

Digital measurement map

Before accessing the measurement map function, you have to set the field strength meter on a place that contains programs. In fact, measurement map allows operating and comparing the measurements of all the programs contained in a place on a single page.

- Press the "Measurement map" key : , the following window appears.

According to the number of programs, operating to measurements can take a long time. It is possible to follow the scanning evolution on the VU-meter at the screen bottom.

VU-meter :

When it is **red**, the measurement map has not been scanned fully.

When it is **green**, the whole measurement map has been scanned.

The **blue** bar and the report (on the VU-meter right) show the measurement evolution. Once scanning finished, the field strength meter starts all the measurements again to update them.

Measurement map window – Current scanning

Measurement map										1 (ST-ETIENNE)
Setup #										
(MHz)	(dBμV)	(dB)	(dB)							
#	freq.	ch	std	VIDEO	C/N	BERi	BERo	PER	MER	
1	706.000	E50	DVB-T	55.2	>43.3				--	
2	490.000	E23	DVB-T	50.3	>37.7				--	
3	618.000	E39	DVB-T	50.4	>37.2				--	
4	738.000	E54	DVB-T	55.5	>42.6				--	
5	538.000	E29	DVB-T	51.7	>39.4				--	
6	514.000	E26	DVB-T	0.0	> 0.0				--	
8	583.250	E35	L	0.0	> 0.0					
9	543.250	E30	L	0.0	> 0.0					
10	567.250	E33	L	0.0	> 0.0					

5/15

Reset Delete List Sort -> USB Init.

VU-meter : current scanning

Program board : current measurements

Measurement map window – Finished scanning

Measurement map										1 (ST-ETIENNE)
Setup #										
(MHz)	(dBμV)	(dB)	(dB)							
#	freq.	ch	std	VIDEO	C/N	BERi	BERo	PER	MER	
1	706.000	E50	DVB-T	55.3	>43.4	3.8E-5	<5E-8	<3E-5	31.6	
2	490.000	E23	DVB-T	50.1	>37.8	2.1E-4	<5E-8	<3E-5	28.4	
3	618.000	E39	DVB-T	50.4	>36.9	2.9E-5	<5E-8	<3E-5	32.2	
4	738.000	E54	DVB-T	55.5	>42.9	3.0E-6	<5E-8	<3E-5	>35.0	
5	538.000	E29	DVB-T	52.0	>38.5	3.7E-5	<5E-8	<3E-5	29.8	
6	514.000	E26	DVB-T	50.3	>37.7	5.5E-5	<5E-8	<3E-5	30.2	
8	583.250	E35	L	66.7	>51.3					
9	543.250	E30	L	69.8	>49.1					
10	567.250	E33	L	68.9	>47.9					

1/15

Reset Delete List Sort -> USB Init.

Green VU-meter : complete scanning made at least once

Program board with measures

In order to give a preview, level and C/N measurements of each program are operated during a pre-scanning at the measurement map starting.

- Measurements

Wait that a complete scanning is made (green VU-meter). It is possible to check and compare the different measures that are displayed for each program. The out-of-threshold values are represented by colours :

	Orange	Red
Level and C/N	> to maximum threshold	< to minimum threshold
Error rate	VBER (BERo) < 2E-4, without lost packet	Lost packets, non-null UNC (PER)

Generic names are used for the error rate measurements, here are the meanings :

BERi = BER in = inner BER, it corresponds to CBER (DVB-S) or LDPC (DVB-S2).

BERo = BER out = outer BER, it corresponds to VBER (DVB-S) or BCH (DVB-S2).

PER = lost packets, it corresponds to UNC (DVB-S) or PER (DVB-S2).

- Menu for sensitive keys

Reset : deletes all the programs of the measurement map (empty board).

Delete : deletes the selected program from the measurement map (for example to delete the R5 multiplex that is not used on some transmitters). Move the selection right down to the multiplex to delete with the up and down keys and press the "Delete" sensitive key.



Metrix Electronics Limited

Minchens Court, Minchens Lane, Bramley, RG26 5BH, U.K.
 Tel: +44 (0)845 034 3234, Fax: +44 (0)845 034 3233
 E-mail: sales@metrix-electronics.com, Web: www.metrix-electronics.com

R5 multiplex deletion

Measurement map 1 (ST-ETIENNE)

Setup # : 5 (R5 VIDE)

#	freq.	ch	std	VIDEO	C/N	BERi	BERo	PER	MER
1	706.000	E50	DVB-T	55.3	>41.8	4.0E-5	<5E-8	<3E-5	29.0
2	490.000	E23	DVB-T	50.2	>37.6	2.4E-4	<5E-8	<3E-5	30.5
3	618.000	E39	DVB-T	50.4	35.7	2.3E-5	<5E-8	<3E-5	31.8
4	738.000	E54	DVB-T	55.4	>43.5	2.8E-6	<5E-8	<3E-5	>35.0
5	538.000	E29	DVB-T	51.6	>38.7	4.2E-5	<5E-8	<3E-5	28.9
6	514.000	E26	DVB-T	50.3	>37.4	5.8E-5	<5E-8	<3E-5	29.2
8	583.250	E35	L	66.5	>50.8				
9	543.250	E30	L	69.8	>49.8				
10	567.250	E33	L	68.9	>47.9				

Reset Delete List Sort -> USB Init.

Measurement map 1 (ST-ETIENNE)

Setup # : 5 (R5 VIDE)

#	freq.	ch	std	VIDEO	C/N	BERi	BERo	PER	MER
1	706.000	E50	DVB-T	55.1	>37.5	3.8E-5	<5E-8	<3E-5	31.4
2	490.000	E23	DVB-T	50.2	>37.6	2.5E-4	<5E-8	<3E-5	28.1
3	618.000	E39	DVB-T	50.5	>36.1	2.5E-5	<5E-8	<3E-5	32.4
4	738.000	E54	DVB-T	55.5	>43.6	2.9E-6	<5E-8	<3E-5	>35.0
6	514.000	E26	DVB-T	50.3	>37.4	5.8E-5	<5E-8	<3E-5	29.2
8	583.250	E35	L	66.5	>50.8				
9	543.250	E30	L	69.8	>49.8				
10	567.250	E33	L	68.9	>47.9				

Reset Delete List Sort -> USB Init.

List : allows adding a program of the place on the selected location. In the following example, we recall the previously deleted R5 multiplex.

Measurement map 1 (ST-ETIENNE)

Setup # : 5 (R5 VIDE)

#	freq.	ch	std	VIDEO	C/N	BERi	BERo	PER	MER
1	706.000	E50	DVB-T	55.3	>43.0	3.4E-5	<5E-8	<3E-5	29.7
2	490.000	E23	DVB-T	50.3	>38.0	2.5E-4	<5E-8	<3E-5	29.7
3	618.000	E39	DVB-T	50.4	>38.5	2.5E-5	<5E-8	<3E-5	31.1
4	738.000	E54	DVB-T	55.5	>43.2	4.6E-6	<5E-8	<3E-5	>35.0
5	538.000	E29	DVB-T	51.6	>38.7	4.2E-5	<5E-8	<3E-5	28.9
6	514.000	E26	DVB-T	50.2	>37.0	6.9E-5	<5E-8	<3E-5	30.5
8	583.250	E35	L	66.4	>51.4				
9	543.250	E30	L	69.8	>48.5				
10	567.250	E33	L	68.8	>47.5				

Setup LIST

#	name	BERo	PER	MER
# 0	----			
# 1	R1 CH PU	5E-8	<3E-5	29.7
# 2	R2 L P B	5E-8	<3E-5	29.7
# 3	R3 CANAL	5E-8	<3E-5	31.1
# 4	R4 M6 AB	5E-8	<3E-5	>35.0
# 5	R5 VIDE	5E-8	<3E-5	28.9
# 6	R6 TF1 N	5E-8	<3E-5	30.5
# 7	----			
# 8	T F 1			
# 9	EP 2			

Reset Delete List Sort -> USB Init.

List

Measurement map 1 (ST-ETIENNE)

Setup # : 5 (R5 VIDE)

#	freq.	ch	std	VIDEO	C/N	BERi	BERo	PER	MER
1	706.000	E50	DVB-T	55.3	>43.0	3.4E-5	<5E-8	<3E-5	29.7
2	490.000	E23	DVB-T	50.3	>38.0	2.5E-4	<5E-8	<3E-5	29.7
3	618.000	E39	DVB-T	50.4	>38.5	2.5E-5	<5E-8	<3E-5	31.1
4	738.000	E54	DVB-T	55.5	>43.2	4.6E-6	<5E-8	<3E-5	>35.0
5	538.000	E29	DVB-T	51.6	>38.7	4.2E-5	<5E-8	<3E-5	28.9
6	514.000	E26	DVB-T	50.2	>37.0	6.9E-5	<5E-8	<3E-5	30.5
8	583.250	E35	L	66.4	>51.4				
9	543.250	E30	L	69.8	>48.5				
10	567.250	E33	L	68.8	>47.5				

Reset Delete List Sort -> USB Init.

Sort : this function sorts all the program list out in ascending frequency order, or in ascending program order.

Sort

Measurement map 1 (ST-ETIENNE)

Setup # : 5 (R5 VIDE)

#	freq.	ch	std	VIDEO	C/N	BERi	BERo	PER	MER
15	88.000		FM	66.3	>51.3				
17	97.100		FM	69.6	>54.6				
16	104.800		FM	77.3	>59.4				
2	490.000	E23	DVB-T	50.3	>37.4	2.4E-4	<5E-8	<3E-5	29.2
6	514.000	E26	DVB-T	50.2	>37.6	6.5E-5	<5E-8	<3E-5	29.2
5	538.000	E29	DVB-T	51.3	>39.4	4.9E-5	<5E-8	<3E-5	29.2
9	543.250	E30	L	69.8	>44.4				
10	567.250	E33	L	69.0	>48.0				
8	583.250	E35	L	66.3	>51.3				
11	607.250	E38	L	65.4	>49.4				
3	618.000	E39	DVB-T	50.4	>37.2	2.3E-5	<5E-8	<3E-5	33.4

Reset Delete List Sort -> USB Init.


-> **USB** : see the following chapter : " Measurement map recording and data recall with Excel ® " (page 3).

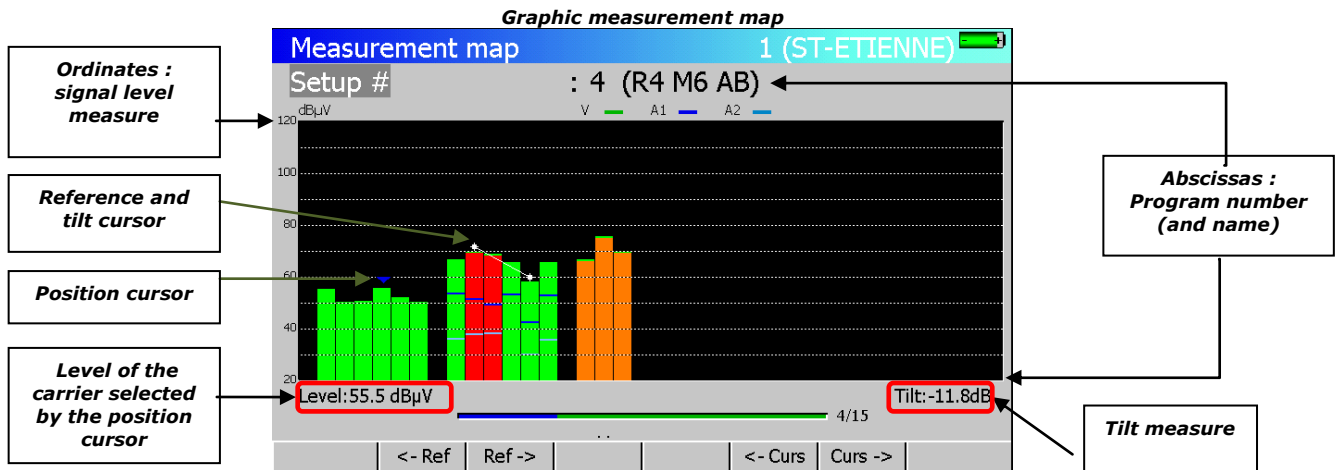
Init. : resets the measurement map in its original state. All the place programs are reloaded and the measurements start again.



The "Reset " and "Delete" deletion functions delete only the measurement map programs. The programs are still in the selected place and they can be recalled at any time (with "List" or "Init.").

Graphic measurement map

- Press for the second time the "Measurement map" key :  .



The display is on a single screen, the bargraph width is adjusted according to the number of programs present in the measurement map.

Each bargraph represents a program. The abscissa axis represents program number in the place. The ordinate axis represents the level measurement in dBµV (for analog signals, the measure is completed by video/audio ratios).

The number and name of the program selected by the blue cursor are displayed at the screen top. A level measurement operates on this program in the bottom left-hand corner of the screen.

Sensitive menu keys allow moving two points (white) between the different programs. The tilt measurement (attenuation in the bandwidth) operates between these two points, the "reference" and the "cursor". It appears in the bottom right-hand corner of the screen.

Measurement map recording and data recall with Excel ®

The recording mode allows saving measurement maps continuously on a USB key. It is not a screen saving, but a continuous recording in a "*.csv" file. The file opens with Excel ® , it can be used to plot level curves on several days and to save possible defects on all the map measurements.


Information

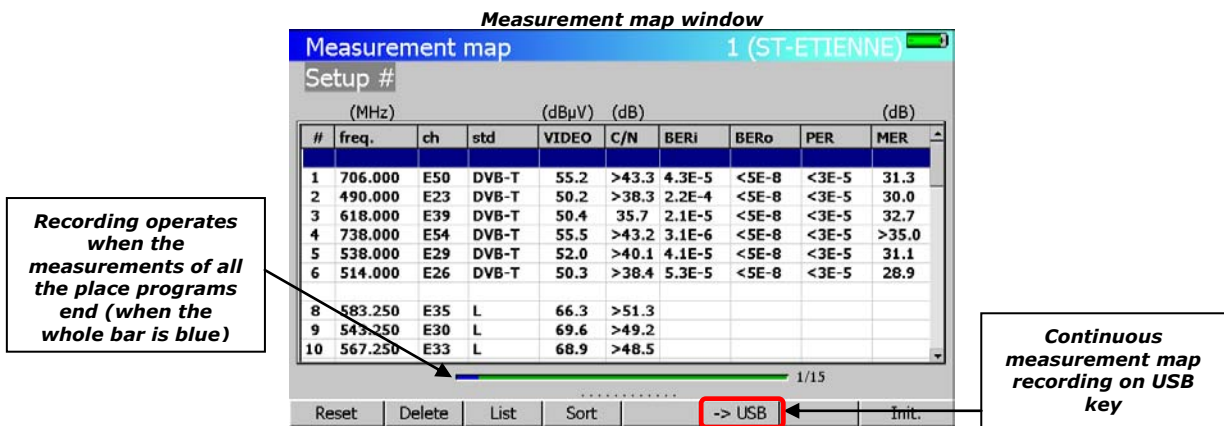
The name of the saved file depends on the record beginning date and time (example :20090515163704.csv - YYYY/MM/DD/HHMMSS.csv). The saving operates when measurements have been made for all the programs of the measurement map (every time that the blue bar fills the VU-meter).The date and the time are also saved at this moment.



Before using the USB key, check that it doesn't contain an update file. If a " Autorun" folder appears in the root of the USB key, you have to delete it. Otherwise, the connection between the USB key and the field strength meter will automatically launch an update.

Procedure

Press the "Measurement map" key :  , then the "-->USB" key (at the screen bottom) to start recording.



Current recording

Measurement map 1 (ST-ETIENNE)

Setup #

#	freq. (MHz)	ch	std	VIDEO (dBμV)	C/N (dB)	BERi	BERo	PER	MER
1	706.000	E50	DVB-T	55.3	>41.8	3.4E-5	<5E-8	<3E-5	32.7
2	490.000	E23	DVB-T	50.2	>37.6	2.1E-4	<5E-8	<3E-5	28.2
3	618.000	E39	DVB-T	50.5	>37.9	2.3E-5	<5E-8	<3E-5	31.4
4	738.000	E54	DVB-T	55.5	>43.2	5.1E-6	<5E-8	<3E-5	>35.0
5	538.000	E29	DVB-T	51.9	>39.6	4.9E-5	<5E-8	<3E-5	29.7
6	514.000	E26	DVB-T	50.3	>38.4	5.2E-5	<5E-8	<3E-5	29.5
8	583.250	E35	L	66.5	>51.5				
9	543.250	E30	L	69.8	>49.1				
10	567.250	E33	L	68.8	>48.8				

2/15

Stop

If you press "Stop", the acquisition ends.

The maximum recording duration depends on the USB key capacity. A complete measurement (a line of the measurement map) occupies 72 octets, it lasts about 5 seconds for a digital channel and 1 second for an analog channel.

For example, to save continuously a measurement map that contains, in terrestrial mode, 6 digital channels and 6 analog channels on a USB 1 Go key :

1Go → 13,8Million measures (1 complete line) → 1 year and 4 months before filling totally the USB key.

Once recording finished, remove the USB key from the TV meter and connect it on the computer. Explore the USB key root to find the "*.csv" file. Then you have to open this file with a spreadsheet to be able to process it (level graph,...).

During the file openness, it is possible that data won't be ranked and that you won't manage to process them on the spreadsheet. There are many solutions according to the used spreadsheet.

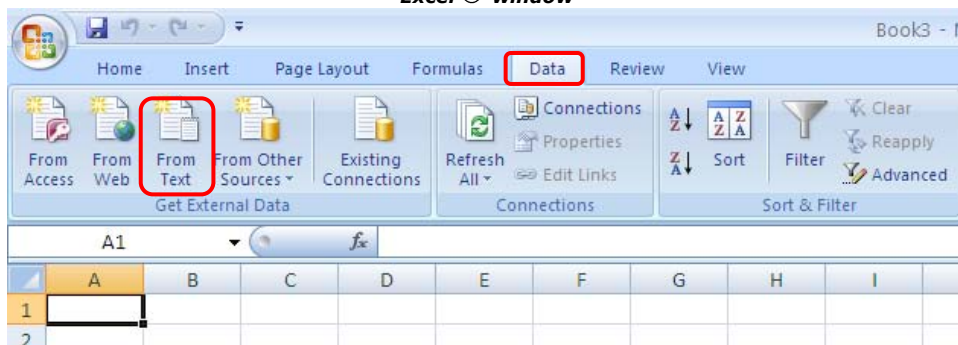
Window with not ranked data during the openness of a "*.csv"

A1	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1	Place,GUIZAY														
3	,,R2,490.000 MHz,E23,DVB-T/H,,,R3,618.000 MHz,E39,DVB-T/H,,,R5,538.000 MHz,E29,DVB-T/H,,,R6,514.000 MHz,E26,DVB-T/H,,,TF1,583.250 MHz,E35,L,,,R4,738.000 MHz,E54,DVB-T/H,,,FR2,543.250 MHz														
4	,,VIDEO,C/N,BERi,BERo,PER,MER,VIDEO,C/N,BERi,BERo,PER,MER,VIDEO,C/N,BERi,BERo,PER,MER,VIDEO,C/N,BERi,BERo,PER,MER,VIDEO,C/N,BERi,BERo,PER,MER,VIDEO,C/N,BERi,BERo,PER,MER,VI														
5	2009/04/17, 14:52:53,52.3 dBμV,>38.7 dB,1.1E-4,<5E-8,<3E-5,30.8 dB,50.8 dBμV,>37.0 dB,2.3E-5,<5E-8,<3E-5,32.7 dB,18.0 dBμV,>6.1 dB,Sync?,Sync?,Sync?,--- dB,51.7 dBμV,>39.4 dB,6.2E-5,<5E-8,														
6	2009/04/17, 14:53:36,52.3 dBμV,>39.7 dB,1.2E-4,<5E-8,<3E-5,28.2 dB,50.7 dBμV,>36.3 dB,2.3E-5,<5E-8,<3E-5,31.1 dB,18.3 dBμV,>6.4 dB,Sync?,Sync?,Sync?,--- dB,51.5 dBμV,>38.9 dB,6.5E-5,<5E-8,														
7	2009/04/17, 14:54:19,52.4 dBμV,>40.1 dB,1.3E-4,<5E-8,<3E-5,28.7 dB,50.5 dBμV,>36.7 dB,2.2E-5,<5E-8,<3E-5,29.7 dB,18.1 dBμV,>6.2 dB,Sync?,Sync?,Sync?,--- dB,51.4 dBμV,>39.1 dB,6.6E-5,<5E-8,														
8	2009/04/17, 14:55:02,52.3 dBμV,>40.0 dB,1.2E-4,<5E-8,<3E-5,29.8 dB,50.6 dBμV,35.6 dB,2.9E-5,<5E-8,<3E-5,28.9 dB,18.4 dBμV,>6.5 dB,Sync?,Sync?,Sync?,--- dB,51.6 dBμV,>37.8 dB,6.6E-5,<5E-8,<														
9	2009/04/17, 14:55:45,52.4 dBμV,>40.1 dB,1.2E-4,<5E-8,<3E-5,31.0 dB,50.6 dBμV,34.7 dB,2.6E-5,<5E-8,<3E-5,31.4 dB,18.0 dBμV,>6.1 dB,Sync?,Sync?,Sync?,--- dB,51.6 dBμV,>38.7 dB,7.9E-5,<5E-8,<														
10	2009/04/17, 14:56:27,52.4 dBμV,>40.1 dB,1.3E-4,<5E-8,<3E-5,30.5 dB,50.6 dBμV,>36.5 dB,2.4E-5,<5E-8,<3E-5,31.6 dB,17.8 dBμV,>5.9 dB,Sync?,Sync?,Sync?,--- dB,51.5 dBμV,>38.9 dB,6.2E-5,<5E-8,														
11	2009/04/17, 14:57:14,52.2 dBμV,>39.0 dB,1.2E-4,<5E-8,<3E-5,28.2 dB,50.6 dBμV,>37.1 dB,2.5E-5,<5E-8,<3E-5,30.6 dB,18.2 dBμV,>6.3 dB,Sync?,Sync?,Sync?,--- dB,51.7 dBμV,>39.1 dB,7.4E-5,<5E-8,														
12	2009/04/17, 14:57:57,52.3 dBμV,>39.4 dB,1.3E-4,<5E-8,<3E-5,30.5 dB,50.6 dBμV,>36.5 dB,2.5E-5,<5E-8,<3E-5,31.0 dB,18.0 dBμV,>6.1 dB,Sync?,Sync?,Sync?,--- dB,51.7 dBμV,>38.2 dB,7.0E-5,<5E-8,														
13	2009/04/17, 14:58:39,52.3 dBμV,>39.7 dB,1.2E-4,<5E-8,<3E-5,30.5 dB,50.8 dBμV,>36.4 dB,3.0E-5,<5E-8,<3E-5,29.2 dB,17.8 dBμV,>5.9 dB,Sync?,Sync?,Sync?,--- dB,51.7 dBμV,>38.2 dB,7.6E-5,<5E-8,														
14	2009/04/17, 14:59:22,52.3 dBμV,>39.1 dB,1.2E-4,<5E-8,<3E-5,29.5 dB,50.7 dBμV,>38.8 dB,2.4E-5,<5E-8,<3E-5,31.9 dB,18.3 dBμV,>6.4 dB,Sync?,Sync?,Sync?,--- dB,51.5 dBμV,>39.2 dB,7.1E-5,<5E-8,														
15	2009/04/17, 15:00:05,52.0 dBμV,>39.4 dB,1.2E-4,<5E-8,<3E-5,28.6 dB,50.7 dBμV,35.7 dB,2.5E-5,<5E-8,<3E-5,31.8 dB,18.5 dBμV,>6.6 dB,Sync?,Sync?,Sync?,--- dB,51.7 dBμV,>37.9 dB,6.5E-5,<5E-8,<														
16	2009/04/17, 15:00:48,52.3 dBμV,>40.0 dB,1.3E-4,<5E-8,<3E-5,29.4 dB,50.7 dBμV,>36.6 dB,2.6E-5,<5E-8,<3E-5,31.3 dB,18.3 dBμV,>6.4 dB,Sync?,Sync?,Sync?,--- dB,51.6 dBμV,>39.3 dB,6.4E-5,<5E-8,														
17	2009/04/17, 15:01:31,52.1 dBμV,>39.8 dB,1.3E-4,<5E-8,<3E-5,29.4 dB,50.7 dBμV,>36.3 dB,2.2E-5,<5E-8,<3E-5,32.7 dB,18.4 dBμV,>6.5 dB,Sync?,Sync?,Sync?,--- dB,51.6 dBμV,>39.7 dB,6.3E-5,<5E-8,														

Microsoft Excel ®2007

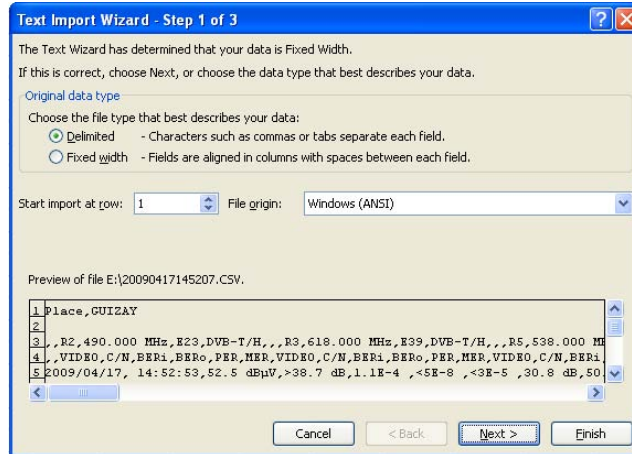
Open a new book ("Office" button -> "New"-> "New Excel book").
Select the "Data" tab and click on "From Text".

Excel ® window

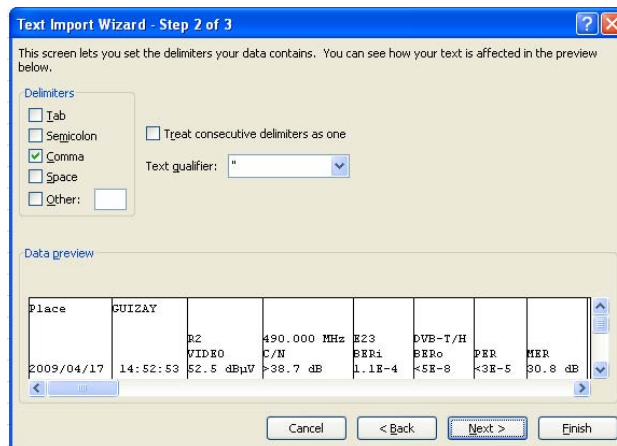


Select the "*.csv" file. A Text Import Wizard in 3 steps opens.

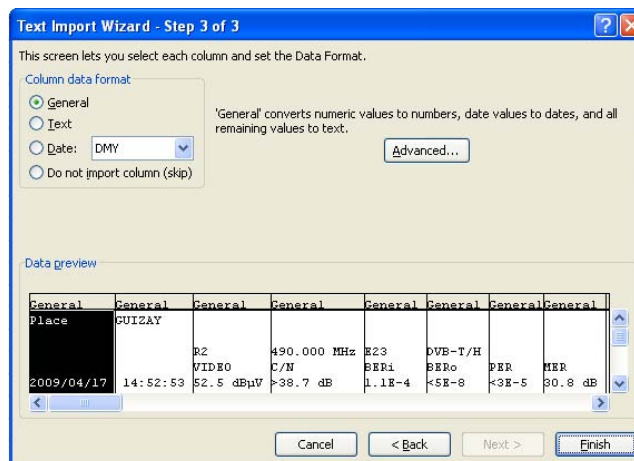
Step 1 :
In the "Original data type" menu, fill the "Delimited" tick box ; start import at row "1" with a "Windows ANSI" file origin (adjustment by default). Then click on "Next".



Step 2 :
In "Delimiters", only fill the "Comma" tick box. The "Data preview" window, appears according to this adjustment. Click on "Next".



Step 3 :
Keep the column data format in "General" mode and click on "Finish".



Final spreadsheet

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1	Place	GUIZAY												
2														
3			R2	490.000 MHz	E23	DVB-T/H			R3	618.000 MHz	E39	DVB-T/H		
4			VIDEO	C/N	BERi	BERo	PER	MER	VIDEO	C/N	BERi	BERo	PER	MER
5	17/04/2009	14:52:53	52,5	>38,7 dB	1.1E-4	<5E-8	<3E-5	30,8 dB	50,8 dBμV	>37,0 dB	2.3E-5	<5E-8	<3E-5	32,7 dB
6	17/04/2009	14:53:36	52,3	>39,7 dB	1.2E-4	<5E-8	<3E-5	28,2 dB	50,7 dBμV	>36,3 dB	2.3E-5	<5E-8	<3E-5	31,1 dB
7	17/04/2009	14:54:19	52,4	>40,1 dB	1.3E-4	<5E-8	<3E-5	28,7 dB	50,5 dBμV	>36,7 dB	5.2E-5	<5E-8	<3E-5	29,7 dB
8	17/04/2009	14:55:02	52,3	>40,0 dB	1.2E-4	<5E-8	<3E-5	29,8 dB	50,6 dBμV	35,6 dB	2.9E-5	<5E-8	<3E-5	28,9 dB
9	17/04/2009	14:55:45	52,4	>40,1 dB	1.2E-4	<5E-8	<3E-5	31,0 dB	50,6 dBμV	34,7 dB	2.6E-5	<5E-8	<3E-5	31,4 dB
10	17/04/2009	14:56:27	52,4	>40,1 dB	1.3E-4	<5E-8	<3E-5	30,5 dB	50,6 dBμV	>36,5 dB	2.4E-5	<5E-8	<3E-5	31,6 dB
11	17/04/2009	14:57:14	52,2	>39,0 dB	1.2E-4	<5E-8	<3E-5	28,2 dB	50,6 dBμV	>37,1 dB	2.5E-5	<5E-8	<3E-5	30,6 dB
12	17/04/2009	14:57:57	52,3	>39,4 dB	1.3E-4	<5E-8	<3E-5	30,5 dB	50,6 dBμV	>36,5 dB	2.5E-5	<5E-8	<3E-5	31,0 dB
13	17/04/2009	14:58:39	52,3	>39,7 dB	1.2E-4	<5E-8	<3E-5	30,5 dB	50,8 dBμV	>36,4 dB	3.0E-5	<5E-8	<3E-5	29,2 dB
14	17/04/2009	14:59:22	52,3	>39,1 dB	1.2E-4	<5E-8	<3E-5	29,5 dB	50,7 dBμV	>38,8 dB	2.4E-5	<5E-8	<3E-5	31,9 dB
15	17/04/2009	15:00:05	52,0	>39,4 dB	1.2E-4	<5E-8	<3E-5	28,6 dB	50,7 dBμV	35,7 dB	2.5E-5	<5E-8	<3E-5	31,8 dB
16	17/04/2009	15:00:48	52,3	>40,0 dB	1.3E-4	<5E-8	<3E-5	29,4 dB	50,7 dBμV	>36,6 dB	2.6E-5	<5E-8	<3E-5	31,3 dB
17	17/04/2009	15:01:31	52,1	>39,8 dB	1.3E-4	<5E-8	<3E-5	29,4 dB	50,7 dBμV	>36,3 dB	2.2E-5	<5E-8	<3E-5	32,7 dB

Microsoft Excel®, previous versions than 2007

- These versions don't always offer directly the data import functions in the tools. To remedy to this problem, you have to :
- Convert the "*.csv" file in ".txt" file : all you have to do is change the extension (right clicking on the file, rename the file in ".txt").
 - Create a new book and select the file : "File" → "Open" → select the "*.txt" file.
 - Fill the fields of the Text Import Wizard with the explanation for the 2007 version : now the procedure is identical.

Graph for defect saving

To have an preview of all these values and detect a defect more easily, it is possible to plot the curves of these measures.

To plot a curve from the spreadsheet, it is necessary to rework the data .The method is different according to the used spreadsheet.

For example : R2 and R3 multiplex have been modified in order to plot the curves. R6 is in original configuration.

Modified spreadsheet

Place	GUIZAY																		
		R2	490,000 MHz	E23	DVB-T/H			R3	618,000 MHz	E39	DVB-T/H			R6	514,000 MHz	E26	DVB-T/H		
		VIDEO	C/N	BERi	BERo	PER	MER	VIDEO	C/N	BERi	BERo	PER	MER	VIDEO	C/N	BERi	BERo	PER	MER
17/04/2009	14:52:53	52,5	38,7	1,1E-04	5,0E-08	3E-5	30,80	50,8	37,0	2,3E-05	5,0E-08	3E-5	32,7	51,7 dBμV	>39,4 dB	6,2E-5	<5E-8	<3E-5	30,5 dB
17/04/2009	14:53:36	52,3	39,7	1,2E-04	5,0E-08	3E-5	28,20	50,7	36,3	2,3E-05	5,0E-08	3E-5	31,1	51,5 dBμV	>38,9 dB	6,5E-5	<5E-8	<3E-5	29,0 dB
17/04/2009	14:54:19	52,4	40,1	1,3E-04	5,0E-08	3E-5	28,70	50,5	36,7	5,2E-05	5,0E-08	3E-5	29,7	51,4 dBμV	>39,1 dB	6,6E-5	<5E-8	<3E-5	30,0 dB
17/04/2009	14:55:02	52,3	40,0	1,2E-04	5,0E-08	3E-5	29,80	50,6	35,6	2,9E-05	5,0E-08	3E-5	28,9	51,6 dBμV	>37,8 dB	6,6E-5	<5E-8	<3E-5	29,8 dB
17/04/2009	14:55:45	52,4	40,1	1,2E-04	5,0E-08	3E-5	31,00	50,6	34,7	2,6E-05	5,0E-08	3E-5	31,4	51,6 dBμV	>38,7 dB	7,9E-5	<5E-8	<3E-5	29,5 dB
17/04/2009	14:56:27	52,4	40,1	1,3E-04	5,0E-08	3E-5	30,50	50,6	36,5	2,4E-05	5,0E-08	3E-5	31,6	51,5 dBμV	>38,9 dB	6,2E-5	<5E-8	<3E-5	29,8 dB
17/04/2009	14:57:14	52,2	39,0	1,2E-04	5,0E-08	3E-5	28,20	50,6	37,1	2,5E-05	5,0E-08	3E-5	30,6	51,7 dBμV	>39,1 dB	7,4E-5	<5E-8	<3E-5	30,2 dB
17/04/2009	14:57:57	52,3	39,4	1,3E-04	5,0E-08	3E-5	30,50	50,6	36,5	2,5E-05	5,0E-08	3E-5	31,0	51,7 dBμV	>38,2 dB	7,0E-5	<5E-8	<3E-5	31,0 dB
17/04/2009	14:58:39	52,3	39,7	1,2E-04	5,0E-08	3E-5	30,50	50,8	36,4	3,0E-05	5,0E-08	3E-5	29,2	51,7 dBμV	>38,2 dB	7,6E-5	<5E-8	<3E-5	29,0 dB
17/04/2009	14:59:22	52,3	39,1	1,2E-04	5,0E-08	3E-5	29,50	50,7	38,8	2,4E-05	5,0E-08	3E-5	31,9	51,5 dBμV	>39,2 dB	7,1E-5	<5E-8	<3E-5	29,8 dB
17/04/2009	15:00:05	52,0	39,4	1,2E-04	5,0E-08	3E-5	28,60	50,7	35,7	2,5E-05	5,0E-08	3E-5	31,8	51,7 dBμV	>37,9 dB	6,5E-5	<5E-8	<3E-5	30,5 dB
17/04/2009	15:00:48	52,3	40,0	1,3E-04	5,0E-08	3E-5	29,40	50,7	36,6	2,6E-05	5,0E-08	3E-5	31,3	51,6 dBμV	>39,3 dB	6,4E-5	<5E-8	<3E-5	30,0 dB
17/04/2009	15:01:31	52,1	39,8	1,3E-04	5,0E-08	3E-5	29,40	50,7	36,3	2,2E-05	5,0E-08	3E-5	32,7	51,6 dBμV	>39,7 dB	6,3E-5	<5E-8	<3E-5	30,3 dB
17/04/2009	15:02:18	52,3	39,1	1,2E-04	5,0E-08	3E-5	30,20	50,7	37,8	2,2E-05	5,0E-08	3E-5	30,5	51,6 dBμV	>39,3 dB	7,3E-5	<5E-8	<3E-5	29,8 dB
17/04/2009	15:03:04	52,2	40,3	1,2E-04	5,0E-08	3E-5	26,80	50,7	36,3	2,3E-05	5,0E-08	3E-5	32,1	51,5 dBμV	>39,6 dB	7,1E-5	<5E-8	<3E-5	29,5 dB
17/04/2009	15:03:46	52,3	40,0	1,2E-04	5,0E-08	3E-5	28,60	50,7	37,2	2,4E-05	5,0E-08	3E-5	31,1	51,6 dBμV	>38,4 dB	6,0E-5	<5E-8	<3E-5	31,1 dB
17/04/2009	15:04:31	52,3	39,4	1,3E-04	5,0E-08	3E-5	31,40	50,8	36,4	2,1E-05	5,0E-08	3E-5	32,9	51,6 dBμV	>39,7 dB	5,8E-5	<5E-8	<3E-5	31,4 dB
17/04/2009	15:05:14	52,3	38,8	1,3E-04	5,0E-08	3E-5	31,10	50,8	37,0	2,2E-05	5,0E-08	3E-5	32,2	51,6 dBμV	>38,1 dB	7,2E-5	<5E-8	<3E-5	29,8 dB
17/04/2009	15:05:57	52,1	39,8	1,3E-04	5,0E-08	3E-5	31,00	50,8	37,6	2,4E-05	5,0E-08	3E-5	30,5	51,5 dBμV	>39,2 dB	6,8E-5	<5E-8	<3E-5	29,2 dB
17/04/2009	15:06:40	52,0	40,1	1,3E-04	5,0E-08	3E-5	30,00	50,8	37,9	2,3E-05	5,0E-08	3E-5	32,1	51,7 dBμV	>39,4 dB	6,1E-5	<5E-8	<3E-5	29,5 dB
17/04/2009	15:07:23	52,1	38,6	1,3E-04	5,0E-08	3E-5	31,30	50,8	36,7	2,3E-05	5,0E-08	3E-5	33,4	51,5 dBμV	>39,6 dB	6,3E-5	<5E-8	<3E-5	27,9 dB
17/04/2009	15:08:05	52,1	39,8	1,3E-04	5,0E-08	3E-5	30,80	50,9	38,6	8,5E-03	5,0E-08	3E-5	21,9	51,5 dBμV	>37,7 dB	6,2E-5	<5E-8	<3E-5	29,4 dB
17/04/2009	15:08:48	52,0	38,5	1,4E-04	5,0E-08	3E-5	30,80	50,8	36,4	2,2E-05	5,0E-08	3E-5	33,4	51,5 dBμV	>39,6 dB	7,3E-5	<5E-8	<3E-5	28,7 dB

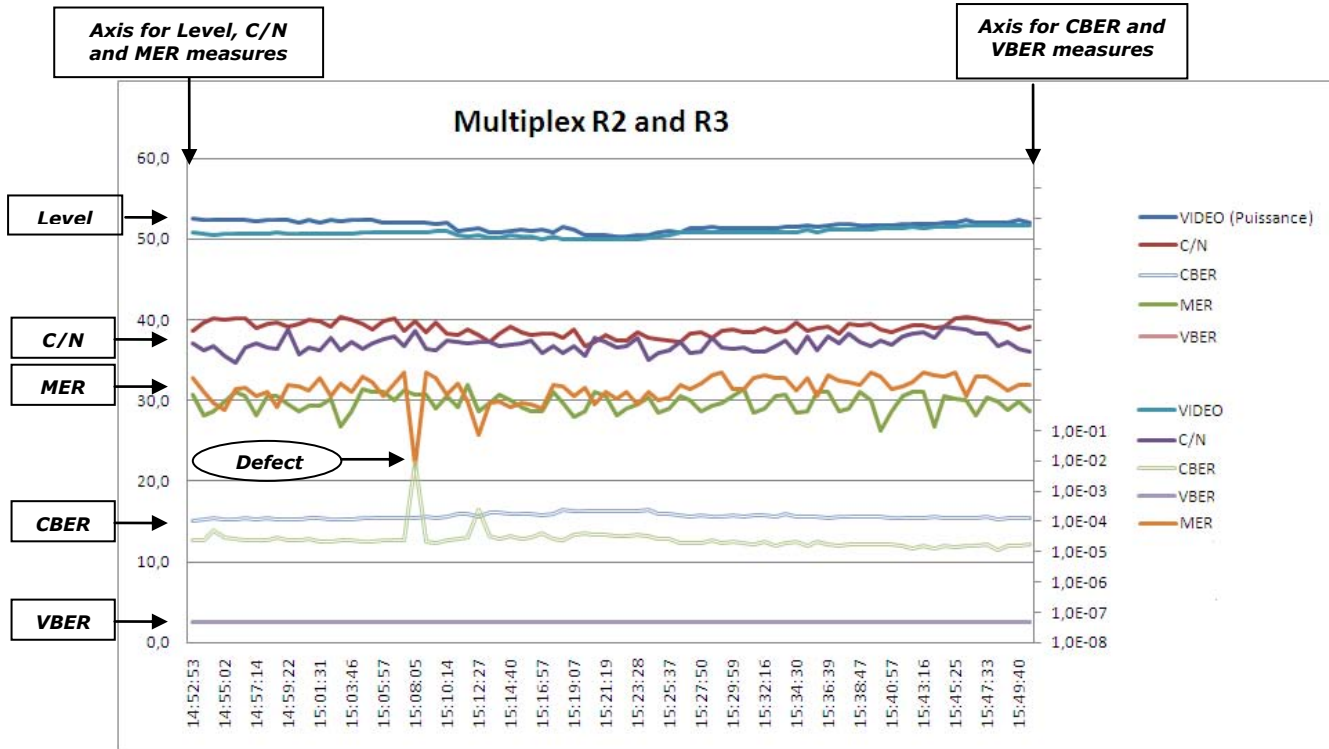
For this example, you can find the plotted curves for R2 and R3 multiplex (for a one-hour recording).



Metrix Electronics Limited

Minchens Court, Minchens Lane, Bramley, RG26 5BH, U.K.
Tel: +44 (0)845 034 3234, Fax: +44 (0)845 034 3233
E-mail: sales@metrix-electronics.com, Web: www.metrix-electronics.com

Graph from the spreadsheet



An interference appears at 15h08 on the R3 multiplex. MER goes under the minimum threshold (26dB) and CBER has a worse quality, that may mean a reception problem.

Notes

VBER graphs are mixed up and constant (curves at the bottom).

The right axis is in a logarithmic scale with a base of 10 to see correctly the curves.

Product link: http://www.sefram.com/wwwFR/F_quick_search.asp?st=7861