

The logo for ARITECH, featuring the word "ARITECH" in a bold, sans-serif font, followed by a stylized right-pointing arrow.

ARITECH

A large, light gray circle in the top-left corner of the page, partially overlapping the black header bar and the white content area.

**ATS2000/3000 Control
Panel**

A horizontal dashed line with a right-pointing arrowhead, positioned to the left of the title.

**Installation and
Quick Programming Guide**

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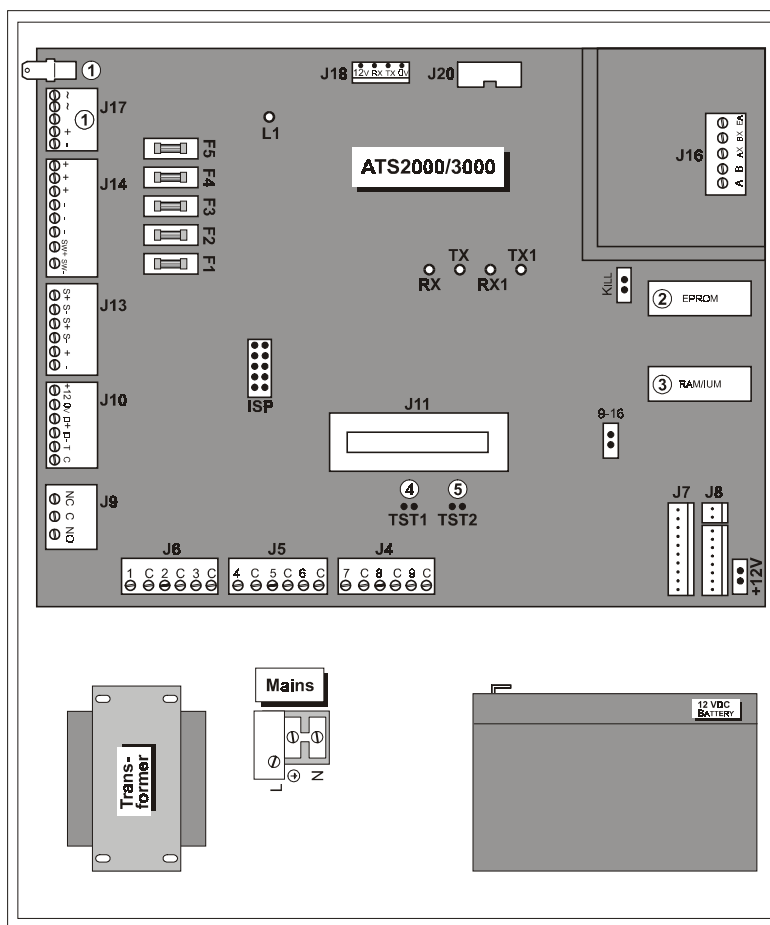
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INSTALLATION

1. Control Panel

- (1) Earth connection for shields from data cable (earth lug & screw connector)
- (2) Eprom (Factory fitted)
- (3) RAM or IUM (optional, ATS3000 only)
- (4) TST1 restore master user code
- (5) TST 2 factory use only

- | | |
|------------------|--|
| J4-J6 | Zones |
| J7 | Interface to ATS1202 input expanders (ATS3000 only) |
| J8 | Clock-out Interface to plug on output expansion (ATS3000 only) or 4-way non-clocked. |
| J9 | On board relay output. |
| J10 | RS485 system databus and box tamper connections |
| J11 | Connector to printer or printer/PC board (ATS3000 only) |
| J13 | Siren and strobe connections |
| J14 | Auxiliary power output (SW+ & SW- ATS3000 only) |
| J16 | PSTN line connection |
| J17 | Power connections |
| J18 | Serial connection (RS232) |
| J20 | Connector to ISDN/Audio |
| J2, J3, J15, J19 | Not fitted |



Mains Power connection

Use the Mains Connector Terminal for connecting the mains-supply. A fixed cable or a flexible mains lead to an earthen mains outlet can be used. In case fixed wiring is used, insert a dedicated circuit breaker in the power distribution network.



IMPORTANT: Disconnect the mains power before opening the cabinet!

- Disconnect AC mains plug from AC Mains wall socket. or
- Disconnect the mains with the dedicated circuit breaker.

2. LED's

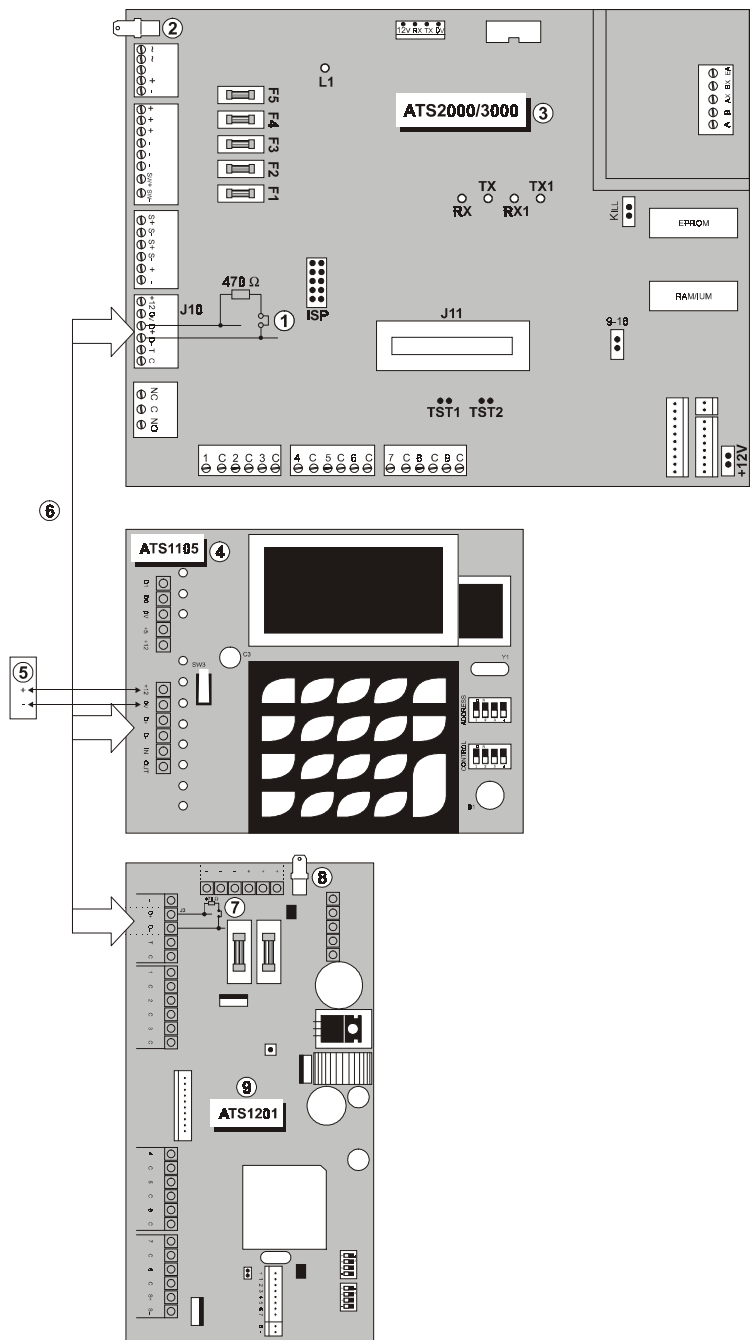
- | | |
|------|--|
| L1: | Flashes slowly when the panel is operating (the microprocessor is running) |
| Rx: | Yellow LED flashes when remote units (RAS and DGP) are replying to polling. |
| Tx: | Red LED flashes when panel is polling remote unit(s). It must always be active. |
| Rx1: | Yellow LED flashes when data is being received from a device connected to the PTT line (J15/J16/J19) (central station or dialler modem) or J18 (serial port (RS232 PC)). |
| Tx1: | Red LED flashes when data is being sent from the panel to a device connected to the PTT line (J15/J16) or J18 serial port. |

3. Cabling

System databus connection diagram preferred wiring.

The “TERM” link is on the first and last devices on the system databus. In a “star” wiring configuration, the “TERM” link is only fitted on the devices at the ends of the two longest system databus cable runs.

- (1) TERM link fitted (first device on local databus)
- (2) Earth lug to connect shield
- (3) Control Panel ATS2000/3000
- (4) ATS1105 LCD RAS (TERM switch not set to ON)
- (5) Separate 12 V power supply. Required if RAS is more than 100 m from the nearest panel or DGP. Connect “-” to “-” of the databus.
- (6) Preferred data cable type is Belden 8723 (2 pair twisted).
- (7) TERM link fitted (last device on local databus)
- (8) Earth lug to connect shield
- (9) Any data gathering panel like ATS1201.



See: System databus connection and Earthing details on page 4

4. System databus connection

The system databus is used to connect Data Gathering Panels (to provide extra zones) and Arming Stations to the ATS control panel. Remote devices can be up to 1.5 km from an ATS control panel.

Arming stations and Data Gathering Panels must be connected via a 2 pair twisted shielded data cable from the system databus connection.
(Belden 8723 is recommended)

The shield of the data cable should be connected to earth at the ATS control panel and should be left disconnected at any other end.

It is recommended that where the distance between the arming station and the nearest device is more than 100 meters, a separate power supply must be used to power the arming station. To power the arming station, **do not** connect '+' from the system databus. Connect '+' of the local power supply to '+' on the arming station and connect 0 volts from the power supply **and** 0 volts from the system databus to the arming station terminal marked '-'.

See Cabling on pages 3.

5. Earthing



WARNING! Correct Earthing procedure must be followed.

- **Earthing of one cabinet containing several devices.**

All devices designed for the system have earth connections via metal studs to the metal housing. Take care, that these metal studs make good connection to the housing (beware of paint). The earth connections of every piece of equipment in the system, can be used for connecting the shielding of shielded cables. If a device is placed in a plastic housing the earth lug of this device does not have to be connected.

- **Earthing panels in a single building.**

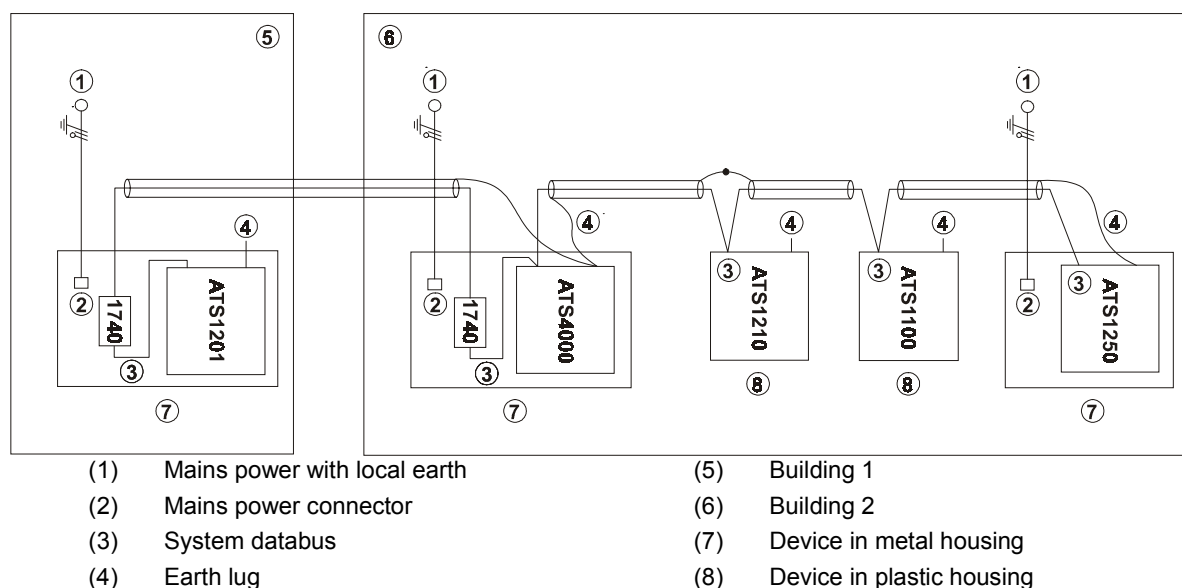
In one building several cabinets or devices are earthen to safety ground. The safety earth of this building has to be checked by a licensed contractor.

- **Earthing panels in more buildings.**

If the wiring extends to separated buildings, more than one common earth system will be used. Use isolator/repeaters ATS1740 to isolate the system databus. In this way the system is protected against variations in earth potential.

Shielding

The shielding of all shielded cables used in the system, should only be connected at ONE side to one common earthing point in a building (see figure) If a shielded databus cable is routed via more than one plastic device the shielding from incoming and out-going cable has to be connected.



6. Mounting

The unit is mounted with screws or bolts through the four mounting holes in the base.

Ensure that the unit is mounted on a flat, solid, vertical surface such that the base will not flex or warp when the mounting screws/bolts are tightened.

Leave a 50-mm clearance between equipment enclosures mounted side by side and 25 mm between the enclosure and the sidewalk.

7. Mounting the hardware – Addressing

All data gathering panels (DGP's), zones and outputs are numbered according to a set formula. This is used when determining the physical numbers/locations of DGP's, outputs etc. when programming.

Table 1: zones and outputs allocated to each DGP

Control panel 1-16	DGP 8	129-144
DGP 1 17-32	DGP 9	145-160
DGP 2 33-48	DGP 10	161-176
DGP 3 49-64	DGP 11	177-192
DGP 4 65-80	DGP 12	193-208
DGP 5 81-96	DGP 13	209-224
DGP 6 97-112	DGP 14	225-240
DGP 7 113-128	DGP 15	241-255

Zones

Up to 8 zones can be connected to the ATS control panel, which are numbered from 1 to 8. DGP 1 through 15 have zone numbers as shown in table 1. The ATS3000 control panel can be expanded to a maximum of 24 or 32 zones using ATS1202.

The ATS2000 and ATS3000 will allow only for 32 (ATS2000) or 64 zones (ATS3000) to be programmed with a zone type other than 0.

A standard DGP can have eight zones connected to it. Some of them can be expanded in increments of 8, up to 32, so a DGP can have 8, 16, 24 or 32 zones.

Expanding the number of zones connected to the control panel or a DGP to more than 16 using ATS 1202 is the same as combining two DGP addresses. The additional zones are taken from the next DGP. Do not include the next DGP for polling. This way of operation is used to maintain consistent numbering.

e.g. DGP1 has 32 zones (DGP2 consequently cannot exist as DGP1 has used the zones allocated to its address. DGP2 should not be used)

DGP3 is therefore the second physical unit. If it has 24 or 32 zones, DGP4 cannot exist and so on.

ATS1250 and ATS1260 are also DGP's, and their zones follow the standard zone numbering.

e.g. ATS1250 1 is DGP1 and has 16 zones, which the ATS control panel identifies as zones 17 to 32.

8-32 zone DGP programming (ATS 1201)

For each DGP programmed to be polled, the ATS control panel expects to see 16 or 32 zones, depending on the setting of Dipswitch 5.

If a DGP is connected with only 8 or 24 zones, the unused zone numbers in the system must be programmed in the Zone Database as type 0 (Zone disabled). The same applies to the control panel if only more than 8 zones are connected.

e.g. DGP 1 has 24 zones (2 zone expanders fitted & Dipswitch 5 on). Therefore, zones 41 to 48 must be programmed as Type 0.

Outputs

Output controllers are used to expand the number of outputs on a DGP or control panel. Each output controller expands the outputs by eight.

A DGP can have two output controllers connected, increasing the outputs to a maximum of 16 per DGP.

An ATS 3000 control panel can have up to 32 output controllers, which allows a maximum of 255 outputs.



If there are more than 16 outputs connected to the main ATS control panel, the outputs from output number 17 are duplicated on the DGP. When this is done, one of two options can be used:

- Do not use the outputs on the DGP, or
- both outputs are activated together.

e.g. The ATS control panel has 24 outputs available and DGP 1 has 8 outputs controller available. When output 17 is active, the first output on the ATS1811 output controller connected to the ATS panel; and the first output on the output controller that is connected to DGP 1 are both activated.

Output and zone numbers are always the same as the first 16 zone numbers on the DGP they are connected to. If a DGP does not exist because the previous DGP has an expanded number of zones, the output numbers of that DGP address cannot be used.

The output numbers can be used if output controllers are connected to the ATS panel that corresponds to those output numbers.

e.g. DGP1 has 32 zones: 17-48
DGP1 outputs (max 16): 17-32
(DGP2 outputs 33-48 are not used)
DGP3 has 32 zones: 49-80
DGP3 outputs: 49-64
(DGP4 outputs 65-80 are not used)

Outputs on a DGP only exist if the DGP exists.

Siren outputs

The internal and external siren speaker outputs on the ATS control panel, are always treated as output 16.

On DGP's with siren speaker outputs, the last of the 16 output numbers associated with that DGP address is the siren output. For example, on DGP3 the siren speaker output is output 64 (see table 4).

Table 4: Siren output numbers

DGP no.	Siren output no.	DGP no.	Siren output no.
1	32	9	160
2	48	10	176
3	64	11	192
4	80	12	208
5	96	13	224
6	112	14	240
7	128	15	-
8	144		

To enable the siren speaker output, the output number representing the siren output must be assigned to the required "Siren Event Flag Number". The "Siren Event Flag Numbers" are programmed in programming menu 2 – Area Databases.

Output control groups

Output control group numbers are a way of identifying a group of eight outputs controlled by the control panel, a DGP or an arming station.

When an output control group is assigned to an arming station, the Open Collector output (or "OUT") terminal follows the FIRST output of the output control group.

For further information refer to programming menu 3 - Arming Stations.

Door and lift numbering

Door numbers are determined by the address of the arming station or reader connected to the ATS system databus or 4-Door DGP local databus, and the 4-Door DGP address if applicable.

Doors 1 to 16 are reserved for arming stations 1 to 16 that are connected to the ATS system databus and used for door control functions.

Doors 17 to 64 are used for door or lift numbers that are controlled by a 4-Door/4-Lift DGP (ATS1250 or ATS1260). See table 5.

Table 5: Door/Lift numbers allocated to each DGP

Unit	Door number			
RAS 1 to 16	1 to 16 (Door only)			
Door or Lift	1 st	2 nd	3 rd	4 th
DGP1	17	18	19	20
DGP2	21	22	23	24
DGP3	25	26	27	28
DGP4	29	30	31	32
DGP5	33	34	35	36
DGP6	37	38	39	40
DGP7	41	42	43	44
DGP8	45	46	47	48
DGP9	49	50	51	52
DGP10	53	54	55	56
DGP11	57	58	59	60
DGP12	61	62	63	64

TECHNICAL SPECIFICATIONS

FUSES					
F1	Ext. siren + strobe	1A, slow 20x5	F4	Aux. Power supply	2A, slow 20x5
F2	Switched aux. Power *	2A, slow 20x5	F5	Battery	3A, slow 20x5
F3	System databus	1A, slow 20x5		Mains Fuse **	630mA, fast 20x5

* F2 (Switched aux. Power) only available on ATS3000.

** Mains Fuse is part of the mains terminal block.



WARNING! Before removing the mains fuse, mains power must be disconnected (see page 2)!

1. Specification ATS2000/3000 Main Board (no accessories)

Description:	
Max. output current:	Max. 2 Amp
Current consumption:	200 mA nominal
Default end of line resistors:	4,7 kΩ, 5 %, 0,25W
Max.number zones to program	32 (ATS2000) or 64 (ATS3000)
Max number of areas to assign to zones	4 (ATS2000) or 8 (ATS3000)
Enclosure dimensions (L x W x D):	360 mm x 260 mm x 82 mm
Operating temperature:	0 °C to + 50 °C
Humidity:	95% non-condensing

2. Specification External terminals

Part	Terminal	Description	Min	Typ	Max	
J17	AC	Secondary AC transformer connection		23		VAC
				58		VA
	BATT	Battery connection	13,6	13,8	14,0	VDC
				16		VA
J14	AUX.POWER	Auxiliary Power output	13,6	13,8	14,0	VDC
J13	EXT STRB	External Siren & Strobe	13,6	13,8	14,0	VDC
					2	A
	INT	Internal Siren	13,6	13,8	14,0	VDC
					1	A
J9	BELL	NO or NC contact Low Voltage			14,0	VDC
					2	A

3. Values for end-of-line resistors.

The following list contains the values to be used for end-of-line resistors. Both the resistance and the voltage over the zone are shown. The voltage will differ for other power supply voltages measured.

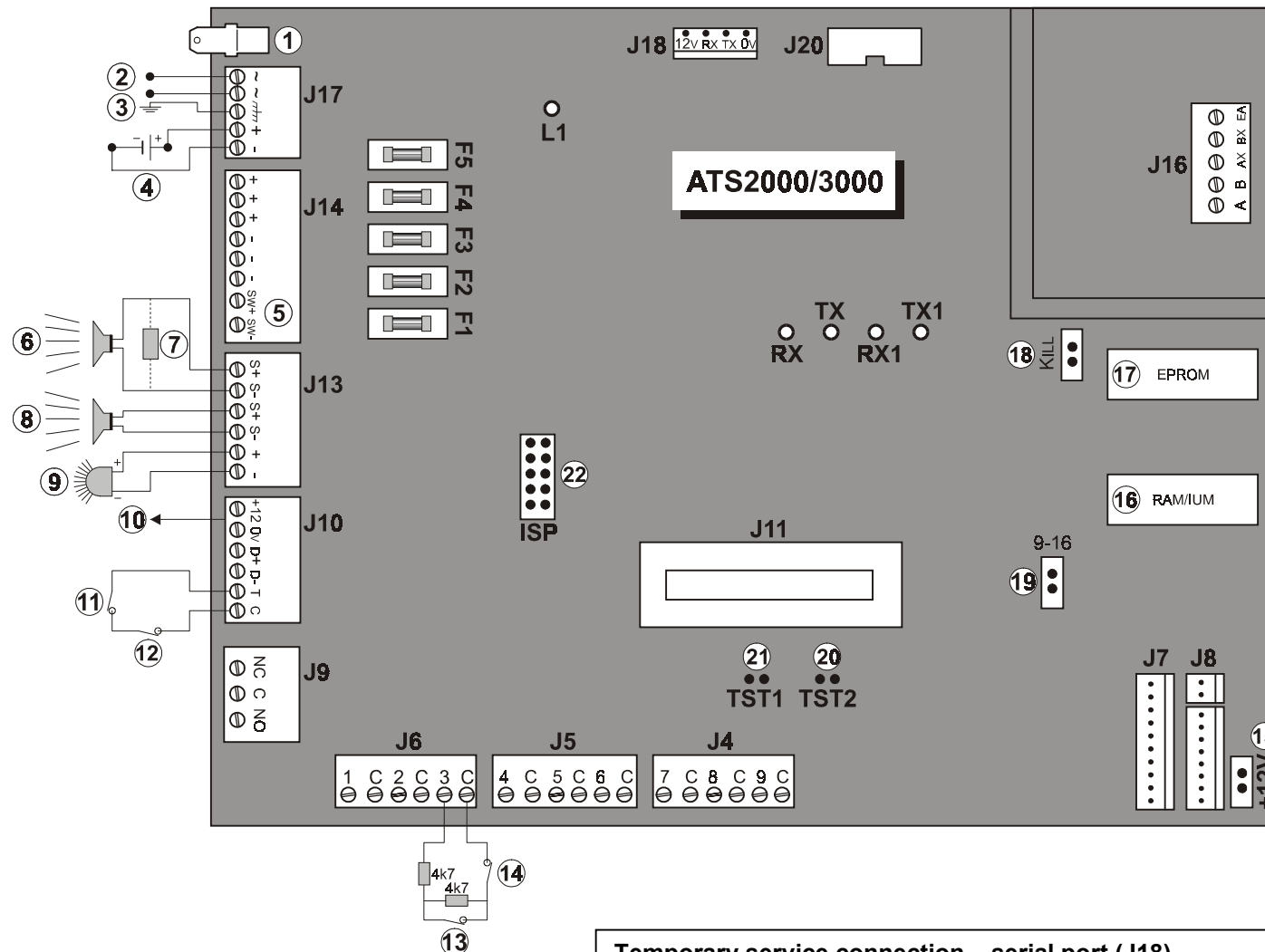
To get the current power supply voltage measure the voltage over the zone when it is open. The end of line resistor used is based on the setting for the end of line resistor code as programmed in the system options (see ATS4000 programming guide).

EOL code 0 (10 kOhm resistors)		
Status	Rzone (kOhms)	Vzone (V)
Short circuit	< 2	< 4.14
Active zone	2.7 - 6.4	5.07 - 8.01
Normal zone	7.1 - 14.2	8.34 - 10.42
Active zone	18.1 - 70	11.01 - 13.01
Open circuit	> 170	>13.01

EOL code 1 (4.7 kOhm resistors)		
Status	Rzone (kOhms)	Vzone(V)
Short circuit	< 0.6	< 1.8
Active zone	1.02 - 2.4	2.47 - 4.69
Normal zone	3.3 - 5.2	5.72 - 7.28
Active zone	7.2 - 15	8.34 - 10.56
Open circuit	> 25	>11.71

4. Connection diagrams

- (1) Earth Lug
- (2) AC connection from transformer
- (3) System earth (see details page 4)
- (4) 12 V battery
- (5) Switchable auxiliary output (ATS3000 only)
- (6) External 8 Ohm siren speaker or siren
- (7) 1K resistor must be fitted if external siren not connected
- (8) Internal 8 Ohm siren speaker
- (9) 12 V strobe
- (10) System databus
- (11) Normally closed front panel tamper contact
- (12) Normally closed rear panel tamper contact
- (13) Normally Closed Alarm Contact
- (14) Normally Closed Tamper contact
- (15) +12V Output board
- (16) RAM or IUM (ATS3000 only, optional)
- (17) EPROM (factory fitted)
- (18) Kill - Factory default control panel when shorted
- (19) Zone 9-16 jumper. Short when ATS1202 is connected to J7 (ATS3000 only).
- (20) Test 2 – Factory use only
- (21) Test 1 – Use for resetting the Master Engineer code
- (22) ISP Circuit programming connector, used to program the CPL. (factory used)



- | | |
|------------------|--|
| J4-J6 | Zones |
| J7 | Interface to ATS1202 input expanders (ATS3000 only). Short 9-16 jumper when using zone 9-16. |
| J8 | Clock-out Interface to plug on output expansion (ATS3000 only) or 4-way non-clocked. |
| J9 | On board relay output. |
| J10 | RS485 system databus and box tamper connections |
| J11 | Connector to printer or printer/PC board (ATS3000 only) |
| J13 | Siren and strobe connections |
| J14 | Auxiliary power output (SW+ & SW- ATS3000 only) |
| J16 | PSTN line connection |
| J17 | Power connections |
| J18 | Serial connection (RS232) |
| J20 | Connector to ISDN/Audio |
| J2, J3, J15, J19 | Not fitted |

Temporary service connection – serial port (J18)

ATS2000/3000 J18 connector		PC connector	
		DB25	DB9
+12V			
Rx	----->	Tx	2 3
Tx	----->	Rx	3 2
0V	----->	GND	7 5

QUICK PROGRAMMING GUIDE

When you have finished installing the ATS system, you can then default the panel, apply power and start programming.

1. Defaulting the panel to factory defaults

When installed, the control panel needs to be defaulted to factory defaults. Follow the next steps:

1. Remove all power to the control panel (mains and battery)
2. Shorten the "KILL" jumper
3. Wait 30 seconds
4. Open the "KILL" jumper

The panel is now back to factory defaults.

2. Powering up the panel

On the initial power-up:

- The ATS control panel LED's should indicate:
 - L1 - Slow flashing
 - Tx1 - Rapid flashing
 - Rx1 - Rapid flashing (If RAS 1 connected and functional)
- The Master LCD Arming Station (RAS 1) should have all area LED ON and the LCD should display the name "Aritech Systems" followed by details of the Arming Station software version.

A LCD RAS will also prompt you to Press the [MENU*] key.

Press the [MENU*] key followed by [ENTER]. The normal LCD display message shown below appears:

**There Are No Alarms In This Area
Code:**

If there is a system condition, it is displayed on the top line.

If the Master RAS powers up with no LED ON and there is no LCD display, then no power has been applied to the RAS. If the Master RAS powers up with all the LED flashing, the LCD reads "System Fault" and the control panel conditions as described above are correct, then:

- The system databus cabling must be faulty, or
- The Arming Station address has been incorrectly set (RAS 1 = All dipswitches OFF).

3. Disarming the system

You must disarm the system before you can use the Installer Menu.

To disarm the system

Press **1 1 2 2** (Manager PIN code), [OFF] followed by **0** (select all areas) and then [ENTER].

If you are unable to disarm the system using the Manager PIN Code and the [OFF] key, then you might need to default the panel. See *Defaulting the panel to factory defaults*.

4. Entering the ATS menu

Enter [Menu*] **1 2 7 8** and press [ENTER]. The following display appears:

**0-Exit, ENTER-Down, *-Up
0-Exit, Menu:**

You can now enter the desired menu number.

See the programming and manager guide

5. Entering the programming menu to program the system

To enter to the programming menu

1. Press [MENU*] **1 2 7 8** and press [ENTER] to access the ATS menu.
2. Press **19** and [ENTER] to access the programming menu. The following display appears:

**Installer Programming
0-Exit, Menu:**

Before programming the system, for the first time, you must default the settings.

You can now select the option you want to program.

Table 6: Programming menus

1. Zone database	20. System code
2. Area database	21. Zone shunts
3. RAS database	22. Timezone to follow output
4. DGP database	23. Poll errors
5. Alarm groups	24. Download to Remote Devices
6. Timers	25. Display card
7. System options	26. Reserved menu
8. Auto reset	27. Reserved menu
9. Communication options	28. To remote devices
10. Program Text	29. Computer connection
11. Version number	30. Printer
12. LED test	31. Battery testing
13. Timezones	32. Custom LCD message
14. Reset to Default	33. Program next service
15. Alarm group restrictions	34. System Event flags
16. Event to outputs	35. Program macro logic
17. Auto Arm/Disarm	36 – 48 Reserved menu
18. Areas assign to vaults	49. Class database
19. Area linking	50. Test call

6. Changing parameters in the programming (examples)

Default the panel

99-ALL – This option resets all programming to the factory default. All programming will be erased and all options will have the standard values.

For other options refer to the ATS2000/3000/4000 programming guide

To default the panel programming settings

1. Enter **[Menu*] 1 2 7 8** and press **[ENTER]** to access the ATS menu.
2. Press **19 [ENTER]** to access the programming menu.
3. Press **14 [ENTER]** to access the Default menu
4. Press **99 [ENTER]**. Panel is now defaulted.

Programming zones

This function is used to program information relating to an individual zone.

This step determines how the zones will function in given circumstances.

There are over 50 types of zones. Refer to section 1 of the programming guide for further information.

To program the zones

1. Enter **[Menu*]** and the Master Engineer code. Press **[ENTER]**.
2. Press **19 [ENTER]** to access the programming menu
3. Press **1 [ENTER]** to access the Zone Database menu
4. Press zone number **[ENTER]** to access details of the zone to be programmed and press **[ENTER]** again to move to the next zone database display, or Press **[ENTER]** to return to the programming menu.



Notes:

ATS2000 only allows for:

- 32 zones not being programmed with zone type 0 (not used).
- Assigning areas 1-4 to zones.

ATS3000 only allows for:

- 64 zones not being programmed with zone type 0 (not used).
- assigning areas 1-8 to zones.

Change manager code

Press [Menu*] and enter the Manager PIN code (1122). Press [ENTER].

1. Press **14 [ENTER]** for access to program users
2. Press **3 [ENTER]** (Create user).
3. Press **1 [ENTER]** (Create user 1).
4. Press **[ENTER]** three times and then press **[MENU*]** to keep the same name.
5. Enter the new code (up to 10 digits) and press **[ENTER]**.
6. Press **Clear** to exit. The Manager code is now changed.

7. Programming sequences

The following can be used as a guide for the order in which records can be programmed when setting up a basic system.

1. Draw the floor plan and label all zones, equipment, areas etc. Use programming sheets to fill out all information
2. Default the control panel, change the Master Engineer Code and set the time and date
3. Program specific words which are not in the library
4. Program the timezones
5. Program the areas
6. Program the alarm groups
7. Program the RAS and DGP
8. Program the zones
9. Program the dialler
10. Program users
11. Program outputs.

PROGRAMMING MAP

