effect only on records printed by the TLR parallel port.

C:/>SETTLR _ 685 <ENTER>

TLR answers after one or two rings, enter command: "SETTLR _ T" in DOS.

Choice answering after one or two rings. The default is one ring.

The "T" command tells the TLR receiver to wait for another ring before answering incoming call:

C:/>SETTLR _ T <ENTER>

TLR Heartbeat in original mode, enter command: "SETTLR _ H" in DOS.

TLR can send a Heartbeat signal to the computer every 30 second only in TLR in original mode (Not in Ademco 685 emulation mode). When a problem occurs with the TLR this signal ceases, telling the Monitoring software operator to react.

By default this heartbeat signal is not active. To setup add the H parameter to SETTLR

C:/>SETTLR _ H <ENTER>

TLR compressed extended 3x1 or 4x1, enter command: "SETTLR _ E" in DOS.

The "E" command triggers the compression for incoming 3 x 1 and 4 x 1.

Example: 3 x 1 Extended compressed in 4 x 2 standard

123 4
444 5 After compression: 0123 45

Example: 4 x 1 Extended compressed in 4 x 2 standard

1234 5
5555 6 After compression: 1234 56

C:/>SETTLR _ E <ENTER>

TLR with zero removed in 3x1 and 4x1, enter command: "SETTLR _ R" in DOS.

The "R" command tells the TLR receiver not to insert a zero in front of the account number and in front of the alarm code, for incoming 3 x 1 and 4 x 1.

Example: 3 x 1 Extended compressed in 3 x 2 standard

123 4
444 5 After compression: 123 45

Example: 3 x 1 Standard 3 x 1

123 1

Example: 4 x 1 Standard 4 x 1

1234 1

Example: 3 x 1 and 4 x 1 without the "R" command:

0123 01 for 3 x 1
1234 01 for 4 x 1

C:/>SETTLR _ R <ENTER>

TLR date including the year, enter command: "SETTLR _ Y" in DOS.

By default TLR sends date and time to the computer with incoming alarms in format MM/DD.

The "Y" command tells the TLR receiver to add the Year in the date format:

HH:mm _ _ MM/DD[/YY] ...

C:/>SETTLR _ Y <ENTER>

TLR to verifiy printer status on parallel port, enter command: "SETTLR _ P" in DOS.

By default TLR does not verifiy printer status on parallel port but sends data to be printed as if a printer was connected to this port.

The "P" command tells the TLR receiver to verify and report on the status of the printer connected to the TLR parallel port. The status verification applies to the lowest COM card in the computer if more than one card are installed. A connector is supplied to daisy chain multiple TLR cards in the same computer to send all output to one printer only.

C:/>SETTLR _ P <ENTER>

NOTE: Do not set the "P" parameter if no printer is installed. Multiple error messages and could be generated by doing this.

TLR Listen-in_mode, Option tells TLR to enter into Listen-in mode in 4x2 format upon receiving an E alarm code.

C:/>SETTLR _ L <ENTER>

TLR Handshake sequence inversion _, Standard TLR hanshake sequence is Dual, 2300 Hz, 1400 Hz
D Option sets 2300 Hz, 1400 Hz, Dual

C:/>SETTLR _ D <ENTER>

Stop SETTLR from reading COM_X (X=1,2,3,4), Standard procedure is for SETTLR to scan COM 1234. Some devices react imprevisibly to this scan. To prevent scan on a specific COM port, enter port number in SETTLR parameters. Beware, enter ONLY COM port NOT TO SCAN

C:/>SETTLR _ 1234 <ENTER>

TLR clock speed adjustment _,

When days, weeks or months go by without running SETTLR setup program, a time discrepancy may appear between PC time and TLR time.

TLR Firmware has a time bias to speed up or slow down internal clock to match PC clock speed.

TLR bias parameter is entered by SETTLR program.

Time Bias is one of the parameters available to SETTLR setup program. It has 3 digits:

Digit 1: (+) = sign to increase clock speed
(–) = sign to decrease clock speed

Digit 2 and 3: xx = bias value in seconds per day (01<bias>99)

Logic: Bias is applied each hour on the hour at a rate of xx / 24 hours

Example: SETTLR +60 (increase TLR clock speed by 60 seconds each day)
SETTLR -10 (decrease TLR clock speed by 10 seconds each day)

TLR needs Eprom.

s/n 15350 <	2.62.14+
s/n 15350 to 15500	2.63.11+
s/n 15500 >	2.64.11+

Warranty

The Electronic products of MCDI Inc. are under a five year limited warranty. Material is repaired or exchanged, free of charge, when returned to MCDI service points, post paid. Abused or misused equipment is not covered by this warranty. Power surge damages are not covered by warranty.

Legal compliance and Warning

United States Regulation FCC Warning

Radio/TV interference

This device is not equipped with dialing equipment.

Telephones equipped with electronic dialing keys generate and use radio frequency energy, and if not installed and used properly and in strict accordance with the manufacturer's instructions, may cause interference to radio and television reception.

NOTE: This device has been tested and found to comply with Part 15 if the FCC rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference and
2. This device must accept any interference received, including interference that may cause undesirable operation.

If your device causes interference, one of the following measure may correct the problem:

- Reorient or relocate the receiving TV or radio antenna, when this may be done safely.
- To the extent possible, move the device and the radio or television farther away from each other, or connect the computer with the device and the radio or television to outlets on separate circuits.
- Consult the dealer or an experienced radio/television technician for additional suggestions.

NOTE: FCC registration does not constitute an expressed or implied guarantee of performance.

Right of the Telephone Company

If this device causes harm to the telephone network, the telephone company may stop your service temporarily or ask you to remove your equipment until the problem is resolved. If possible, they will notify you in advance. If advance notice is not practical, you will be notified as soon as possible and be given the opportunity to correct the situation. You will also be informed of your right to file a complaint with the FCC.

Your telephone company may make changes in its facilities, equipment, operations or procedures that could affect the proper function of this device. If they do, you will be notified in advance to give you an opportunity to maintain uninterrupted telephone service.

Federal communication commission (FCC) Notice

FCC Registration Number: This device complies with Part 68, Rules and Regulations, of the FCC for direct connection to the Public Switched Telephone Network (the FCC registration number and REN number appear on a sticker). If requested, this information must be provided to the telephone company.

Your connection to the telephone line must comply with these FCC rules:

. Use only an FCC standard RJ11W/RJ14W or RJ11C/RJ14C network interface jack and FCC compliant line cord and plug to connect to the telephone line. (To connect the device press the small plastic tab on the plug at the end of the telephone's line cord. Insert into a jack until it clicks. To disconnect, press the tab and pull out.)

. If a network interface jack is not already installed in your location, you can order one from your telephone company. Order RJ11W/RJ14W for wall mounted telephones or RJ11C/RJ14C for desk/table use. In some states, customers are permitted to install their own jacks.

. This device may not be connected to a party line or coin telephone line. Connection to Party Line Service is subject to state tariffs (contact the state public utility commission, public service commission or corporation commission for information).

. It is no longer necessary to notify the telephone company of your device's Registration and REN number however, you must provide this information to the telephone company if they request it.

. If trouble is experienced with this equipment, for repair or warranty information please contact:
Local dealer or
MCDI
5144, Coolbrook Avenue, Montreal, QC Canada H3X 2L1
Telephone: (514) 481-1067 Fax: (514) 481-1487

. If the equipment is causing harm to the telephone network, the telephone company may request that you disconnect it until the problem is resolved.
. This device does not have any serviceable parts. Repair or exchange must be made by the manufacturer or its representatives.

Signaling method: This device does not dial out.

Ringer Equivalence Number: The FCC Registration label (on the device) includes a Ringer Equivalence Number (REN) which is used to determine the number of devices you may connect to your telephone line. A high total REN may prevent telephones from ringing in response to an incoming call and may make placing calls difficult. In most areas, a total REN of 5 should permit normal telephone operation. To determine the total REN allowed on your telephone line, consult your local telephone company.

Hearing aids This device does not convert the signal for human hearing.

Programming Emergency numbers: This device does not dial out.

Important safety instructions

When using the device, basic safety precautions should always be followed to reduce risk of fire, electrical shock and injury to persons including the following:

1. Read and understand all instructions.
2. Follow the warnings and instructions marked on the product.
3. This device is installed in a computer. This work should be done by a qualified computer technician.
4. Avoid using during electrical storm. There may be a remote risk of electrical shock from lightning.
5. CAUTION: Do no use sharp instruments during installation procedure to eliminate the possibility of accidental damage to the device, the computer or the cord.
6. Save these instructions.

Europe EC Declaration of Conformity

We:

MCDI (MC Development International Inc.)
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Declare under our sole legal responsibility that the following products conform to the protection requirements of council directive 89/336/EEC on the approximation of the laws of member states relating to electromagnetic compatibility, as amended by directive 93/68/EEC:

MCDI-TLR alarm receiver

The products to which this declaration relates are in conformity with the following relevant harmonised standards, the reference numbers of which have been published in the Official Journal of the European Communities:

EN50082-1:1992 --- EN55022 CLASS A --- EN 60555 PARTS 2 & 3 ---EN41003:1993 --- BAPT Note 48 revision 5
EN60950/IEC Ed 2 Amendment No1 1992, Amendment No2 1993, Amendment No3 1996

Signed this 7th day of January 1997

MCDI Inc.

Installation guide for Alarm Receiver card (TLR)

Technical data sheet for TLR

Description

The **MCDI-TLR** is a high performance twin-line alarm receiver card for PC computers.

The **TLR** can be installed in any standard chassis IBM™ or compatible PC - AT, 386, 486 or Pentium™. The **TLR** can interface to two telephone lines. Imposes no limit onto the number of customers per line, and provides a DB25 parallel printer port. Output to printer does not go through PC.

The TLR automatically adjust to a wide variety of protocols ranging from 3x1 to Contact ID.

With external battery support and memory buffer it can go on operating even if PC has failed.

FCC, IC and CE certified.

Features

- Multiple protocols, including Contact ID
- Standard with two telephone channels
- Internal buffer up to 256 events when PC fails
- Up to four receivers per PC
- Direct output to printer for hard copy backup
- COM port and IRQ selectable
- Supports software retransmit function
- Imposes no limit on number of accounts
- External battery option for continuous operation
- Supervision of back-up battery
- Selectable Monitoring software interfaces
- Listen-in, Two way voice

Specifications

Communications:

The MCDI-TLR provides an RJ11 type phone jack for connection to 1 or 2 telephone lines.

Type	:	Pulse, DTMF, FSK
Reception Speed	:	10, 20, 40 pps (Dual Round or Checksum)
Handshake and Kissoff	:	1400Hz / 2300Hz
Pulse Frequency	:	1800Hz / 1900Hz

Reception Formats supported:

Acron	Radionics 6500
Ademco:	Radionics extended
- Slow/Fast;	Sescoa Slow
- Contact ID;	Sescoa Standard
- Extended;	SurGard
- Express;	Contact ID
- High Speed	- compressed & converted Silent Knight Slow

3x1	3x1 extended
4x1	3x1 extended compressed 4x2
4x1 extended	4x1 extended compressed 4x2
4x2	Zero removed 3x1, 4x1, extended.

Power Requirements:

From computer +12V Supply:	600 mA max.
From 6V Battery (standby):	500 mA

Event Logging when PC is absent:

TLR can store up to 256 events. Maximum of 155 events in Contact ID. In between for mix-protocols.

Printer Output:

- Standard DB25 connector for Centronics Parallel Interface.
- Card linking arrangement allows one printer to serve all TLR receivers in one PC.

Port & IRQ:

Port address and IRQ are selectable by jumpers:

- COM 1, 2, 3,4
- IRQ 2, 3, 4, 5

Battery Back-up:

The TLR card provides charging and supervision circuitry for an external 6-Volt battery (not supplied).

Charging Voltage	6.7 Volts
Charging Current Limit	500 mA

Station Requirements:

- IBM™ or Compatible AT, 386, 486 or Pentium™ computer with standard chassis, ISA bus, 640Kbytes RAM, unused COM port and DOS Version 3.1 or later
- Printer with Centronics parallel interface and cable with DB25 connector.

Monitoring Software:

TLR interfaces with the Monitoring software in Native mode, and Ademco 685 emulation mode.

Jumpers define:	Receiver number
	Line number

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