4.3   ATU-80 Arabic

What seemed to be a simple monoalphabetic substitution of the standard Arabic teleprinter alphabet - first detected, decoded and published, of course, by ourselves already 25 years ago in the 8th edition of this manual - turned out to be a totally new standard that has virtually replaced the Arabic teleprinter alphabet described above in chapter 4.2 throughout the Arab world.

The latter was developed in 1970 by Arabic telecommunication administrations. Being the first attempt to establish a standard Arabic teleprinter alphabet so that Arabic telexes can be handled by the international telex network, it has been used throughout the world for the transmission of telegrams, news bulletins, etc. in the Arabic language. The main drawbacks of the code used are

- the control signals do not correspond with those of ITA2;
- not all letters of the Arabic alphabet are included;
- the optional use of the Latin alphabet is not provided.

The result of a Technical Meeting of the Arab Telecommunication Union in 1980 at Baghdad has been an entirely new standard Arabic teleprinter alphabet avoiding these enormous disadvantages. Teleprinters equipped with the new alphabet can be connected directly to the international GENTEX / TELEX network, both the Arabic and the Latin alphabet now being integrated in one single machine.

The Latin mode of the bilingual Arabic/Latin teleprinter is the same mode as the standard Latin alphabet now in use. For the Arabic mode, the direction of printing is from right to left; however, the code combinations, formats and keys of the numerals, special signs and the seven functions are identical to those in the Latin teleprinter. To switch the bilingual teleprinter from mode to mode, groups of combinations are executed by pressing a special key on the board: 29-30-32-29 from Latin to Arabic, and 29-32-30-29 from Arabic to Latin.

Following the decryption of the very first station using such equipment already in 1983, we have monitored to this moment (2008) hundreds of utility stations or radio nets using teleprinters equipped with the new ATU-80 Arabic teleprinter alphabet. The "decryption" of this alphabet is much easier than that of the common Arabic teleprinter alphabet described in chapter 4.2. ATU-A is title 14 on CD 2 of our CD RECORDING OF MODULATION TYPES. For Arabic Unicode see chapter 6.2.

Transmissions in the ATU-80 Arabic teleprinter alphabet can be recognized by the radio monitor by means of the following characteristics:

- Control signals such as line feed, carriage return etc. are received normal.
- The text looks quite normal, but the words cannot be understood.
- Test slips are printed as *YRYRYR...* and not as *RYRYRY...* because they are written from right to left.
- Many words start with *KD* which corresponds to the article *al-* (= "the").
- Figures are complemented to 10: 0 = 0, 1 = 9, 2 = 8, 3 = 7, 4 = 6, 5 = 5, 6 = 4, 7 = 3, 8 = 2, 9 = 1. Decimal points are written as *Y*. Examples (ATU-80 Arabic = Latin): 14 = 69. 835 = 572. 1008 = 2009. 6Y1247 = 3689.4. 0908 = 2010.
- Emphasis of individual words is achieved with prolonged horizontal dashes in the Arabic handwriting because there is no writing with capitals. A series of dashes is used for this on the teleprinter, too. Thus a signature such as MISTER becomes MISTE----R.