



TELESEND® Long-range HD Wireless

Instructions

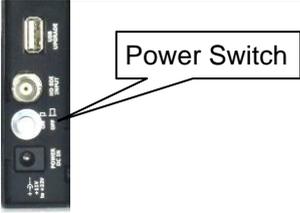
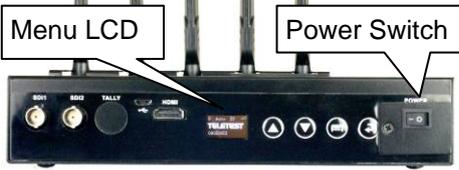
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Instructions V1.doc**

This document refers to the **Long-range TELESENDS** only

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1 Quick Start Instructions

<p>Step 1.</p> <ul style="list-style-type: none"> Mount the antennas on the transmitter. 	
<p>Step 2.</p> <ul style="list-style-type: none"> Mount the transmitter onto the rear of the camera. Mount the battery onto the rear of the transmitter. Connect the HD-SDI output from the camera to the transmitter. 	
<p>Step 3.</p> <ul style="list-style-type: none"> Mount the antennas on the receiver. 	
<p>Step 4.</p> <ul style="list-style-type: none"> Mount the battery onto the top of the LCD receive, or... Connect the DC supply to the XLR4 connector at the rear. 	
<p>Step 5.</p> <ul style="list-style-type: none"> Turn the Power Switch on the transmitter The menu LCD should function. 	 <p>Power Switch</p>
<p>Step 6.</p> <ul style="list-style-type: none"> Turn the Power Switch on the receiver The menu LCD should function. 	 <p>Menu LCD</p> <p>Power Switch</p>
<p>Step 7.</p> <ul style="list-style-type: none"> For best results, both menus should display the following: <div style="border: 1px solid black; padding: 10px; margin-top: 10px;"> <p style="text-align: center;">WARNING</p> <p>This unit has been factory-set for optimal performance. DO NOT make changes in MENU settings before talking to Teletest as it will VOID warranty</p> </div>	

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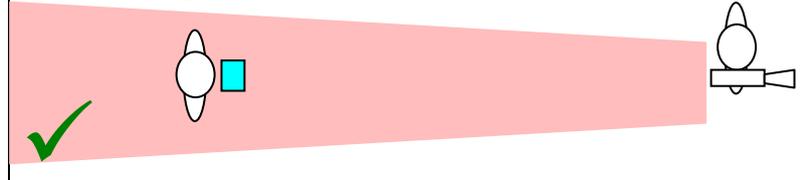
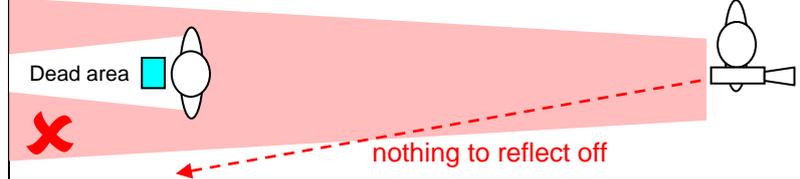
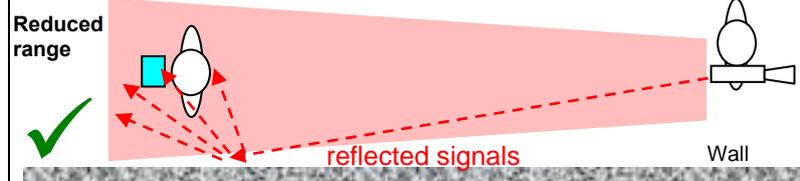
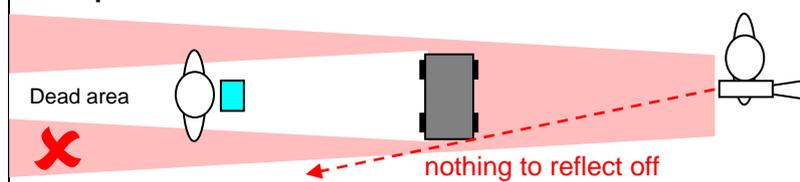
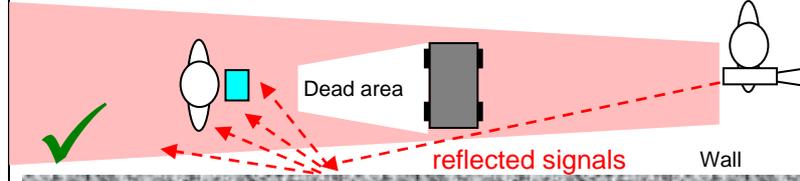
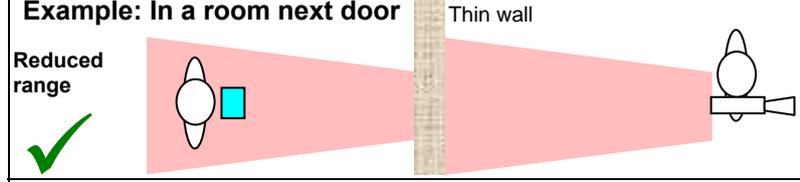
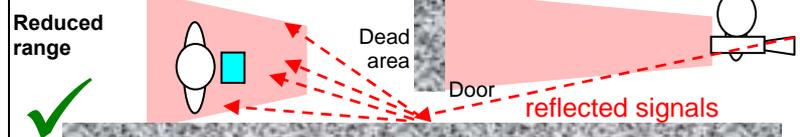
2 Understanding Microwave Links

The receiver may lose signal if the receiver:

- is too far from the cameraman so the microwaves cannot reach it, or
- there is something now blocking the microwaves, or
- is in a room next door & the wall is made out of concrete rather than brick, wood or plasterboard.

When the receiver loses signal, the picture pixelates before freezing then turning black.

- If the reason for the break up is removed within 5-10secs, the picture comes straight back on.
- If the signal has gone for more than 10secs, the receiver switches itself off and on again

<p>Example: Anywhere</p> 	<p>If there is clear line of sight between the transmitter and receiver, unless there is excessive interference from other transmitters, the director will receive a perfect picture.</p>
<p>Example: Director turning their back in a field</p> 	<p>If the director is in a field and they turn their back on the transmitter, they will NOT get a signal because their body has blocked the microwaves & there is nothing in the field for the microwaves to reflect off.</p>
<p>Example: Director turning their back in a room or street</p> 	<p>If the director is in a room or a street and they turn their back on the transmitter, then although their body is blocking the microwaves, they WILL still get a signal from the microwaves that have been reflected off the walls, but with reduced range.</p>
<p>Example: Obstruction in a field</p> 	<p>If the director is in a field and a vehicle passes by, then they will NOT get a signal because the vehicle has blocked the microwaves and there is nothing for the microwaves to reflect off.</p>
<p>Example: Obstruction in a street</p> 	<p>If the director is in a street and a vehicle passes by, then although the vehicle is blocking the microwaves, the director WILL still get a signal from the microwaves that have been reflected off the walls, but the picture may pixelate as the vehicle passes.</p>
<p>Example: In a room next door</p> 	<p>If there is a thin wall or floor that is made of wood, plasterboard, house brick or breeze block, the microwaves will pass through but with reduced range.</p>
<p>Example: In a room next door</p> 	<p>Microwaves will not pass through walls or floors made of reinforced concrete. In such instances, leave doors open and the microwaves may find their way into the room by reflecting off walls etc</p>

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3 Transmission distances

The TELESENDS transmitter range is between 200m and 500m depending on where you are and how they are used.

Like all microwave video links (and this applies to IDX's Camwave / WEVI, Teradek's Bolt and others) there must be a line of sight between the transmitter and receiver to be used most effectively. If the line of sight is broken, for example the director turns their back on the transmitter, they will only get a picture if there are hard surfaces for the microwaves to reflect off.

Microwave links do not perform well on rainy and humid days and when there are trees, grass and humans (!) between the transmitter and receiver.

This is because water and organic material absorbs microwaves.

4 Mounting Antennas

4.1 Transmitter

	<p>Because the antennas are very tall, they may get knocked.</p> <p>So an antenna guard is provided which must be fitted at all times.</p> <p>The antenna system consists of:</p> <ul style="list-style-type: none">• 4 x antennas (two short, two long)• 2 x M5 wing-nuts• 1 x antenna guard <p>Note that the long antennas have 9dBi gain but the short antennas have 5dBi gain – so only use the short antennas when you do not need to use the full range of the equipment.</p>
	<p>Step 1.</p> <ul style="list-style-type: none">• Fit one antenna onto the transmitter• Hand tighten only.• Place the antenna guard on the antenna
	<p>Step 2.</p> <ul style="list-style-type: none">• Fit the second antenna onto the transmitter, sliding it into the antenna guard.• Hand tighten only.
	<p>Step 3.</p> <ul style="list-style-type: none">• Slide the antenna guard onto the top of the antenna.• Fix in place using the two M5 wing-nuts• Hand tighten only.• Rotate the antennas so the “flat” is parallel with the body.

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4.2 Receiver



Because the antennas are very tall, they may get knocked.

So an antenna guard is provided which must be fitted at all times.

It consists of:

- 2 x long antennas
- 2 x M4 thumbscrew-nuts
- 1 x antenna guard



Step 1.

- Fit all antennas onto the receiver
- Hand tighten only.
- Rotate the antennas so that they can all be angled 90° upwards



Step 2.

- Place the antenna guard on the antennas by sliding it up from the underside



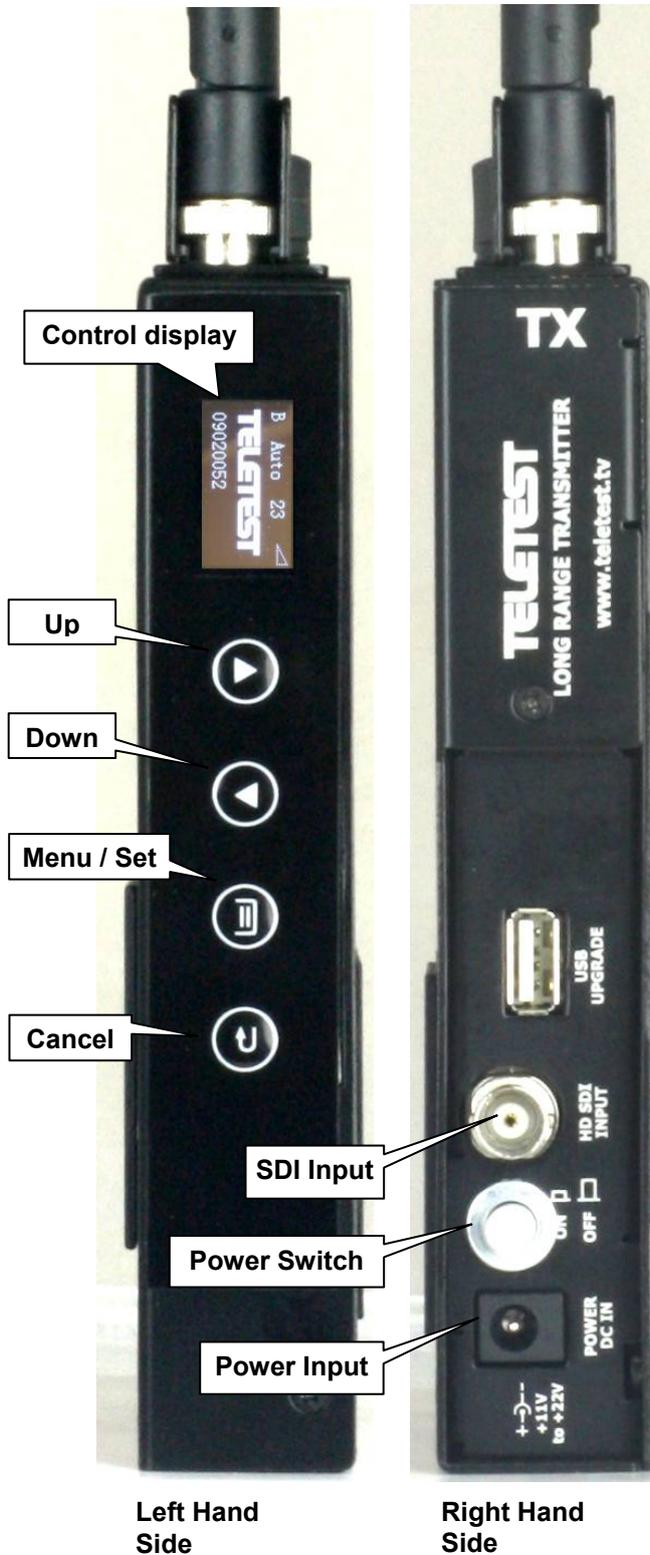
Step 3.

- Fix the antenna guard in place using the two M4 thumbscrew-nuts
- Hand tighten only.

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5 Products

5.1 Transmitter



Left Hand Side:

Control Display and Switches

An LCD display for status and the control menus.

- Up
- Down
- Menu / Set
- Return

Right Hand Side:

SDI Input

A BNC socket for the input of SDI signals.

Power Switch

Push in for "Power on"

Power Input

A 2.1mm DC socket, centre positive.

Cuts power from any battery fitted when a plug is inserted

Accessories Included

'Antenna Guard'

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5.2 Receiver

Front:

SDI Outputs

Two BNC sockets for outputs of SDI signals.

HDMI Output

HDMI socket for output of digital video and audio signals.

Control Display and Switches

An LCD display for status and the control menus.

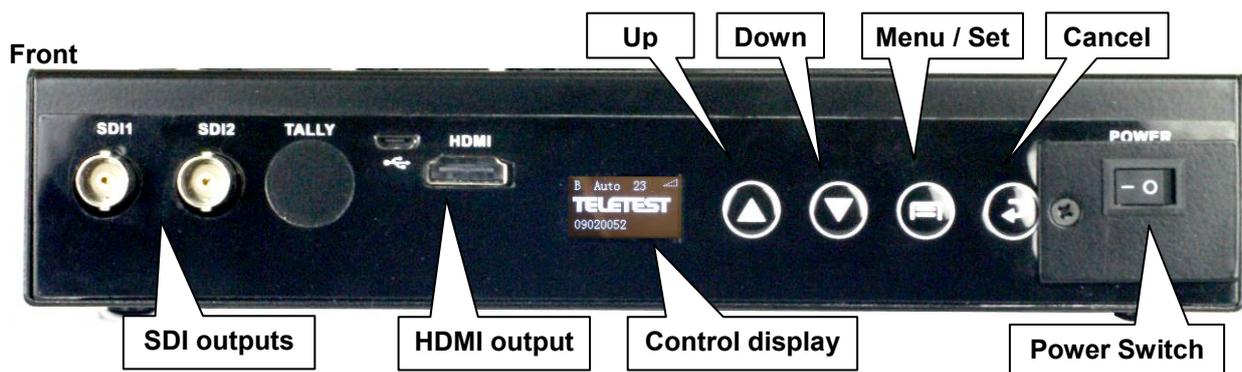
- Up
- Down
- Menu / Set
- Return

Power Switch

Rear:

Power Input

An XLR4 DC socket, Pin1 negative, Pin4 positive.



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6 Instructions

IMPORTANT

The Long Range TELESEND kit you have purchased has been set by Teletest's Technicians for **"Optimal Performance"**.

When it is turned on the MENU display will look like this:



The following stickers (which are removable so as not to damage the equipment) have been stuck several times on each of your transmitters and receivers.

They have also been stuck on the seals of bags containing the kit so all users will see them. It is also written on every page of this instruction manual.

WARNING

This unit has been factory-set for optimal performance.
DO NOT make changes in MENU settings before talking to Teletest as it will **VOID** warranty

Each kit takes about 30mins to set up by a technician to "PAIR" and calibrate to **"Optimal Performance"**.

Unless you purchase additional receivers from Teletest to work with your transmitter and receiver, there is no reason for you to make any changes to the MENU settings.

If you do make changes to the MENU settings, these instructions below will tell you what to do – but allow 30mins to make the settings and to "PAIR" the units.

So you cannot realistically do this on-set and in a rush.

Should you make changes to the MENU, and you cannot get the units to work again to **"Optimal Performance"**, you will need to send them back to Teletest to re-calibrate. This will cost 30mins engineering time plus postage.

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6.1 Main Menu

Turn On the receiver or transmitter

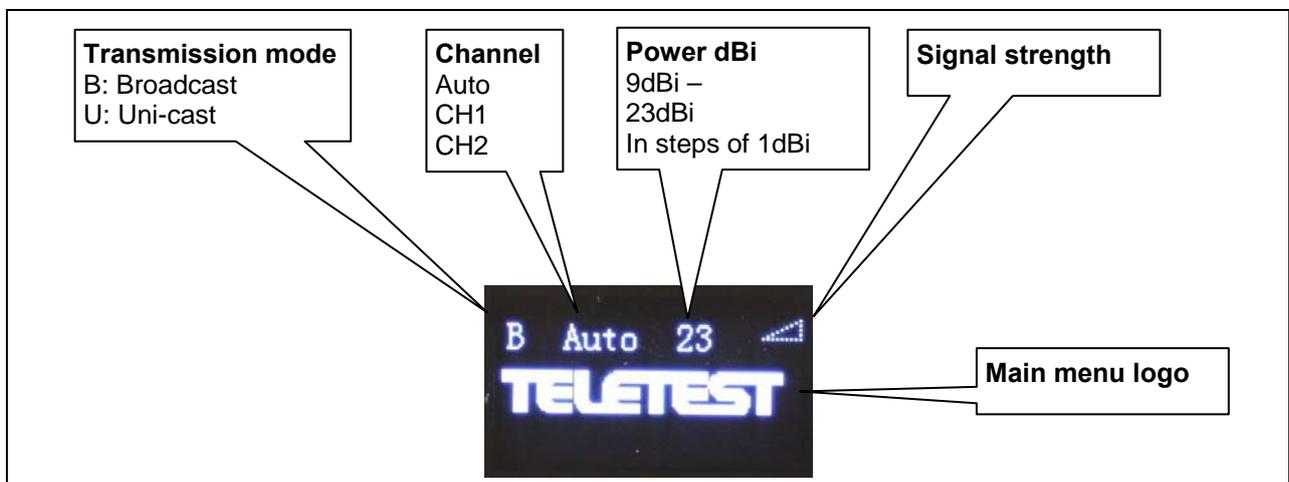


The start up screen shows the Teletest part number



After a few seconds the main screen appears

6.2 Functions Description



Transmission mode
B: Broadcast
U: Uni-cast

Channel
Auto
CH1
CH2

Power dBi
9dBi –
23dBi
In steps of 1dBi

Signal strength

Main menu logo

Transmission mode
B: Broadcast mode is used for connecting multiple receivers
U: Is used for encrypted links between the TX and a single RX. The distance is slightly less than **B** mode

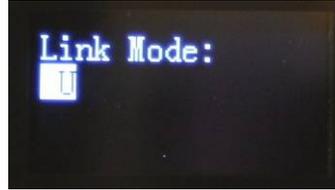
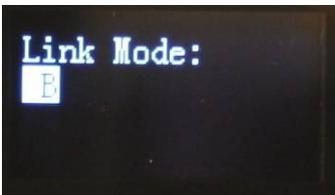
Channel
Auto: Allows the TX and RX pair to decide which is the best channel to use
1: Channel 1 is forced to be used
2: Channel 2 is forced to be used

Power dBi
23 dBi: The maximum
9dBi: The minimum
A lower power may be necessary if you are trying to run more than two units in a single location.

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6.3 To Access Menu & Functions

Eg how to access the Link Mode:

<p>Press [MENU]</p>  <p>The menu screen now appears.</p>	<p>Press [^] [v]</p>  <p>To select function.</p>	<p>Press [MENU]</p>  <p>To confirm function.</p>
<p>Press [^] [v]</p>  <p>To select [U] or [B]</p>	<p>Press [MENU]</p>  <p>To confirm selection.</p>	<p>Will return to main menu screen</p> 

6.4 Restore to Default Settings

Note that these do not restore to Teletest's "Optimal Performance".

<p>Press [MENU] for 3 seconds</p>  <p>The Restore screen now appears.</p>	<p>Press [MENU]</p>  <p>The product resets itself so the start-up screen appears.</p>	
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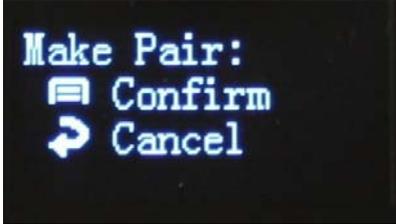
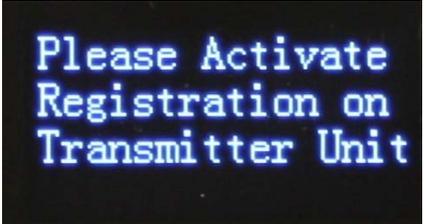
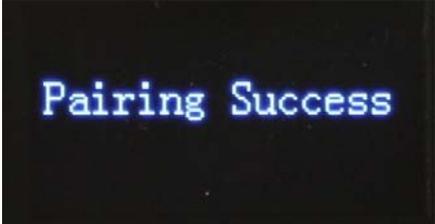
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6.5 Pairing Transmitter and HD-SDI Receiver

This set up assumes the transmitter is connected to a camera by the HDSDI input and the receiver is connected to a monitor by the HDSDI or HDMI output.

Transmitter and Receiver must be at least 3m apart or you will not be able to "PAIR".

You must start with the receiver, and it is always best to turn the power off and then on before pairing.

<p>Receiver Press [MENU] Press [^] [v]</p>  <p>To select "Make Pair"</p>	<p>Receiver Press [MENU]</p>  <p>To confirm function.</p>	<p>Receiver Do nothing</p>  <p>Repeat the same stages using the transmitter</p>
<p>Transmitter Turn the transmitter off then on again and repeat the same stages as above for the transmitter</p>	<p>Receiver / Transmitter Do nothing</p>  <p>As soon as the transmitter starts pairing, and the units connect, they will countdown together like above, from 250 seconds.</p>	<p>Receiver / Transmitter Do nothing</p>  <p>If pairing is a success: 1) The transmitter will say so first 2) Then the LCD screen connected to the receiver will flash 3) Then the receiver will say so</p>
<p>Receiver / Transmitter Do nothing</p>  <p>It is very likely this will happen 3-5 times before you get a pairing success. Make sure the TX and RX are at least 3 metres apart and keep them away from any other TX and RX during the pairing stage. Then repeat the process again.</p>		

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6.6 Transmitter and Receiver In Use

The TELESEENDs are designed to be "turn on and forget" - there is nothing to adjust. The most frequently asked questions are down to the following facts:

- Faulty video cables.
- Extreme operating temperatures.
- The antenna housing is covered / blocked from line of sight by something.
- Too much metal nearby eg a line of cars in a car park.
- Too much water / moisture nearby eg a river / sea or snow / waterlogged field.

Remember:

- 1080 24psf signals CANNOT be transmitted
- If the transmitter and receiver have problems connecting, turn them both on and off again within 20m line of site of each other (10m through a wall).

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7 Battery Adapters

Battery adapters are normally fitted at the Teletest factory, however they can also be fitted by a customer with experience of servicing electronic products.



With V-lock battery adapters fitted

TELESENDS can be fitted with any combination of broadcast battery adapters, male or female, supplied by Teletest:

- Female adapters for batteries, mounted on the rear of the TX/ RX
- Male adapters for cameras / monitors, mounted on the front of the TX/ RX



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8 Specifications

See the TELESEND brochure for all specifications.

Visit www.teletest.tv and click on [\[Downloads\]](#)

9 Optional Accessories

See the telesend brochure for all specifications or visit www.teletest.tv and click on [\[Optional Accessories\]](#) for the product of your choice.

10 Guarantee

TELESENDs are guaranteed for 1 year parts and labour, returned to the Manufacturer (or Reseller) at the Customer's cost.

The following faults are considered as damage by the customer and are not repairable under warranty:

- Modifications.
- Damage to any connector.
- Damage due to any incorrect voltage applied.
- Damage due to misuse eg dropped, water damage.
- Battery adapters changed by non-Teletest staff.
- Adjusting the MENU controls without permission from Teletest.