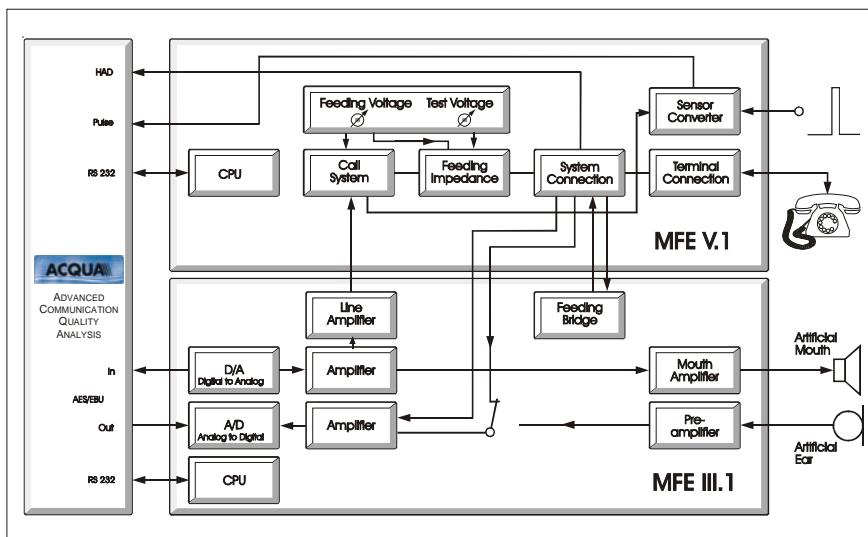
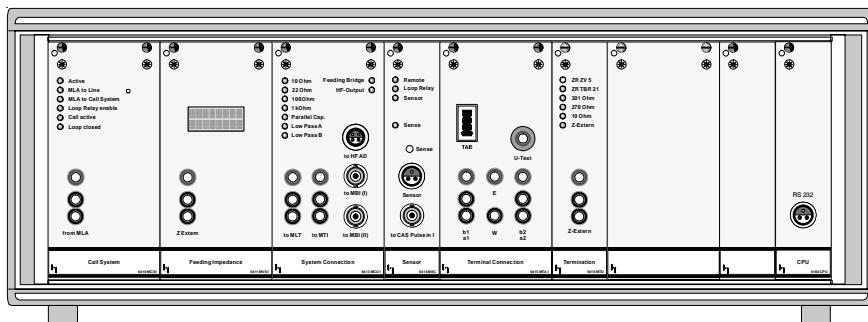


MFE V.1 (Code 6401)

Telecom Measurement Frontend

Frontend for test ratings according to DIN 440 15, ETSI TBR 21, TBR 37 and ES 203 021



Overview

The measurement frontend MFE V.1 provides the connecting link between measurement data capture (via the Artificial Head Measuring System HMS II.3) and digital analysis with the ADVANCED COMMUNICATION QUALITY ANALYSIS ACQUA.

Via the frontend ACQUA is able to automatically perform standard measurements (ITU-T/ETSI ...), measurements to HEAD acoustics standards as well as user-defined measurements and measurement sequences. The configuration of the frontend is fully computer-supported in ACQUA.

In combination with ACQUA and the measurement frontend MFE III.1, MFE V.1 is used for test ratings according to the German approval regulation BAPT 223 ZV 5, DIN 440 15 as well as the ETSI standards TBR 21, TBR 37 and ES 203 021.

DESCRIPTION

The Frontend MFE V.1 enables all measurements at the network access point of (tele-)communication terminals according to the German approval regulation BAPT 223 ZV 5, and is also suitable for measurements according to DIN 440 15, ETSI TBR 21, TBR 37 and ES 203 021.

The MFE V.1 system control is realized by an RS 232 interface. All parameters can be directly selected by ACQUA. The frontend sends status information to the analyzer. The selected settings are shown by LED displays at the frontend as well as on the ACQUA screen.

APPLICATIONS

- Electrical measurements of analog communication terminals

FEATURES

- Supply voltage selectable from 10 V to 137 V
- Feed resistors selectable from 10 Ω to 327670 Ω
- Integrated call voltage generator
- Test voltage selectable from 40 V to 167 V
- Built-in digital voltmeter
- Feed and terminating impedance according to BAPT 223 ZV 5, DIN 440 15, ETSI TBR 21, TBR 37 and ES 203 021
- Full remote control via ACQUA (Advanced Communication Quality Analysis)
- Processor control

STANDARD DELIVERY ITEMS

MFE V.1 (Code 6401)

includes the following components:

- **MRM V (Code 6490):**
MFE V 19" rack
- **MFH V (Code 6491):**
Housing for MFE V 19" rack
- **CPU (Code 6184):**
Central processing unit module
- **MCS I (Code 6410):**
Call generator module
- **MVS I (Code 6411):**
Variable feed impedance module
- **MCO I (Code 6413):**
System connector module
- **MSC I (Code 6414):**
Sensor converter module
- **MTA I (Code 6415):**
Terminal connector module
- **MTD I (Code 6416):**
Terminations module
- **HAD II (Code 6419):**
HF-AD converter (PCI card)

The unit is supplied with:

- **MRC I (Code 6421):**
Remote control
- **CLD I.1 (Code 6070):**
3 m cable Lemo 3 pins « D-SUB 25 (RS 232)
- **CHA I.1 (Code 6440):**
3 m cable CAS (HAD) « MFE V (MCO), SMA « Lemo I, 4 pins
- **CIG II.1 (Code 6343):**
0.5 m cable Telecom connector 3 pins « Telecom connector 3 pins (3 off)
- **CBB I.4 (Code 6470):**
3 m cable BNC « BNC
- **CBB I.5 (Code 6471):**
0.5 m cable BNC « BNC (2 off)
- **PCC I.9x (Code 997x):**
Mains cable (to local specification)
- **MFD I (Code 6059):**
User's manual MFE

OPTIONS

- **Update (Code 6402):** Update MFE V (Code 6400) to MFE V.1

ACCESSORIES

- **ACOPT 22 (Code 6847):**
Option ES 203 021 - Basic Attachment Requirements for Analog Terminals
- **PSB III (Code 6001):**
Pulse Splitter Box - Telecom Version (with PSH I.1 and 2x CXX II.3)

SYSTEM REQUIREMENTS

- **ACQUA (Code 6810 etc.):**
Advanced Communication Quality Analysis, Software for Windows 2000/XP (cf. ACQUA data sheet), Version 2.3 or higher
- **PC with Windows^(R) 2000/XP, USB Port, Ethernet Port**

Technical Data

Voltage supply to MRM

Supply voltage:	10 – 137 V, current limited to 100 mA
Feed current:	20 mA and 40 mA
Test voltage:	40 – 167 V, current limited to 100 mA

Call system module MCS

Call voltage generation:	up to 100 V _{eff}
Call signals:	can be created as required using ACQUA signal editor
Line-loop-relay:	integrated, t _A Δ 15 ms, I _A = 15 mA
Call transformer:	according to BAPT 223 ZV 5

Feed impedance module MVS

10Ω to 327670 Ω

ZR according to BAPT 223 ZV 5, DIN 440 15, ETSI TBR 21, TBR 37 and ES 203 021

Parallel capacity 220 µF

Facility for connecting external impedance

System connector module MCO

- feeding bridge loop connection
- measurement amplifier outputs to MBI with attenuations 1, 10, 100
- HF A/D output with amplifications 1, 10, 100
- measurement resistors 10 Ω, 100 Ω, 1 kΩ (lowpass 2 ms) and 10 kΩ (lowpass 20 ms)

Sensor converter module MSC

generates TTL time marks for evaluation in ACQUA

- key-in system
- line-loop-relay
- optical sensors

Terminal connector module MTA

DVM module integrates

Access to test object via special Telecom socket or 4mm socket array

Terminations module MTD

ZR line terminations to BAPT 223 ZV 5, DIN 440 15, ETSI TBR 21, TBR 37 and ES 203 021

- 270 Ω
- 301 Ω
- external

Environmental Conditions

Power supply:	90 – 120 V or 200 – 265 V / 47 – 63 Hz
Max. power consumption:	200 W
Temperature range:	Storage: -40°C - 80°C, -40°F - 176°F Operation: 0°C - 50°C, 32°F - 122°F
Overall dimensions (W x H x D) :	530 mm x 160 mm x 430 mm
Weight	20 kg

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