

CS8030 – Test System for Telephony

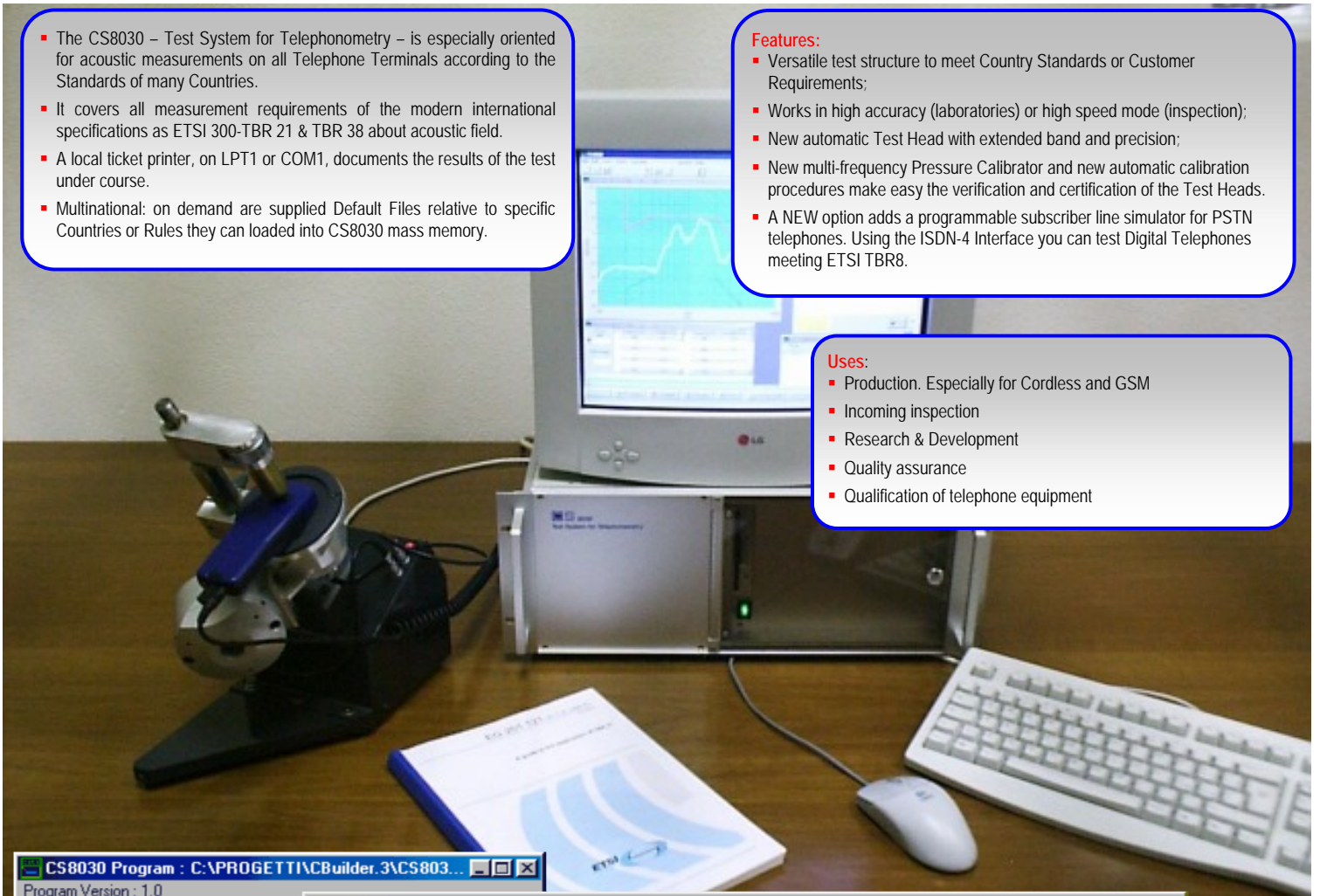
- The CS8030 – Test System for Telephony – is especially oriented for acoustic measurements on all Telephone Terminals according to the Standards of many Countries.
- It covers all measurement requirements of the modern international specifications as ETSI 300-TBR 21 & TBR 38 about acoustic field.
- A local ticket printer, on LPT1 or COM1, documents the results of the test under course.
- Multinational: on demand are supplied Default Files relative to specific Countries or Rules they can be loaded into CS8030 mass memory.

Features:

- Versatile test structure to meet Country Standards or Customer Requirements;
- Works in high accuracy (laboratories) or high speed mode (inspection);
- New automatic Test Head with extended band and precision;
- New multi-frequency Pressure Calibrator and new automatic calibration procedures make easy the verification and certification of the Test Heads.
- A NEW option adds a programmable subscriber line simulator for PSTN telephones. Using the ISDN-4 Interface you can test Digital Telephones meeting ETSI TBR8.

Uses:

- Production. Especially for Cordless and GSM
- Incoming inspection
- Research & Development
- Quality assurance
- Qualification of telephone equipment



CS8030 Program : C:\PROGETTI\CSbuilder.3\CS803...

Program Version : 1.0
N° of tests : 8

N°	Alt.	Test Type
1	E	SPEECH - SENDING
2	E	SPEECH - RECEIVING
3	D	SPEECH - SIDE TONE
4	S	SPEECH - SIDE TONE
5	S	SPEECH - SIDE TONE
6	S	SPEECH - SIDE TONE
7	S	SPEECH - SIDE TONE
8	S	SPEECH - SIDE TONE
>>>		End of program list

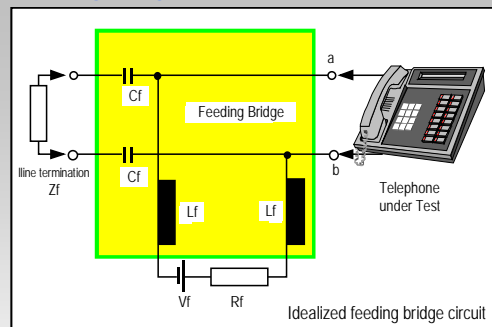
Graphics Response

Results Table

S.T.R.E. [dBPa/Pa]	Frequency [Hz]	Level [dB]	Frequency [Hz]	Level [dB]
4.8	100	-4,5	1000	7,4
	110	-2,8	1060	7,4
	120	-1,5	1120	7,4
	130	-0,3	1180	7,4
	140	0,7	1250	7,3
	150	1,5	1320	7,3
	160	2,2	1400	7,2
	170	2,7	1500	7

Comment

NEW Optional Feeding Bridge – PSTN Subscriber Line Simulator.



- CS8030 can be equipped with the new Feeding Bridge to simulate the Subscriber telephone line.
- The Feeding Bridge can supply a PSTN telephone with battery voltage programmable.
- The Feeding Bridge meets the requirements of ETSI TBR21 e TBR38:
 - 1) Battery Voltage: programmable from 30 to 70Volt
 - 2) Maximum current: 100mA
 - 3) Inductor L_f : equivalent to 2 x 5 Henry
 - 4) Capacitor C_f : equivalent to 2 x 47 μF
 - 5) Padding Resistor R_f : externally definable on the RF binding posts
 - 6) Line Termination Z_f : externally definable on the ZF binding posts



✓ **CS8030 – Test system for Telephony**

- ✎ The basic structure carry-out all telephometric measurements on telephone set, Cordless, DECT, GSM¹ or other mobile telephones, meeting the most important Standards as UIT, IEEE, OREM, AUSTRALIA, etc...
- ✎ A new Test Head AC-4, with extended band - 100Hz÷8KHz, was designed to guarantee the better measurement accuracy.
- ✎ The new AC-4 is conceived with an advanced

TEST FAMILIES

ACOUSTIC TESTS:

- ⇒ Receiving and sending sensitivity frequency response (1/3oct or 1/12oct in reduced band: 200÷4KHz or extended band: 100÷8KHz);
- ⇒ Receiving and sending Loudness Rating – for all Standards;
- ⇒ Talker side-tone and Overall transmission;
- ⇒ Harmonic Distortion;
- ⇒ Noise;
- ⇒ Instability (Larsen);

ELECTRICAL TESTS:

- ⇒ Return loss and echo return loss
- ⇒ Unwanted signals out of band (*)

OTHER TESTS:

- ⇒ Magnetic field around the ear cap (provided for coupling to hearing aids – UIT-P37), available only with HA accessory (*)

(*) (under development)

ergonomics to facilitate the use in manufacturing environment providing the automatic locking and unlocking of the handset or of the TE under test. The actual Test Head AC-3 is also connectable with reduced performances.

- ✎ To enlarge the possibilities of CS8030 a programmable optional PSTN User Interface Simulator is installable on the System.
- ✎ At present our R&D department is studying an ISDN User Interface, programmable and able to make many measurements required by the TBR 8 rules. The ISDN interface let you able to verify your TE from a functional point-of-view.

✓ **Programming and use**

- ✎ The CS8030 presents a kinds of programming.

✎ The basic method and most used is to assemble a sequential test program obtained by choosing in every order the test offered by the three families.

For each test, default parameters and limits are suggested, depending of the national or international specifications selected.

- ✎ This means a System completely open.
- ✎ The Programmer can select two ways to record the measurement results, addressing it to:
 - a local file;
 - a remote file via its optional network interface.

✓ **Special features**

- ✎ CS8030 meets Laboratories and Manufacturing needs. It cans works in *high-accuracy* or in *high-speed* mode or in any intermediate condition.
- ✎ *High-accuracy mode* means to spend more measurement time to obtain the maximum of accuracy and repeatability. That is typical for R&D Laboratory, Quality inspections, Approval Laboratories, etc...
- ✎ *High-speed mode* save inspection time, guaranteeing, at the same time, the better measurement accuracy.
- ✎ CS8030 support up to four test bench. An automation procedure runs the test program associated to each AC-4, when it shall be loaded, in sequence.

✓ **Environment**

- ✎ The particular measure method allows the System to be used directly in manufacturing areas, without protections or acoustic shields.
- ✎ Special algorithms made transmission measurements, free from environmental noise influence.

✓ **Flexibility**

- ✎ CS8030 is system software based. So it's easy upgradeable by floppy disks. New releases can be installed trough wizard set-up procedures.
- ✎ The hardware was conceived able to accept future enlargements.
- ✎ Easy updateable for new Specifications or new Countries.

✓ **Low cost related to the throughput**

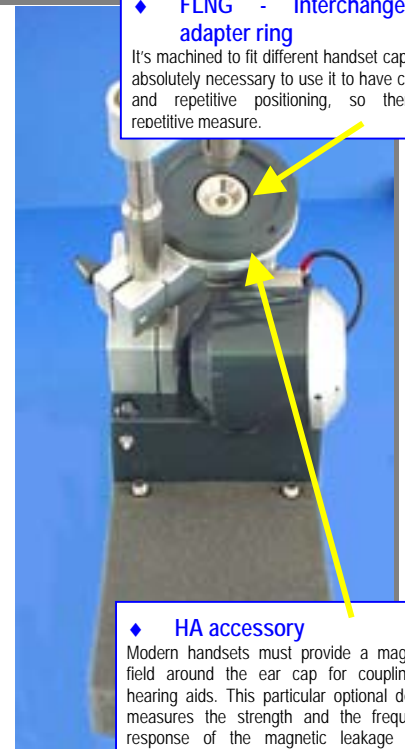
- ✎ Cost effective.
- ✎ Very reduced maintenance!
- ✎ The System requires only periodical calibration of electro acoustic-devices by means of integrated calibration procedures that drive the operations, collect the calibration data for the history of the Test Head, and produce a Calibration certificate for the Quality purposes.

TYPICAL MEASUREMENTS ACCURACY

- Acoustic receiving and sending sensitivity ±0,5 dB
 - Acoustic receiving and sending Loudness Rating ±0,3 dB
 - Harmonic Distortion ±0,2 dB
 - RMS noise measurements ±0,2 dB
 - Signals levels ± 0,1 dB
 - Return loss ± 0,2 dB
 - Frequency ± 0,01
-
- Receiving, sending and side-tone measurement time
 - Hi-Speed 0,7 S.
 - Hi accuracy 3,4 S.

◆ **FLNG - Interchangeable adapter ring**

It's machined to fit different handset caps. It's absolutely necessary to use it to have correct and repetitive positioning, so therefore repetitive measure.



◆ **HA accessory**

Modern handsets must provide a magnetic field around the ear cap for coupling to hearing aids. This particular optional device measures the strength and the frequency response of the magnetic leakage field. Evaluation meets the UIT-P37

◆ **Test Head automation**

Under control of the CS8030 test program or of a photo-optical device, when the Operator lean-on the handset on the adapter ring, the pressure arm of AC-4 rotates clock wise and go down, locking it against the Ear cavity.

The tests can start-up. At the test end, the CS8030 drive the pressure arm of the AC-4. It rise-up and rotates CCW, unlocking the handset or the TE under test.

AC-4 also offers the possibility to drive an optional mechanism able to insert a cord into the handset or the GSM connector in its lower side.

- ✎ The System Instruction Manual includes a calibration and verification procedures list, to let possible the calibration of the complete System from Accredited Laboratories.

¹ Testable via an external air interface