Media Tech Meter

Television audience measurement technology

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o Based on our extensive experience with various hardware and software platforms and technologies and the less than expected results they delivered, GARB made a strategic decision to invest in creating and developing its own set of technologies.

o As a result of this strategy the entire experience of GARB was involved in the process of achieving the conceptual architecture and specifications of the desired hardware devices and software platforms.

o Once the conceptual designs were finalized, through strategic investment and procurement process, a top research and development (R&D) company in Russia was selected to complete the hardware design, while another one was awarded the contract to complete the software platform. The decision was made based on many factors, among which the expertise of the company in similar R&D tasks, proximity to GARB headquarters, cost of R&D and continuous support, recommendations from previous large customers, etc.

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o As a final step, for the hardware device, a manufacturing facility with extensive experience in producing large numbers of set top boxes was selected in China to mass-produce the hardware peoplemeter devices.

o Thus, the experience and key expertise of GARB were utilized and combined with global outsourcing to develop a superior and cost effective platforms, allowing the company to vertically integrate its business processes, and in turn to offer more accurate, reliable and cost effective services to its customers.

Basic functions

Basic functions

o MT Mmeter comprises of a main unit with integrated LED display and a remote control. One meter is connected to each TV set in the household. The initial installation and configuration of the device is done by our technicians. The number of TV sets equipped with peoplemeters per household (HH) is not limited.

o Each member of the HH as well as guest(s) log into the meter via the remote control. To correctly identify each member of the HH, each designed button on the remote control is labeled with a HH member's name or letter.

o Visual feedback on successful log in and out is given by the LED display, which also offers the possibility to send birthday greetings and other messages to the HH members. In combination with the remote control, even simple surveys (i.e. appreciation of program, presenter, broadcasting time etc.) can be carried on. The display supports any kind of symbols, characters, fonts and languages.

Basic functions

o MT Meter is ready to use immediately after successful installation. All measured data is submitted via GSM/GPRS modem to the data center. Each peoplemeter transmits its collected data autonomously and no additional wiring is necessary in the HH for the data transfer.

o The meter captures all analogue and digital content distributed via any kind of broadcasting (terrestrial analog, terrestrial digital, cable analog, cable digital, satellite, IP TV, HD TV and SD TV and also could measures time-shift and video-on-demand (VOD).

Advanced functions

o MT Meter can be used to push any additional content to be displayed on the TV set. For example such content may be any type of public opinion question (e.g. do you approve of ….; would you vote for…..; would you support….; etc.)

o Since the meters are joined in a VPN and the information regarding viewership can be obtained in near real time the questions may also be relevant to the viewed content. For example if the household is watching a TV series containing product placement, a series of questions may be asked immediately upon the completion of the episode (e.g. did you see the product ….; do you use the product…, etc.)

o The HH may also be asked about their opinion of the content itself, e.g. whether they like the episode, the plot and subplots, characters featured, etc.

o The questions can be further targeted based on socio-economic factors (age, household income, etc.), geo-location, etc. and representative results (national, regional, age groups, etc.) can be obtained and verified within extremely short timeframe (~2 days)

Fully autonomous technology

o One of the key benefits of MT Meter is that it is fully autonomous and ready to use directly out of the box

o The household would receive a box containing the MT Meter, a connecting cable and a USB GPRS/3G (or WiFi) adapter. The household member would only need to plug in the cable to connect the device to the TV set, the USB adapted in the USB port and power on the device. Once this is done the device will be connected in our encrypted virtual network (VPN) and a specialist from our office would take over completing the entire setup and everything else needed to start measuring the household.

o This process is automated to the point where we even have a virtual remote control so we can train the HH members how to use the peoplemeter and the remote control to provide best results.

o Additionally specifically tailored tutorials can be pushed to the household to provide additional training and optimize the measurement results, based on the local country needs, traditions, etc.

Measurement technology key points

o **MT Meter detects the frequency of the TV channels (according to channel lists provided by all TV operators and maintained by the support team). The meter also captures the picture of the channel (could be logo, EPG, banner and so on depending on the market specifics) with certain frequency (every 5 minutes) and compares it against a TV channels logo database.**

o **Thus, because MT Meter measures frequencies (or channel ID in the case of digital broadcast) we know with certainty which channel was watched during commercials or channel switches, when there is no channel logo present and as a result can provide nearly 100% accurate data. The process is fully automated with data sent to the server using either a 3G modem or wireless connection (if available.)**

o **There are no manual steps or data processing required (e.g. manual logo matching, sound matching, etc.). In the rare cases of channel position change by the provider, this change is detected within max 10 minutes (configurable) as a result of the additional picture-matching step. Then the changes are noted and implemented and the system is corrected.**

Remote control

o Each meter is allocated its own remote control.

o The HH members are instructed to log into the system as soon as they enter a room where a TV set is switched on respectively to log out of the system when they leave the room. To simplify this process, each HH member has a designed and labeled button on the remote control.

o TV programs can also be evaluated by using a pre-defined scale on the remote control. Moreover, an unlimited number of guests can be registered on a remote control. As soon as a guest logs onto the system, socio-demographic variables such as age and gender are requested via the display.

o Currently the remote controls in use are designed for 8 HH members and 12 guests, but due to market specifics the number of the buttons can be easily adjusted without limitation and with no additional cost.

Maintenance and safety

o **All MT Meters are joined into a virtual network and thus can be maintained remotely from the main data center.**

o **Most problems can be solved and checks can be carried out via remote access. Therefore, a technician's visit to the HH only occurs in a limited number of specific situations or altogether eliminated from the process.**

o **During the data transfer the collected data is saved on a non-volatile memory and therefore safe from power cuts.**

o **The capacity of the memory is large enough to store several days' worth of data.**

Acceptance in the households

o When developing the meter, focus was placed on increasing the acceptance of the meter in the households.

o The meter as well as the remote control are designed from scratch and offer an appealing look and feel.

o Due to the mobile data transfer the cabling has been reduced to a minimum.

o The TV sets do not have to be opened to be connected to the meter.

o No external devices need to be installed.

o These improvements lead to even higher acceptance in the household and less panel mortality.

Measurement standards

Measurement standards

MT Meter technology:
- Channel ID measurement, Frequency measurement
- Measuring capability – 1 sec.

Participants' data:
- Personal logon and questioning
- Demand over TV screen
- Inputs by remote control

Analog TV Signal Measurement:
For measuring of analog TV signal an on-board analog tuner is utilized. The current channel frequency, the registered HH and/or Guest members and the status of TV set (On/Off) are stored on the internal memory of the device. Thus, in analog mode the following features are supported:
- Terrestrial, cable analog broadcast;
- Measuring of the frequency by the on-board tuner (selected HF channel)
- ON/OFF status of TV set

Measurement standards

Digital TV Signal Measurement:

The device extracts the selected program information IDs (identifier) from the standardized MPEG-2, MPEG-4 streams and records the IDs, registered family members and the status of TV Set (On/Off) to the internal memory. Thus, in digital mode the following features are supported:

- **Terrestrial (ATSC (VSB), DVB-T), cable (DVB-C,ATSC (QAM), Satellite (DVB-S/S2)**
- **ON/OFF status of TV set**
- **Selected channel ID**
- **4 MPEG-IDs (TrStreamID, ProgID, NetID, OrgNetID)**

Measurement standards

Channel identification:

o **On the data center servers, the collected information for the current channel frequencies or ID`s are automatically compared with lists for each provider, and the names of the channels are assigned to the viewership data.**

On/Off status

o **On/Off status of the TV Set is provided by ON/OFF adapter (integrated in the device). The adapter sending the information of the TV status to GARB's device.**

GPRS Modem Adapter

o **The collected raw data file is transmitted to the main servers via 3G or GPRS modem connection. The connection also allows remote connections to the device, for maintenance and status checks.**

Hardware specifications

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Broadcasting standards:	Analog	DVB-T	DVB-T2	DVB-C	DVB-C2	DVB-S	DVB-S2	ATSC (VSB,QAM)
TV standards:	PAL	SECAM	NTSC	HD (1280x720p) 720p		HD ready (1366x768)	Full HD (1920x1080)1080p	
Audio standards:	Stereo		5.1 DTS		5.1 Dolby Digital			
Video output:	Analog: Composite (optional:1) SCART				Digital: HDMI			
Audio output:	Stereo A/V			Digital coaxial and/or optical S/PDIF (optional:1)				HDMI
Compression:	MPEG2				MPEG4		H.264	
Security encoding:	Common interface		Card reader					
Other I/O:	Composite chinch IN		Composite SCART IN		HDMI IN	USB		

Hardware specifications

Other hardware:

- **LCD display + 8 LEDs**

- **Internal power supply**

- **IR remote**

- **Measuring of power on/off state of TV via internal adapter**

- **RF modulator (in case of missing Composite in on TV set)**

GARB
Audience
Measurement
Bulgaria

Thank You