

# Land Mobile Radio

# Land Mobile Radio

# HL-1500

OWNER'S MANUAL

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## 1. Product Features

1. Small & Lightweight
2. Operational 99 channels
3. 8-Character alphanumeric DOT matrix display
4. 1 or 4/5 Watts output power
5. Channel scan
6. Programmable 38 Standard CTSCC tones and 83 DCS Codes
7. Wide and Narrow channel spacing
8. 2.5 KHz channel stepping
9. Tri-color status LED
10. Two-tone and Quick call decode
11. Able to add an alias to a channel
12. Radio Lock with password protection
13. Adjustable receive sensitivity
14. Voice operated Transmission (VOX)
15. Clone mode

## 2. Main Products

Thank you for purchasing the Headline Radio Communication product. Below is a listing of the package contents. If any items are missing or damaged, please contact the selling dealer for a replacement.



### 3. Optional Accessories

The functionality of your Headline radio may be increased through the use of the following accessories. For details and pricing, please contact your selling dealer.

- \* Speaker microphone or other audio accessories
- \* Replacement and spare batteries
- \* Carrying accessories

### 4. Controls and Indicators



### 1. On/Off & Volume Knob

Rotate this knob clockwise to power on the radio and adjust the volume level.

### 2. External Ear / Microphone Jack

Through this accessory jack, an Earphone or Speaker Microphone may be connected to the radio.

### 3. Battery Pack

Li-Ion or Ni-MH Battery - provides greater capacity and increased battery life.

### 4. Antenna

Required for communication at the optimum distance.

### 5. PTT (Push-To-Talk) Button

Press and hold this button to transmit a call or tone signal. Release the button to receive a call.

### 6. Battery Latch

When the battery is installed to the radio, the latch automatically locks in place. To remove the battery, simultaneously press both latches downward.

### 7. Belt clip

Allows for a secure grip on the user's belt.

### 8. Monitor Button

Press this button to remove noise or tone squelch when receiving a weak signal. Checks channel activity before transmitting.

### 9. LED Indicator (Tri-color Lamp)

Red	On	Call Transmission
Green	On	Receiving a call

### 10. Speaker

Received audio and beep signals are heard through here. Speaker level is adjusted by the volume control knob.

### 11. MIC

When transmitting a call, speak clearly towards this part of the radio.

### 12. LCD (Liquid Crystal Display)

The LCD indicates the state of operation and function selections.

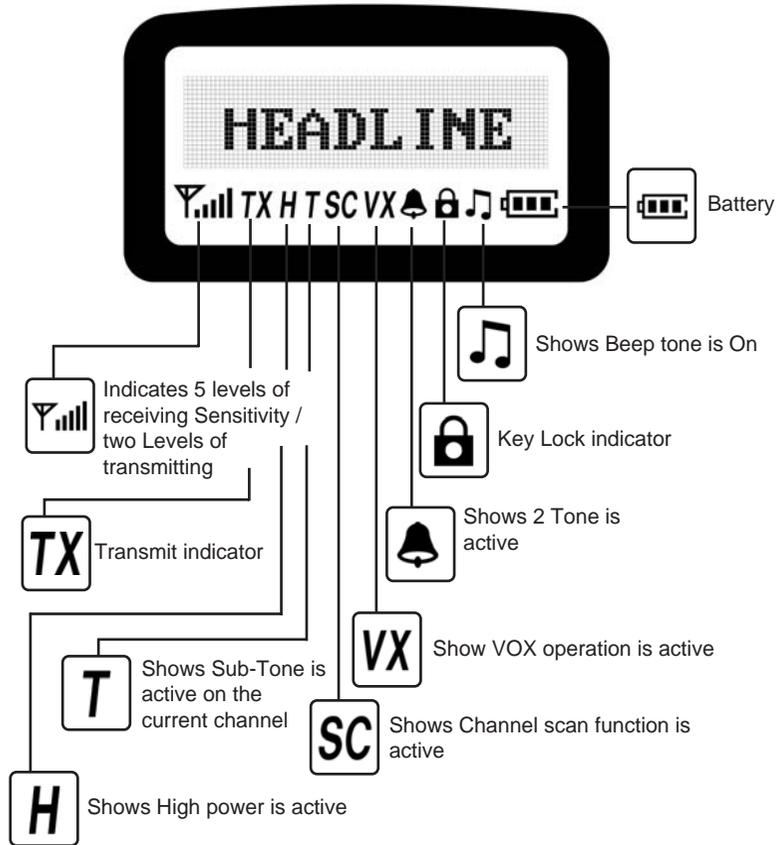
### 13. Down / Up Buttons

Used to select channels and functions.

### 14. Function Button

Use this button to select various additional functions.

## 5. LCD Display Panel



## 6. Operation

### 1. Basic Operation

Rotate the On/Off & Volume Knob.



#### 1) On/Off Power & Volume Knob

Rotate the On/Off Power & Volume knob clockwise to turn power on and activate the display. Confirmation Tone will sound to confirm that the radio is on and the display will show your home channel. Volume can be adjusted by turning the volume knob clockwise.

Select the channels using the Up/Down button.



#### 2) Channel

Channels are selected by pressing either of the Up/Down buttons. Press and hold either of the Up/Down buttons over 2 seconds for rapid channel advance.

The signal will be received after selecting a channel.



#### 3) Receive

To receive a signal, a channel must first be selected. When a communication is received the display is activated and the 5 levels of the sensitivity will be indicated.

Select a channels using the Up/Down buttons.



#### 4) Transmit

Select a channel using the Up/Down buttons. Press and hold the PTT (Push-To-Talk) button and speak into the microphone. The LED indicator is activated (RED Color) and the transmission icon will appear on the display. Pressing and holding the PTT button with the Up/Down button at the same time will select High/Low Transmit Power.

Press the 'M' button shortly to monitor the channel.



#### 5) Monitor

Pressing the monitor button will open the squelch button. Press the 'M' button to monitor. Press the 'M' button for two seconds to lock monitor continuously. To release monitor lock, press the 'M' button again.

Reset the options using the Up/Down buttons.



#### 6) Function

Use this button for selecting or releasing functions. Use the Up/Down buttons to reset options. Press the PTT button to finish after resetting the options. Press the "Function" button to switch to the next function. resetting the options. Press the "Function" button to switch to the next function. If no buttons are pressed for the 5 seconds, the selected function mode will be cancelled.

Press the PTT button to finish after resetting the options.



#### 1) CHANNEL SCAN

Select the Channel Scan pressing the 'Function' button once



This function helps automatically find all channels used by the radio. Select the Channel Scan by pressing the "Function" button once. The icon "SCAN" will be indicated on the display. Select On/Off by pressing either the Up or Down button. The unit will now begin scanning and the appropriate channel numbers will scroll on the display.

#### 2) Low/High Functions of Squelch

Press the 'Function' button twice to select- select LOW



This is a sensitivity adjustment function that allows for communication at a desired level. Press the "Function" button twice to select Squelch system. The icon "SQ" will begin flashing. Select Low/High by pressing the Up/Down buttons. The selected function will be stored automatically. If no buttons are pressed within 5 seconds after selecting function, the screen will revert to the main display. Press the PTT button to finish and exit the function mode.

Press the 'Function' button twice to select- select HIGH



### 3) SETTING BEEP SOUND

Press the 'Function' button 3 times to select the beep sound.



This function confirms that the buttons are properly pressed with the beep sound. Press the "Function" button 3 times to select the beep sound. The icon "♪" will be flashing. Select On/Off by pressing the Up/Down buttons. The selected function will be stored automatically. If no buttons are pressed within 5 seconds after selecting functions, the screen will revert to the main display. Press the PTT button to finish and exit the function mode.

### 4) KEY LOCK

Press the 'Function' button 4 times to set up 'Key Lock'.



This function locks the channel currently in use and prevents other channels from being accessed. Press the "Function" button 4 times to set up 'Key Lock', the key icon "🔒" will begin flashing. Select On/Off by pressing the Up/Down buttons. The selected function will be stored automatically. If no buttons are pressed within 5 seconds after selecting functions, the screen will revert to the main display. Press the PTT button to finish and exit the function mode. To release the Key Lock function, press and hold the Function button for two seconds.

### 5) DTMF

Press the 'Function' button 5 times.



This function serves to alert for incoming messages. Set up the DTMF Transmission by pressing the "Function" button 5 times. The icon "DF" will begin flashing. Select On/Off by pressing the Up/Down buttons. The selected function will be stored automatically. If no buttons are pressed within 5 seconds after selecting functions, the screen will revert to the main display. Press the PTT button to finish and exit the function mode. If DTMF is on, the unique sound of DTMF will be heard whenever the PTT button is pressed.

### 6) 2TONE ANI

Press the 'Function' button 6 times.



This function transmits a 2TONE signal whenever the PTT button is pressed. Select the 2TONE ANI function by pressing the "Function" button 6 times, the icon "2T" will begin flashing. Select On/Off by pressing the Up/Down buttons. The selected function will be stored automatically. If no buttons are pressed within 5 seconds after selecting functions, the monitor will revert to the main display. Press the PTT button to finish and exit the function mode. This function works only if the selling dealer has programmed the radio for this. The radio will receive only when a 2TONE signal is sensed. Radios will communicate with each other only if both are using 2TONE signals. For general communication with other radios regardless of 2TONE, switch this function off.



You should turn off the 2TONE ANI during the general communication. Otherwise, receiving transmission can be unavailable.

## 7) VOX MODE

Select the VOX mode pressing the 'Function' button 7 times.



This function is for automatic voice operated transmission system similar to "Hands Free". Select the VOX Mode by pressing the "Function" button 7 times. The icon "VX" will begin flashing. Select On/Off by pressing the Up/Down buttons. Select "ON" and press the PTT button. The display will change to the VOX Level settings. (See Function 8 below.) Once the unit is set for VOX mode, a special EAR/MIC accessory is required for the radio to operate. (The MIC is not functional in VOX Mode.) If no buttons are pressed within 5 seconds after selecting functions, the screen will revert to the main display. If general communication using the PTT button is desired, enter the VOX mode function and select the OFF feature.

## 8) Setting VOX Levels

Select the VOX mode pressing the 'Function' button 8 times.



This function selects the desired sensitivity (9 Levels) to activate the VOX circuit. Select the VOX Mode by pressing the "Function" button 8 times. The icon "LE" will begin flashing. Select the VOX level desired by pressing the Up/Down buttons. Pressing the PTT button saves the selected level and exits the function mode.

# A

## Additional Channel Scan Instructions

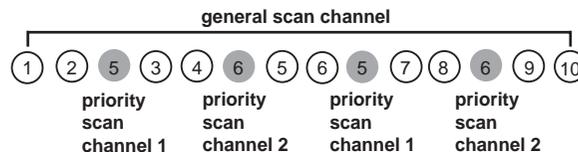
### (1) Channel Scan Order

There are two kinds of channel scans: Priority Scan Channel and General Scan Channel. General Scan Channel is a channel that is used to communicate on, but is not an essential communication channel. Priority Scan Channel is a channel that is of more importance and is frequently used to communicate on. If no Priority channel has been assigned, the radio will scan all general channels programmed by starting with the first channel and finishing with the last channel. Once a priority channel has been assigned, the radio will scan two general channels followed by the priority channel. (General Scan Channel 1 - General Scan Channel 2 - Priority Channel 1 - followed by the next two general channels.) If two Priority Scan Channels are assigned, the radio will scan two general channels then the priority channel 1, followed by the next two general channels, then priority channel 2: (General Scan Channel 1 - General Scan Channel 2 - Priority Channel 1 - Channel 3 - General Scan Channel 4 - Priority Channel 2 - followed by the next two general channels.)

### Example

As previously mentioned, there are two kinds of channel scans: Priority Scan Channel and General Scan Channel.

For example, the radio is programmed to receive and transmit on ten channels. Of these channels, two Priority Scan Channels are assigned; Priority Scan Channel 1 is assigned to Channel 5 and Priority Scan Channel 2 is assigned to channel 6. Therefore, the channel scan will occur as follows.



(For additional information, please refer to How to Register Channels for Channel Scan on Page 18.)

## (2) Receive and Transmit During Scanning Channel

If there is a signal reception and transmission during scanning channel, scanning will be stopped at the channel. At this time, you can transmit according to the transmit type by pressing the PTT.

## (3) How to Transmit During Scanning

To transmit during scan, simply press PTT.

1. Transmit is only allowed on the Home Channel.
2. Transmit occurs on the last channel received.
3. Transmits occurs on the channel from which scan was initiated.

## (4) Progress the Channel Scan

When the radio catches any signals, scanning will be stopped on that channel for about 2 seconds, and resume scanning from the next channel. If the scanning stops on the channel that you detect and if you want to keep scanning after communication, press the "Up" button to resume scanning to the next channel.

## (5) Temporary Deletion Channel on Scanning

You can delete a scanned channel temporarily if there are many channels you want to scan. Press the "Down" button when scan stops on the unwanted channel. It will be then deleted temporarily. Restarting scan will restore the deleted channel into the scan list.



### \* How to Register the Scan Channel

You can register the channel which you want to scan among the channels in the radio as using the external PC program or through the registration mode of the scan channel in the radio.

There are three dealer programmable transmit types. (See the registration and cancellation of the scan channel in a special mode.)

## Alpha-Numeric Display

1. You can set the display channel name using PC programmer.

**Ex) CH-001 > SHOP**

2. Usable character: A~Z(Capital/small letters), 1 to 0, Special letters on the Key board
3. This is changing the channel name from "CH-001" to perhaps "SHOP".
4. This would probably use a lot of available memory of the radio.
5. The number of available channels could be reduced to compensate.

## Quick Call II

If the dealer has programmed the radio for Quick Call, the function button acts to enable/disable the function. Pressing and holding the function button for more than 3 seconds will toggle it either on or off.



### \* Note :

This function only works if enabled by the dealer.

## 7. HL - 1500 Function Summary

INPUT	FUNCTION	CONTROL KEY	FUNCTION DESCRIPTION
Key Button & External PC Program	CHANNEL SCAN	1 TIME	Controls Receiving Sensitivity
	SQUELCH	2 TIMES	Turns Beep sound On / Off
	BEEP ON / OFF	3 TIMES	Locks channel in use
	KEY LOCK ON / OFF	4 TIMES	Sets DTMF transmitting On / Off
	DTMF ON / OFF	5 TIMES	Sets 2TONE ANI On / Off
	2TONE ANI ON / OFF	6 TIMES	Sets Channel On / Off
	VOX MODE ON / OFF	7 TIMES	Sets VOX mode On / Off
	VOX SENSITIVITY	8 TIMES	Sets the VOX sensitivity level
	QUICK CALL ON/OFF	Press For 2 Seconds	Sets QUICK CALL Mode On / Off
	CLON MODE	PTT + POWER SWITCH	Allows cloning of two units (using the Cloning cable)
	REGISTER / CANCEL OF SCAN CHANNEL LIST	+  + POWER SWITCH	Allows for Entry and Cancellation of scan channels
PASSWORD MODE	+ POWER SWITCH	Password input / delete	
External PC Program	BATTERY WARNING BEEP	ON / OFF	Sets low Battery indicator ON/OFF
	BCLO SELECTION	Enable / Disable	Enables/Disables BCLO setting
	BCLO TYPE SELECTION	Carrier / Repeater	Selects BCLO type
	TOT SELECTION	Enable / Disable	Enables/Disables Time-Out-Timer setting
	TOT TIME SETTING	TOT Time / Penalty time	Selects Time-Out-Timer setting
	BATTERY SAVE SETTING	ON/OFF / ACTIVE TIME	Sets Battery save time in wait mode
	SCAN TIME SETTING	DWELL TIME / TX TYPE	Sets Channel Scan time
	SCAN TYPE SETTING	SA Combi / Carrier	Sets the SCAN type
	DTMF SETTING	ID & TIME INPUT	Sets the DTMF ID / Time
	VOX SETTING	Delay Time INPUT	Sets the VOX delay time
	INPUT 2TONE ID / ANI SELECTION	ID INPUT & ANI ON/OFF	Sets 2TONE ID input / ANI
	2TONE TYPE SELECTION	2TONE TYPE SETTING	Sets 2TONE type (11 types available including EEA)
	2TONE OPTION SETTING	2TONE OPTION SETTING	Sets 2TONE time

## 8. Battery Use & Recharge

### BATTERY SAVE FUNCTION

To reduce battery consumption, the "Battery Save" circuit will be activated when the radio is idle. The user may also set & control the 'battery save time' through the PC programming software. Default is set for Headline's standard battery save time.

#### 1) CAUTION IN CHARGING THE BATTERIES

- (1) The Li-ion / Ni-Mh batteries used for HL-1500 series are highly efficient, stable and reliable.
- (2) Charge the battery to its full capacity before using to achieve its maximum capacity and to allow stable operation of the radio.
- (3) Allow the battery to be completely drained before recharging. A warning beep will sound to alert the user that the battery needs to be recharged.
- (4) Battery is designed for use only with the provided charger.
- (5) The radio must be powered off when charging of the battery.
- (6) Should the battery terminal short-circuit through carelessness or misuse, the battery could burn itself or cause a fire.
- (7) Do not allow the battery terminal to come into contact with metal or any conducting material as it could cause damage and result in injury.

#### 2) WHEN TO CHARGE

- (1) When the radio's performances become unstable due to low voltage of battery.
- (2) When the Red LED indicator is blinking.
- (3) When the battery indicator is blinking on the LCD screen.
- (4) When the warning beep sounds every 10 seconds when the radio is in use.

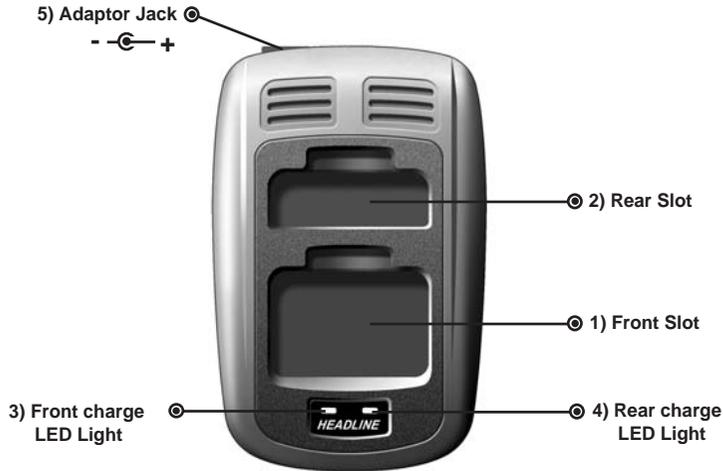


**\* Note :**

The radio will turn off automatically if the battery voltage is too low for radio operation.

## 9. Using the Desktop Charger

### 1) Identification of parts



### 2) Features of the charger

Battery type	Li-ion	Ni-Mh
Input Voltage	AC 120V / 220V, 60Hz	
Output Voltage	DC 12V, 1000mA / DC 12V, 400mA	
Dimension	140(W) x 57(H) x 90(D)	
Operating temp.	0° C ~ +50° C	

### 3) How to use the charger

- Plug the adaptor cable into the adaptor jack of the charger.
- To charge the battery while attached to the radio, insert it into the front slot of the charger. To charge the battery by itself, insert it into the rear slot of the charger. To simultaneously charge a battery while attached to the radio and a spare battery, insert the radio and attached battery into the front slot of the charger. Then, insert the spare battery into the rear slot of the charger. The front slot will begin to charge first. (Estimated time to fully charge a battery is 3.5 hours.)



### (3) LED indications

Ni-Mh / Li-ion battery charger		
Lamp Color	Lamp Status	Charging status
Green	Lamp on	Charging Completed
Red	Lamp on	Charging is on going
Yellow	Lamp on	Charging Stand-by
	Blinking	Charging Error

## 10. Trouble shooting for Abnormal Operation

### 1) PLL UNLOCK

In case of fatal error within the internal circuits, a "U" icon will blink on the LCD display, along with warning beeps. Intermittent transmitting and receiving will result. To remedy this situation, power the radio off. Then, power on and resume normal operation.

### 2) OTHERS

- (1) Check that the operating procedure is correct.
- (2) Change your location and try again.
- (3) Confirm the radio is on the correct channel.
- (4) Make sure the antenna is correctly and tightly connected.

## 11. Caution

- (1) Do not carry the radio grasping by the antenna only.
- (2) Keep the radio away from water or oil.
- (3) Do not disassemble the radio.
- (4) Do not remove the radio casing. Doing so will void the warranty.
- (5) If the radio is damaged or not working properly, please contact your dealer or Authorized Service Center to repair the unit.
- (6) RF Energy Exposure Awareness and Control Information and Operational Instructions for Occupational Use.



This radio is intended for use in occupational/controlled conditions where users have full knowledge of their exposure and can exercise control over their exposure to meet the occupational limits in FCC/ICNIRP and International standards. This radio device is NOT authorized for general population consumer use. This radio complies with the IEEE (FCC) and ICNIRP exposure limits for occupational/controlled RF exposure environments at operating duty factors of up to 50% talk-50% listen and is authorized by the IEEE/ICNIRP for occupational use only.

## 12. CTCSS / CDCSS TONE Frequency Table

### CTCSS

No.	Freq. (Hz)	No.	Freq. (Hz)	No.	Freq. (Hz)
00	No Tone	13	103.5	26	162.2
01	67.0	14	107.2	27	167.9
02	71.9	15	110.9	28	173.8
03	74.4	16	114.8	29	179.9
04	77.0	17	118.8	30	186.2
05	79.7	18	123.0	31	192.8
06	82.5	19	127.3	32	203.5
07	85.4	20	131.8	33	210.7
08	88.5	21	136.5	34	218.1
09	91.5	22	141.3	35	225.7
10	94.8	23	146.2	36	233.6
11	97.4	24	151.4	37	241.8
12	100.0	25	156.7	38	250.3
				39	69.3

### CDCSS

NO.	CDCSS CODE	NO.	CDCSS CODE	NO.	CDCSS CODE
1	023	29	174	57	445
2	025	30	205	58	464
3	026	31	223	59	465
4	031	32	226	60	466
5	032	33	243	61	503
6	043	34	244	62	506
7	047	35	245	63	516
8	051	36	251	64	532
9	054	37	261	65	546
10	065	38	263	66	565
11	071	39	265	67	606
12	072	40	271	68	612
13	073	41	306	69	624
14	074	42	311	70	627
15	114	43	315	71	631
16	115	44	331	72	632
17	116	45	343	73	654
18	125	46	346	74	662
19	131	47	351	75	664
20	132	48	364	76	703
21	134	49	365	77	712
22	143	50	371	78	723
23	152	51	411	79	731
24	155	52	412	80	732
25	156	53	413	81	734
26	162	54	423	82	743
27	165	55	431	83	754
28	172	56	432		

## 13. Warranty Policy

TecNet warrants each new radio product manufactured or supplied by it to be free from defects in material and workmanship under normal use and service for the time period listed below, provided that the user has complied with the requirements stated herein. The Warranty period begins on the date of purchase from an Authorized TecNet Sales and Service Outlet.

This Warranty is offered to the original end user and is not assignable or transferable. TecNet is not responsible for any ancillary equipment, which is attached to or used in conjunction with its products.

TecNet offers to the original end user a Two (2) Year Limited Warranty on all Headline Business and Industrial Radio Products. Accessories carry a One (1) Year Limited Warranty.

During this period, if the product fails to function under normal use because of manufacturing defect(s) or workmanship, it should be returned to the Authorized TecNet Sales and Service Outlet from which it was purchased. The Outlet will repair the product, or return the product for repair to TecNet or its Authorized Repair Depot. The user is responsible for the payment of any charges or expenses incurred for the removal of the defective product from the vehicle or other site of its use; for the transportation of the product to the Sales and Service Outlet; for the return of the repaired / replacement product to the site of its use and for the reinstallation of the product.

TecNet shall have no obligation to make repairs or to cause replacement required which results from normal wear and tear or is necessitated in whole or in part by catastrophe, fault or negligence of the user, improper / unauthorized alterations or repairs to the Product, incorrect wiring, use of the Product in a manner for which it was not designed, or by causes external to the Product. This warranty is void if the product serial number is altered, defaced or removed.

TecNet's sole obligation hereunder shall be to replace or repair the Product covered in this Warranty. Replacement, at TecNet's option, may include a

similar or higher-featured product. Repair may include the replacement of parts or boards with functionally equivalent reconditioned or new parts or boards. Replaced parts, accessories, batteries or boards are warranted for the balance of the original time period. All replaced parts, accessories, batteries or boards become the property of TecNet.

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THE EXPRESS WARRANTIES CONTAINED HEREIN ARE IN LIEU OF ALL OTHER WARRANTIES, EITHER EXPRESSED OR IMPLIED OR STATUTORY, INCLUDING, WITHOUT LIMITATION, ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. FOR ANY PRODUCT THAT DOES NOT COMPLY WITH THE WARRANTY SPECIFIED, THE SOLE REMEDY WILL BE REPAIR OR REPLACEMENT.

IN NO EVENT WILL TECNET BE LIABLE TO THE BUYER OR ITS CUSTOMERS FOR ANY DAMAGES, INCLUDING ANY SPECIAL, INCIDENTAL, INDIRECT OR CONSEQUENTIAL DAMAGES, OR THE LOSS OF PROFIT, REVENUE OR DATA ARISING OUT OF THE USE OF OR THE INABILITY TO USE THE PRODUCT.

A large rectangular frame with rounded corners, defined by a series of small grey dots. The word "MEMO" is positioned in the top-left corner of the frame.

MEMO

A second large rectangular frame, identical to the first, with rounded corners and a dotted border. The word "MEMO" is positioned in the top-left corner of this frame as well.

MEMO