



# Hicom 102 - Technical Specifications/ Installation and Start-up Instructions

## 1. Technical Specifications

### 1.1 Technical Specifications

- 2 exchange lines
- 1 master telephone
- 5 extensions
- 1 entrance telephone / door opener

### 1.2 General Data

Structural design:	wall-mounted case
height 191 mm / width 175	mm / depth 57 mm
Weight	approx. 1,2 kg
Line distributor:	integrated in the system
Environmental conditions	
room temperature	+4°C to +40°C
no forced ventilation	

### 1.3 Electromagnetic Compatibility (EMC)

Protection as per FTZ 12 TR 1

Protection against atmospheric interference It is recommended that the exchange lines and the connecting cables of the entrance telephone be additionally safeguarded by protection devices (surge arresters; a-wire and b-wire against ground). In areas with high electric storm activity this is always necessary.

### 1.4 Subscriber Lines (subscriber Nos. 1-6)

Dialing method

Dial pulsing or DTMF, depending on the dialing method of the exchange line

- Dial pulsing (DP)
  - Pulse pause: 22 ms-46 ms
  - Pulse length: 52 ms - 71 ms
  - Impulslange: 52 ms - 71 ms
  - Pulseratio: 1,4:1 - 1,8:1
- Dual-tone multi-frequency signaling as per CCITT
- Range
  - Functional range: 2 x 60 ohms loop resistance
  - Loop current: 25 mA
  - Feed voltage: 24 V
- PBX recall button
  - Flashing time: 40 ms to 150 ms
  - DTMF telephones always need a flash key
  - DTMF telephones with grounding button are not allowed
  - DP telephones need no grounding button

### 1.5 Line Connections

Trunk circuit for main station interface

- Dialing method
- Dial pulsing or DTMF, depending on the dialing method of the exchange line
- Exchange feed voltage: at least 48 V
- No satellite PABX traffic is possible

### 1.6 Power Failure Transfer (ALUM)

Trunk transfer occurs upon failure of the power network voltage

First trunk to subscriber 1 (master station) Second trunk to subscriber 2

### 1.7 Entrance Telephone (call number 7)

- Range
- \* Maximum line resistance
- \* DC free (no feed)
- Activation contact for entrance telephone
  - \* Neutral NO contact max. 0.3 A; 24 V
  - \* Contact load capacity:

### 1.8 Door Opener

- \* Neutral NO contact
- \* Contact load capacity: max. 0,3 A; 24 V

### 1.9 Power Supply

- Class of protection 2
- AC network voltage: 220 V, +/- 10%, 50 Hz
- Power consumption: 15 VA
- Overload protection
  - Fuse in primary circuit: 1,25 A slow-blow (FS1), 80 mA slow-blow (FS2)

### 1.10 Audible Tones

Frequency 425 Hz	pulse sequence in ms pulses underlined
- dial tone	200/300/200/300/200/800
- busy tone	500/500
- ringing tone	1000/4000
- call waiting tone	60/2500
- special dial tone	<u>100</u> / 100
- buzz tone	<u>960</u> /120

### 1.11 Ringing Signals

Frequenz 50 Hz

- internal ringing 1000 / 4000
- outside call 400/200/400/4000

## 2. Installation of the System

The system does not need to be opened either for installation or for placing service. The distributor is accessible separately. The installation site must be dry and of normal temperature (room temperature, no exposure to direct sun or radiators).

### 2.1 Installation Work Sequence

- Affix the template to the wall, drill wall-plug holes, insert wall plugs
- Screw in the top screw to protrude about 3mm and hang the unit on this
- Remove distributor lid (one screw)
- Screw in and tighten the lower two screws
- Connect the line network

Note: 3 wall plugs with screws are provided with each system. These can be found inside the distributor lid of the system

### 2.2 Distributor Assignment / Connection

For the distributor assignments and connection **examples**, see the rear side.

### 3. Placing in Service

The system automatically goes into service when the power plug is connected. Now load the standard customer data (see 4.5).

#### 3.1 Standard Customer Data

After the standard customer data have been loaded, the following entries reside in the customer data memory:

- Call allocation for trunk circuits 1 and 2
  - daytime service: subscr. 1- 6
  - nighttime service: subscr. 1 - 6
- Line allocation for
  - trunk circuit 1: subscr. 1 - 6
  - trunk circuit 2: subscr. 1 - 6
- Data protection: no subscr.
- Blocking outgoing international calls no subscr.
- Dialing method of the terminals subscr. 1-6 DP
- Call forwarding: blocked
- Do-not disturb blocked
- Call transfer - await no answer blocked
- Interpretation of exchange tone blocked

#### 3.2 Modifying Customer Data

The data listed under point 3.1 can be modified via the master station (subscriber 1). The procedures are described in the Operating Instructions under "Programmable Functions".

#### 3.3 Protection of Customer Data

All customer data reside in an EEPROM and are thus protected against power failure.

### 4. Code and Call Number Plan

#### 4.1 Call Number Plan

- |                            | call number<br>(User No.) |
|----------------------------|---------------------------|
| - User 1 (master station): | 1                         |
| - User 2:                  | 2                         |
| - User 3:                  | 3                         |
| - User 4:                  | 4                         |
| - User 5:                  | 5                         |
| - User 6:                  | 6                         |
| - Entrance telephone       | 7                         |

#### 4.2 Codes for the Users and the Master Station

- |                                  | Code             |
|----------------------------------|------------------|
| - Exchange 1 or 2:               | 0                |
| - Exchange 1:                    | 91               |
| - Exchange 2:                    | 92               |
| - Reserve exchange               | 00               |
| - External call waiting:         | 000              |
| - Automatic callback             | 2 x user No.     |
| - Internal call waiting:         | 3 x user No. + 0 |
| - Entrance telephone             |                  |
| • Answer                         | 7                |
| • Answer and actuate door opener | 7 + 77           |
| - Call hold                      |                  |
| • with DP:                       | 0                |
| • with DTMF:                     | flash key        |

#### Call forwarding

- activate: own user No. + destination user No.
- deactivate 2 x own user No.

#### Do-not-disturb (except master stn.)

- activate: own user No. + 0
- deactivate 2 x own user No.

#### 4.3 Codes for the Master Station

- Night service feature
  - activate 10
  - deactivate 11

#### 4.4 Programmable Functions for the Master Station

- Activate programming mode 19999 +
- Change daytime call allocation for
  - trunk circuit 1: 51 + user No.
  - trunk circuit 2: 52 + user No.
- Enter standard daytime call allocation for
  - trunk circuit 1: 510
  - trunk circuit 2: 520
- Change nighttime call allocation for
  - trunk circuit 1: 41 + user No.
  - trunk circuit 2: 42 + user No.
- Enter standard nighttime call allocation for
  - trunk circuit 1: 410
  - trunk circuit 2: 420
- Line allocation for
  - trunk circuit 1: 61 + user No.
  - trunk circuit 2: 62 + user No.
- Enter standard line allocation for
  - trunk circuit 1: 610
  - trunk circuit 2: 620
- Data protection
  - activate 2 + user No.
  - deactivate for all users 20
- Blocking outgoing international calls
  - activate 7 + user No.
  - deactivate for all users 70
- Dialing method of the terminals
  - all users DP 90
  - all users DTMF 91,92,93,94,95,96
- Do-not-disturb, call diversion
  - release 11
  - block 10
- Transfer before answering
  - release 31
  - block 30
- Interpretation of exchange tone
  - activate selectively 8 + user No.
  - activate universally 89
  - deactivate universally 80

#### 4.5 Other Programmable Functions for the Master Station

- Cancel activated do-not-disturb and activated call forwarding for 19111
- Load standard customer data 19000
- Print system programming 19998

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## 5. Important Notes

### 5.1 Placing in Service

Modification of customer data can only be done at the express wish of the customer and only at a fee.

### 5.2 Exchange Lines

- The exchange feeding voltage must be at least 48 V, otherwise serious functional disturbances may result.
- The presence of an exchange line is automatically detected by the Hicom 102 after the AC power is connected. For this reason after connecting an exchange line, the system must be briefly switched off.

### 5.3 Outward Restriction of Trunk Access

By deletion of a user in the line assignment, he can be given outward restriction of trunk access, i.e. he can set up no outside calls.

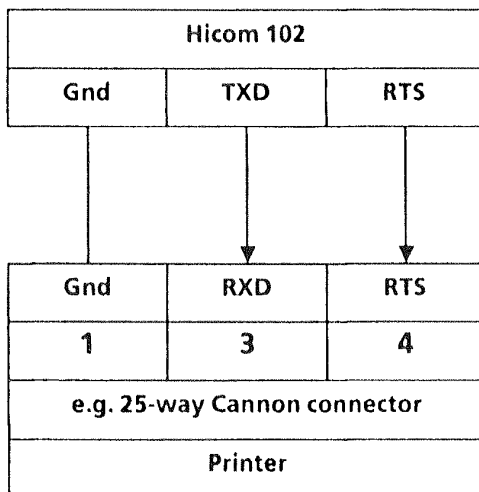
### 5.4 Printer Connection

#### Attention:

The printer connection, for which provision is made, is not being supplied at present.

#### 5.4.1 Interface Data

- Interface via RS 232 C (V.24)
- Port speed 4800 bit/s
- interface allocation



**Gnd** = signal ground

**RTS** = request to send

**RXD** = receive data

**TXD** = transmitted data

### 5.4.2 Printer functions

- Automatic printout of the following data at end of call (only for outgoing calls)
  - calling party's call number
  - external call number
  - call duration
- Printout of the current system programming
  - printout follows selection of code 19998 on the master station

### 5.5 Suppression of Gaps in the Feeding Current

In certain cases due to interruptions in the feeding current after exchange seizure, the terminal functions may be affected, e.g. discontinuation of dialing after exchange seizure or obtaining of wrong numbers.

In these cases the feeding current gaps can be bridged for individual users or for all users (for procedures see 4.4 "Interpretation of exchange tone")

In this case, however, exchange seizure is generally performed with a delay.

### 5.6 Connection of Second Ringers

If additional second ringers or telephones are connected (e.g. via AWADO) there may be problems with the ringing signal voltage. It must be ensured, that not more than six ringers sound simultaneously.

(Usual ringer impedance: approx. 7k ohms)

**A30950-M78-X-3-7628**

6. Distributor Contact Assignment and Connection Example for Entrance Telephone as per S30356-U5216-X

