# Digital Liquid Cooled UHF TV Equipment
# 5K2 DD, MEDIAFLO SIRIUS 12089

***Operation and User Manual***

☎ : 33 (1) 34.90.32.55
✉: hotline@thales-bm.com

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# 1. Exploitation

## 1.1. Navigating the PCLwindows

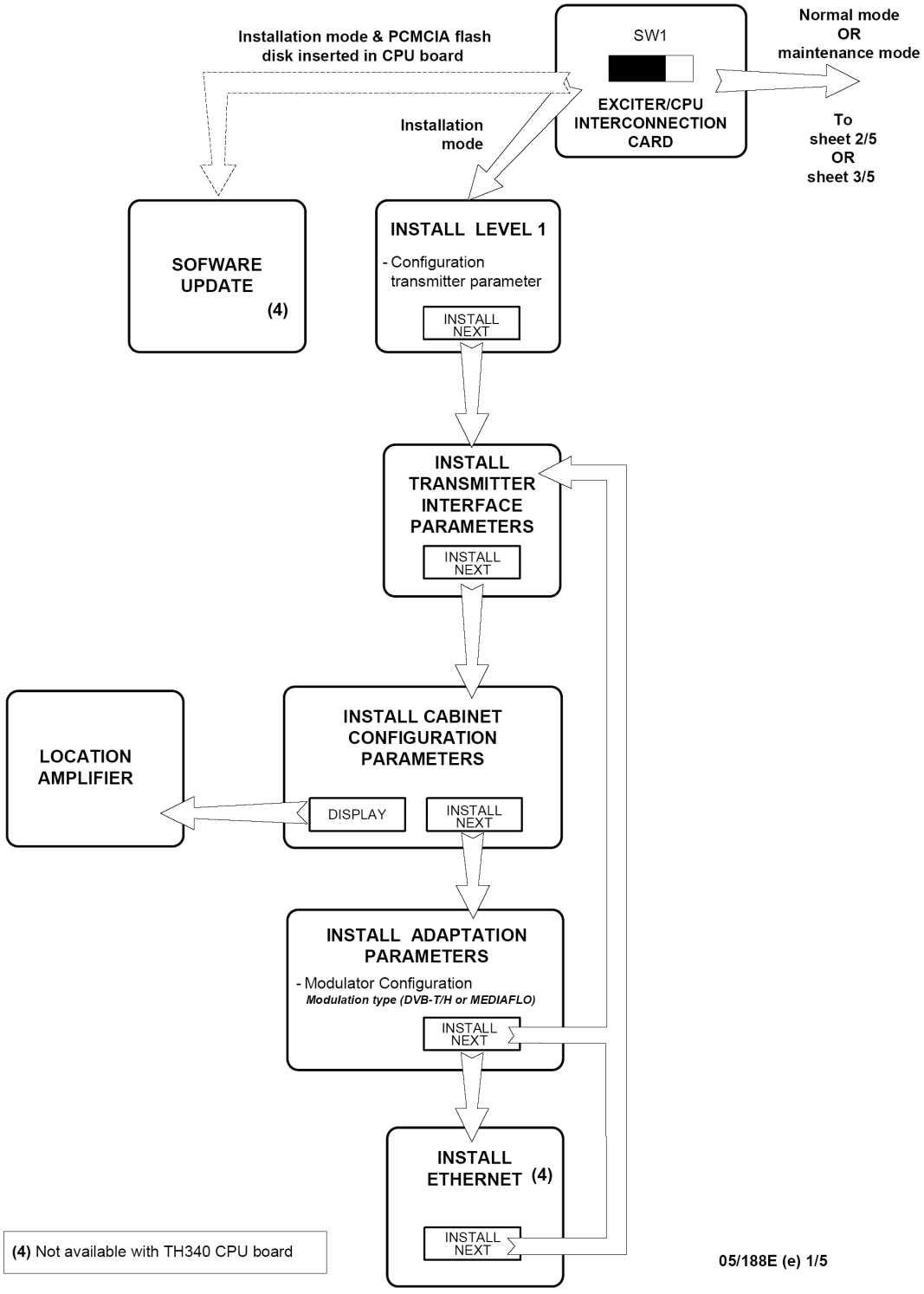
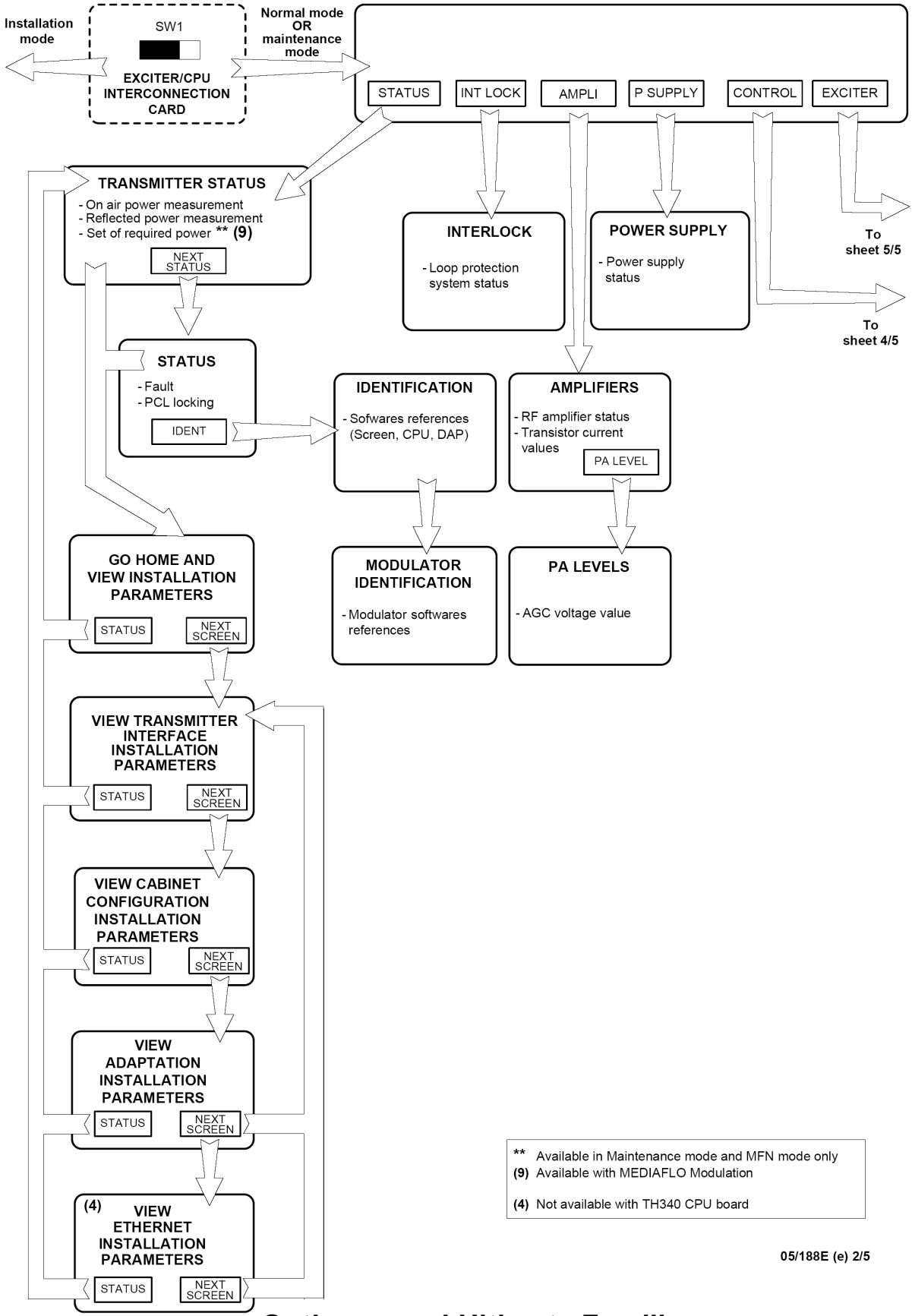



**Figure 1 : Navigation in tactile screen windows (1/5)**






**Optimum and Ultimate Families**

**Figure 2 : Navigation in tactile screen windows (2/5)**

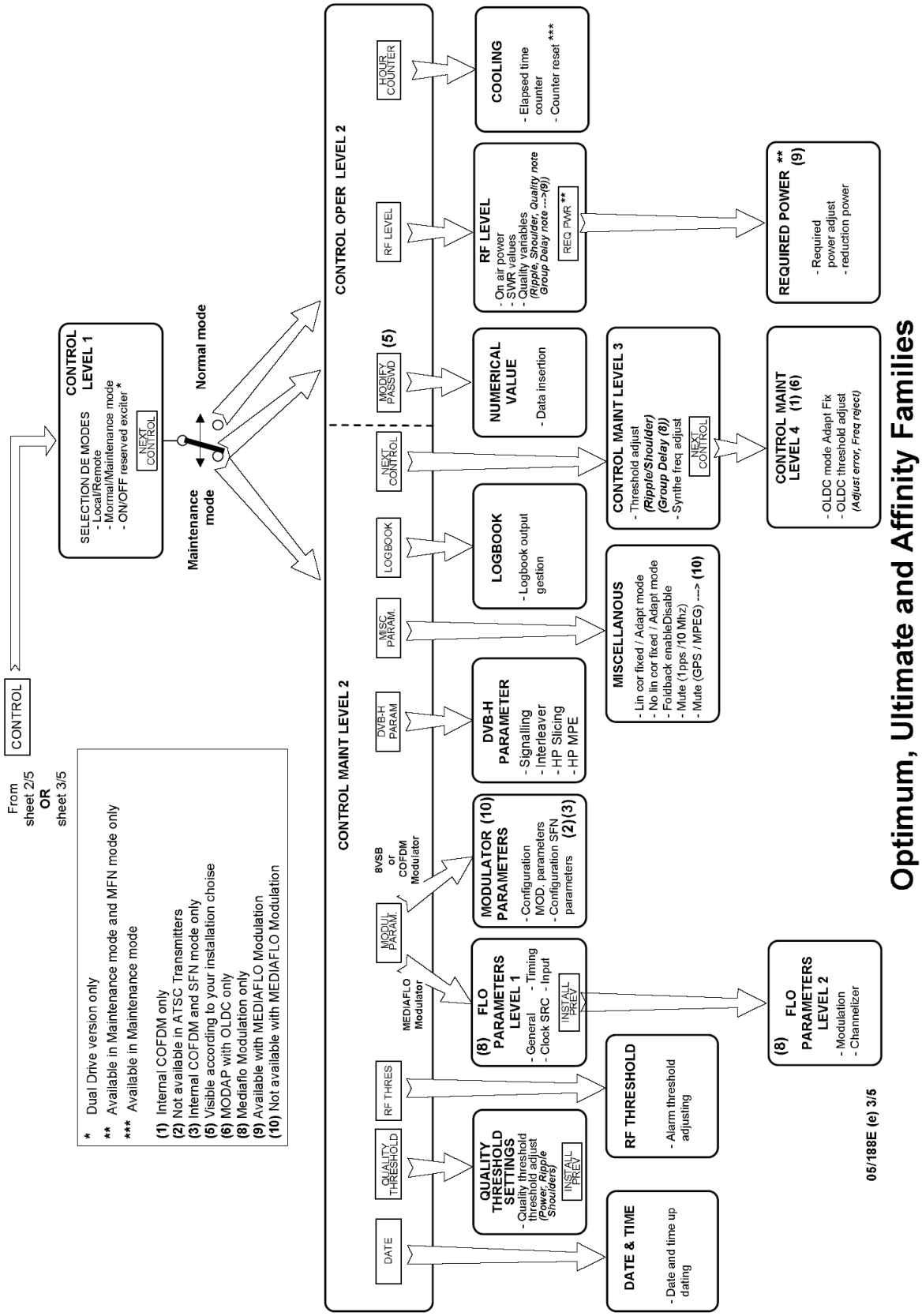



**Figure 3 : Navigation in tactile screen windows (3/5)**

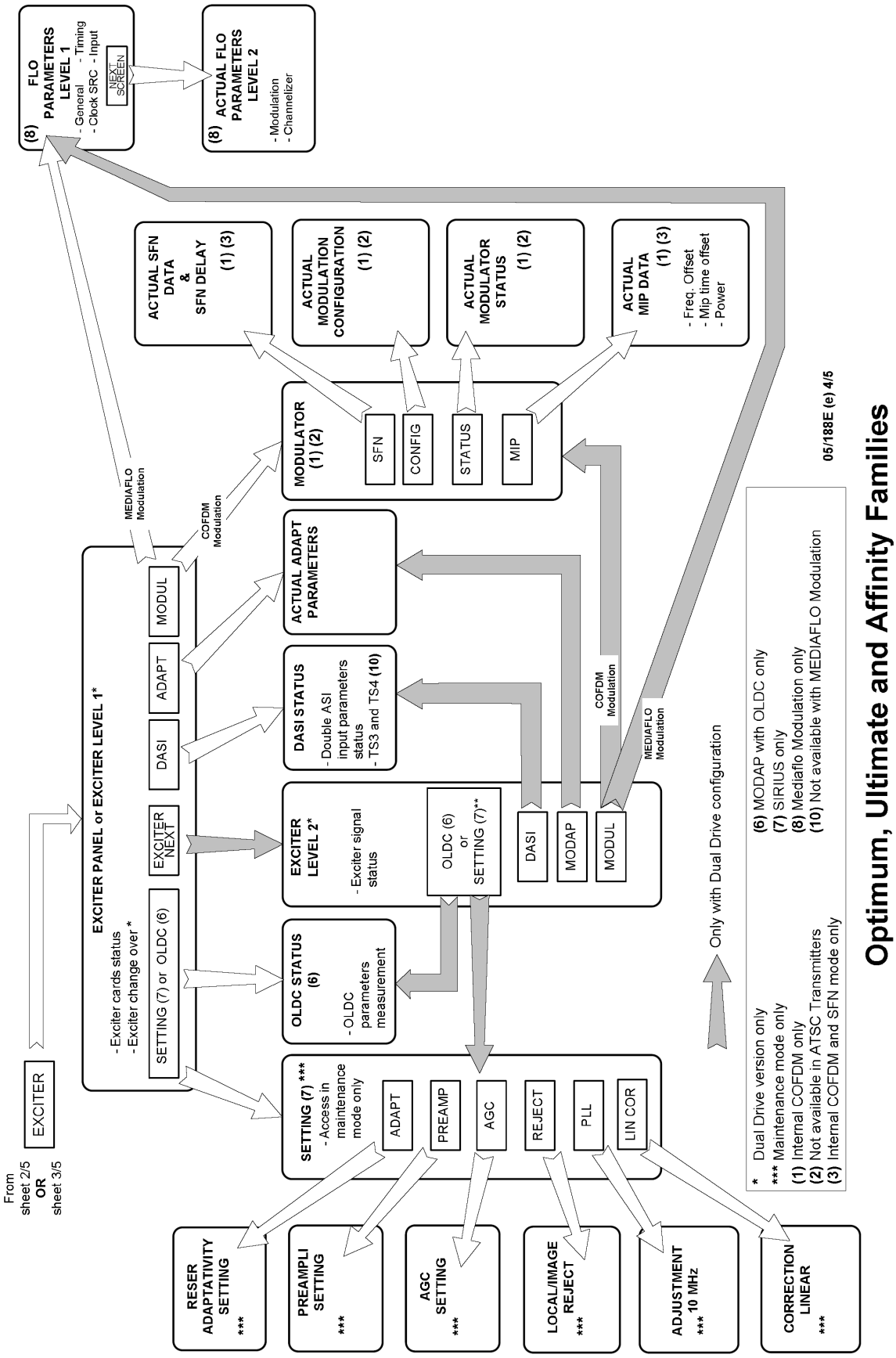



**Figure 4 :: Navigation in tactile screen windows (4/5)**

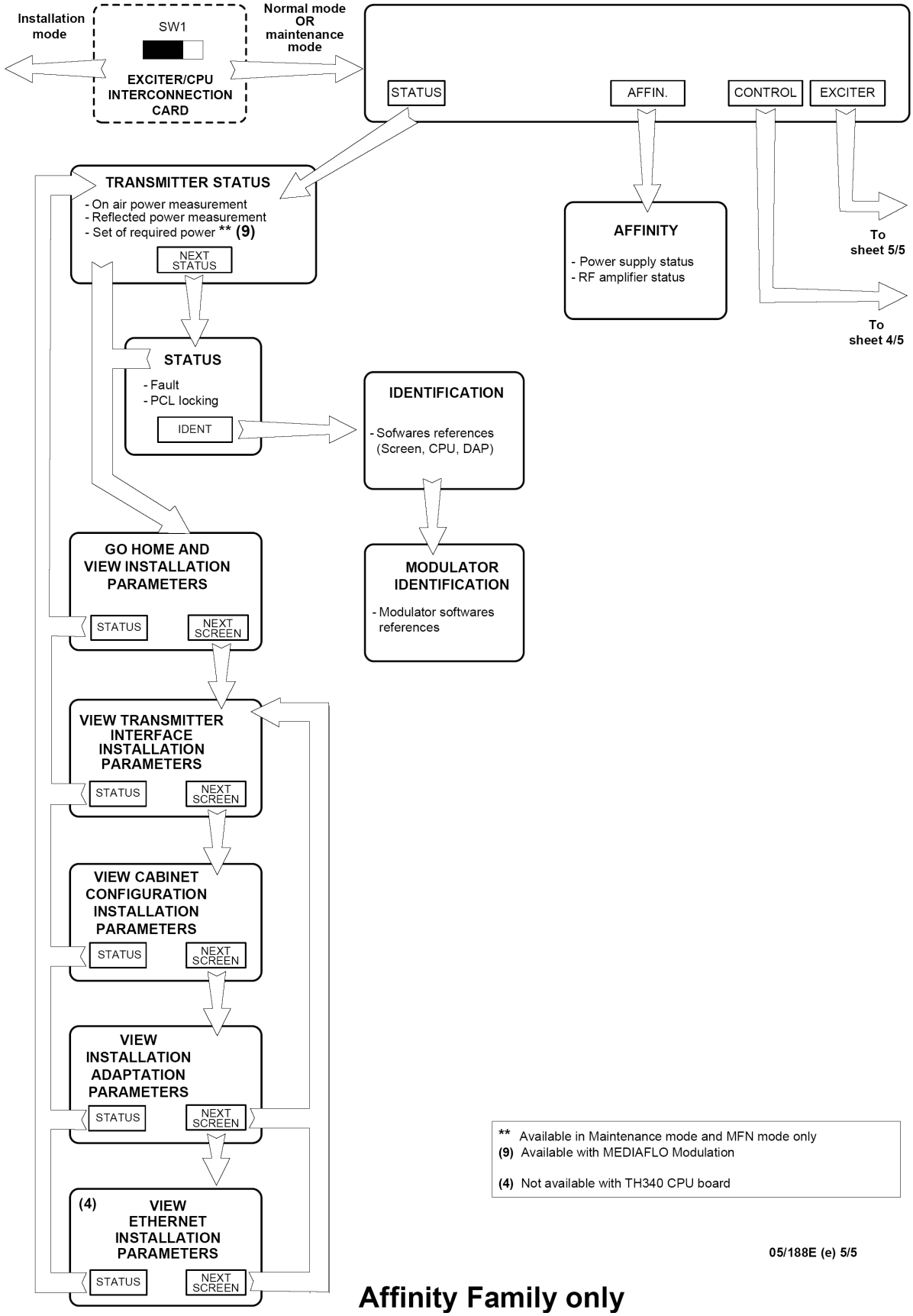



**Figure 5 : Navigation in tactile screen windows (5/5)**

## 1.2. Where to find operational parameters

The following tables give the titles of the various PCL windows in which the various operational parameters available to the operator can be found. The commands for accessing these windows are given in other paragraph.

### 1.2.1. Transmitter configuration parameters

| PARAMETERS | PCL WINDOWS |
|---|---|
| RF synthesiser frequency | "INSTALLATION PARAMETERS Level 1" window<br>"GO HOME AND VIEW INSTALLATION PARAMETERS" window<br>"CONTROL MAINT Level 3" window |
| Frequency range (VHF/UHF) | "INSTALLATION PARAMETERS Level 1" window<br>"GO HOME AND VIEW INSTALLATION PARAMETERS" window |
| Maximum power | |
| Calibrated power | |
| Cooling type of the transmitter | |
| Transmitter type (Simple Drive, Double Drive, Passive Reserve, Active Reserve, N+1) | |
| Modulation type of the transmitter (Analog /Digital) | |
| Language selected | |
| Type of display used (dB or %) | |
| Type of remote operation (via serial link or hard wired) | "TRANSMITTER INTERFACE INSTALLATION PARAMETERS" window<br>"VIEW TRANSMITTER INTERFACE INSTALLATION PARAMETERS " window |
| Type of protocol operation for remote control (JBUS or ASCII) | |
| Transmitter Identification number with RS232 / RS 485 | |
| Type of bay used, | "CABINET CONFIGURATION PARAMETERS" window<br>"VIEW CABINET CONFIGURATION INSTALLATION PARAMETERS" window |
| Current measurement number by amplifier unit | |
| Amplifier number detected by cabinet | |
| Amplifier location in each cabinet | "LOCATION AMPLIFIER " window |
| OLDC parameters (1) | "ADAPT INSTALLATION PARAMETERS" window<br>"VIEW ADAPT INSTALLATION PARAMETERS " window |
| DASI parameters (1) | |
| ADAPT parameters | |
| Type of modulator (COFDM / 8VSB) | |
| Web activation code | "ETHERNET INSTALLATION PARAMETERS" window<br>"VIEW ETHERNET INSTALLATION PARAMETERS " window |
| SNMP activation code | |
| Network administrator configuration (IP address, sub-net mask number) | |
| Quality thresholds used for the notation of the parameters power, shoulder and ripple | "QUALITY THRESHOLD SETTINGS" window |
| ATSC parameters***<br>COFDM parameters** | "COFDM or 8VSB PARAMETERS" window |
| SFN data** | |
| Mediaflo modulator parameters ****<br>(General / Timing / Data SRC / Clock / Input)<br>(Modulation / channalizer) | "FLO 1 PARAMETERS" window and<br>"FLO 2 PARAMETERS" window |

| PARAMETERS | PCL WINDOWS |
|---|---|
| Mediaflo modulator parameters **** | |
| Current ADAPT parameters | "ADAPT PARAMETERS" window |
| COFDM current parameters** | "MODULATOR CONFIGURATION" window |
| MediaFLO current parameters**** | "FLO 1 MODULATOR" window and "FLO 2 MODULATOR" window |
| SFN current delays** | "SFN DELAYS" window |

** Parameters used in DVB-T Transmitters only.

*** Parameters used in ATSC Transmitters only.

**** Parameters used in Mediaflo Transmitters only.

(1) MODAP version only

### 1.2.2. Transmitter operational parameters

| PARAMETERS | PCL WINDOWS |
|---|---|
| Current operating mode (maintenance mode or normal mode) | "TRANSMITTER STATUS" window<br>"STATUS" window<br>"CONTROL" window |
| PCL control – unlocked or locked | "STATUS" window<br>"Unlock" indicator lamp |
| Correction and transmitter operating mode (Fixed or adaptative / Mute or Not Mute / PRBS or Mute) | "MISCELLANEOUS" window |
| Last three faults to appear | "STATUS" window |
| Selected User interface | "CONTROL MAINT Level 1" window |
| Selected exciter * | "TRANSMITTER STATUS" window<br>"EXCITER Level 1" window |
| Selected mode for exciter changeover * | |
| Status of automatic exciter changeover * (Done, Not done, impossible) | |
| Selected mode for the reflected (reserve) power control | "TRANSMITTER STATUS" window |
| Selected mode for control gain of the transmitter (2) | "AGC SETTING" window |
| "GO HOME" status | "GO HOME AND VIEW INSTALLATION PARAMETERS" window<br>"Go Home" indicator lamp |
| Actual transmitter on-air time since going into service | "HOUR COUNTER" window |

*: Only in Double Drive Version

(2): SIRIUS version only

### 1.2.3. Adjustable parameters

| PARAMETERS | PCL WINDOWS |
|---|---|
| Amount of power reduction | "REQUIRED POWER" window |
| Calibrated power | "INSTALLATION PARAMETERS Level 1" window |
| High level Power alarm threshold | «RF THRESHOLD» window |

| PARAMETERS | PCL WINDOWS |
|---|---|
| Low level Power alarm threshold | |
| Fault power threshold | |
| Ripple threshold for EXCITER correction | "CONTROL MAINT Level 3" window |
| Shoulder threshold for EXCITER correction | |
| Group Delay threshold for EXCITER correction (3) | |
| MGC gain value (2) | "AGC SETTING" window |
| Limitor gain value (2) | |
| Adaptativity setting of the reserve exciter (2) | "RESERVE ADAPTATIVITY SETTINGS" window |
| Calibrates of the linear correction feedback for exciter (2) | "LINEAR CORRECTION CALIBRATION" window |
| Fault RF threshold for RF preamplifier (2) | "PREAMPLIFIER SETTINGS" window |
| Cancel the level of the local frequency and of the unwanted lateral band (2) | "LOCAL/IMAGE REJECT" window |
| Adjust the value of the PLL 10Mhz frequency (2). | "10 MHz ADJUSTEMENT" window |
| Thresholds beyond which the OLDC performs a correction (1) | "CONTROL MAINT Level 4" window |
| Quality thresholds used for the notation of the parameters power, shoulder and ripple | "QUALITY THRESHOLD SETTINGS" window |
| Input signal type of the modulator | “COFDM or 8VSB PARAMETERS” window or “FLO 1 PARAMETERS“ window |
| Clock type of the EXCITER | |
| PID number values (3)<br>Timing Values (3)<br>Modulation parameters values (3)<br>Channelizer parameters values (3) | “FLO 1 PARAMETERS“ window and “FLO 2 PARAMETERS“ window |

(1) MODAP version only

(2) SIRIUS version only

(3) MediaFLO SIRIUS version only

### 1.2.4. Measurements

| PARAMETERS | PCL WINDOWS |
|---|---|
| RF power | "TRANSMITTER STATUS" window |
| Reflected power | |
| RF power | "RF LEVEL" window |
| Reflected power | |
| Antenna SWR | |
| Shoulder level | |
| Ripple level | |
| Goup Delay level (3) | |
| Transmitter gain | |
| Overall quality assessment of the transmitter | |
| Reference AGC value (2) | "AGC SETTING" window |
| Current AGC value (2) | |
| AGC voltages for power amplifiers | “PA LEVELS” window |

| PARAMETERS | PCL WINDOWS |
|---|---|
| RF transistor currents in the power amplifiers | "AMPLIFIERS" window |
| Central frequency rejection level (1) | "OLDC PARAMETERS" window |
| I/Q amplitude error level (1) | "OLDC PARAMETERS" window |

(1) MODAP version only

(2) SIRIUS version only

(3) MediaFLO SIRIUS version only

### 1.2.5. Status conditions of main transmitter elements

| PARAMETERS | PCL WINDOWS |
|---|---|
| Status of exciter cards | "EXCITER PANEL" window<br>or<br>"EXCITER Level 2" window * |
| Status of reserve exciter (on or off) * | "CONTROL" window |
| Status of exciter signals | "EXCITER PANEL" window<br>or<br>"EXCITER Level 1" window * |
| Power amplifier status parameters | "AMPLIFIERS" window |
| Status of amplifier power supplies | "POWER SUPPLY" window |
| Status of protection system surveillance devices | "INTERLOCK" window |
| Status of the COFDM modulator** | "MODULATOR STATUS" window<br>or<br>"MODULATOR CONFIGURATION" window |
| Status of the 8VSB modulator*** | "MODULATOR CONFIGURATION" window |
| Status of the MediaFLO configuration for the modulator | "MODULATOR FLO 1" window and "MODULATOR FLO 2" window |
| Status of the ADAPT exciter | "ADAPT PARAMETERS" window |
| Status of the DASI card | “DASI STATUS” window |
| Status of the OLDC card (1) | "OLDC STATUS" window |
| Status of the current gain control mode (2) | "AGC SETTING" window |

* : Only in Double Drive Version.

** : Parameters used in DVB-T Transmitters only.

*** : Parameters used in ATSC Transmitters only.

(1) MODAP version only

(2) SIRIUS version only

(3) MediaFLO SIRIUS version only

## 1.3. Procedure for changing configuration parameters

The configuration parameters of the transmitter can be defined in the "INSTALLATION PARAMETERS Level 1" window and "TRANSMITTER INTERFACE INSTALLATION PARAMETERS" window of the PCL in installation mode.

The configuration parameters of the ADAPT exciter can be defined in the "ADAPT INSTALLATION PARAMETERS" window of the PCL.

| | |
|---|---|
| ***Nota*** : | ♦ MODAP Version only<br>To set up a new parameter configuration of the modulator, the three corrections (ALE, LUT and OLDC) should be set to the FIXED mode. The control keys can be defined in the "MISCELLANEOUS" windows and "CONTROL MAINT Level 4" windows.<br>♦ SIRIUS Version only<br>To set up a new parameter configuration of the modulator, the two corrections (ALE, and LUT) should be set to the FIXED mode. The control keys can be defined in the "MISCELLANEOUS" windows. |

The configuration parameters of the ETHERNET can be defined in the "ETHERNET INSTALLATION PARAMETERS" window of the PCL.

DVB-T Transmitter configuration only:

- The configuration parameters of the COFDM can be defined in the "COFDM PARAMETTERS " window of the PCL in maintenance MODE.
- The configuration parameters of the SFN can be defined in the "COFDM PARAMETERS" window of the PCL in maintenance MODE.

DVB-T/H Transmitter configuration only:

- The configuration parameters of the COFDM can be defined in the "COFDM PARAMETTERS " window and "DVB-H PARAMETTERS " window of the PCL in maintenance MODE.

MediaFLO Transmitter configuration only:

- The configuration parameters of the MediaFLO can be defined in the "FLO 1 PARAMETTERS" window and " FLO 2 PARAMETTERS " window of the PCL in maintenance MODE.

The transmitter is configured in the:

- "INSTALLATION PARAMETERS Level 1",
- "TRANSMITTER INTERFACE INSTALLATION PARAMETERS",
- "ADAPT INSTALLATION PARAMETERS",
- "ETHERNET INSTALLATION PARAMETERS",
- "COFDM and SFN PARAMETERS" (if internal modulator) windows or "8VSB PARAMETERS" windows or "FLO PARAMETERS" windows of the PCL.

The transmitter configuration can be defined via the tactile screen of PCL

| ACTIONS | | RESULT |
|---|---|---|
| To call up the "INSTALLATION PARAMETERS Level 1" window | a) Set switch SW1, situated in the exciter/CPU interconnection card on the side of the sub-units behind the CPU card, such that the dot is visible.<br>♦ Press reset button in front of CPU board. | ♦ The transmitter is switched to installation mode.<br>♦ The "INSTALLATION PARAMETERS Level 1" window appears on the PCL and displays the current transmitter configuration parameters. |
| Changing a parameter: | ♦ Press on the control keys corresponding to the parameter to be changed and then press repeatedly until the required configuration appears. | ♦ The names of the available configurations for the parameter in question will appear one after the other on the control keys. |
| | Special case of changing the external synthesiser frequency:<br>***IMPORTANT*** *:*<br>Before validating a new synthesiser frequency, make sure that the settings of all RF filters (ex. output RF filter, RF combiner, ...) are consistent with the new frequency.<br>♦ Press on the "FREQ SYNTHE (Hz)" key,<br>♦ Enter the frequency value on the window keyboard,<br>♦ Press "ENTER" to validate the entry.<br>Notes:<br>To cancel an entry press the "CANCEL" key.<br>The frequency must also be entered on the thumb wheels. Alternatively, the thumb wheels must be set to "0", except for the last one (LSB), which must be set to "1". | ♦ The "NUMERICAL VALUE" window appears.<br>♦ The value is displayed under the window title.<br>♦ The "INSTALLATION PARAMETERS Level 1" window appears.<br>♦ The new frequency value is displayed in the "FREQ SYNTHE (Hz)" key.<br>♦ The "INSTALLATION PARAMETERS Level 1" window appears.<br>♦ The frequency value remains unchanged. |
| Validation of the new configuration | ♦ Check that the data displayed in the window are correct,<br>♦ Press the "VALID" key. | ♦ The transmitter stores the new configuration parameters. |
| Cancelling the new configuration | ♦ Leave the installation mode without touching the "VALID" key. | |
| Leaving the installation mode | ♦ Set switch SW1, situated in the exciter/CPU interconnection card, such that the dot is not visible and reset the CPU board.<br>♦ Reset the CPU board | ♦ The system is initialised with the new status and operational parameters.<br>♦ The "TRANSMITTER STATUS" window appears and indicates that the system is in normal operating mode. |

The configuration parameters of the ADAPT exciter can be defined in the "ADAPT INSTALLATION PARAMETERS" window of the PCL.

| ACTIONS | | RESULT |
|---|---|---|
| To call up the "ADAPT INSTALLATION PARAMETERS" window of the PCL | ♦ Press "SCREEN NEXT" in the "INSTALL CABINET CONFIGURATION PARAMETERS " window. | ♦ The "ADAPT INSTALLATION PARAMETERS" window appears on the PCL and displays the current DAP configuration parameters. |
| Changing a parameter | ♦ Press on the control keys corresponding to the parameter to be changed and then | ♦ The names of the available configurations for the parameter in question will appear one after the |

| ACTIONS | | RESULT |
|---|---|---|
| | press repeatedly until the required configuration appears. | other on the control keys. |
| Calls up the "INSTALLATION PARAMETERS Level 1" for validation | ♦ Press successively on "INSTALL NEXT" in the "INSTALLATION PARAMETERS" windows. | ♦ The "INSTALLATION PARAMETERS Level 1" window appears on the PCL. |

Leaving the installation mode: When the PCL displays the "INSTALLATION PARAMETERS Level 1" window, proceed as follows :

| ACTIONS | | RESULT |
|---|---|---|
| Leaving the installation mode | ♦ Press the valid key in the "INSTALLATION PARAMETERS Level 1" window<br>♦ Set switch SW1, situated in the exciter/CPU interconnection card, such that the dot is not visible.<br>♦ Reset the CPU board | ♦ The transmitter stores the new configuration parameters.<br>♦ The system is initialised with the new status and operational parameters.<br>♦ The "STATUS" window appears and indicates that the system is in normal operating mode. |

The following operating quality threshold parameters of the ADAPT exciter can be defined in the "QUALITY THRESHOLD SETTINGS" window of the PCL :

- ripple threshold,
- shoulder threshold,
- power threshold.

| ACTIONS | | RESULT |
|---|---|---|
| To call up the "QUALITY THRESHOLD SETTINGS" window of the PCL | ♦ Press "QUALITY THRESHOLD" in the "CONTROL MAINT Level 2" window. | ♦ The "QUALITY THRESHOLD SETTINGS" window appears on the PCL and displays the current threshold value. |
| To change a parameter value | ♦ Press on the control keys of the parameter to be changed,<br>♦ Enter the required value on the window keyboard,<br>♦ Press "ENTER" to validate the entry.<br><br>Note:<br>To cancel an entry press the "CANCEL" key. | ♦ The "NUMERICAL VALUE" window appears.<br>♦ The value is displayed under the window title.<br>♦ The "CONTROL MAINT Level 2" window appears.<br>♦ The new value is displayed on the parameter control keys.<br>♦ The "CONTROL MAINT Level 2" window appears.<br>♦ The value remains unchanged. |

The configuration parameters of the COFDM and SFN can be defined in the "COFDM PARAMETERS" window of the PCL in maintenance mode.

These parameters are used in DVB-T Transmitters only.

| ACTIONS | | RESULT |
|---|---|---|
| To call up the "COFDM PARAMETERS" window of the PCL | ♦ Press "MODUL" in the "CONTROL MAINT Level 2" window. | ♦ The "COFDM PARAMETERS" window appears on the PCL and displays the current COFDM configuration parameters. |
| Changing a COFDM parameter | ♦ Press on the control keys corresponding to the parameter to be changed and then press repeatedly until the required configuration appears.<br>♦ Press the valid key for validation the new entry | ♦ The names of the available configurations for the parameter in question will appear one after the other on the control keys. |
| Changing a SFN parameter | ♦ Press on the control key corresponding to the parameter to be changed<br>♦ Enter the required value on the window keyboard<br>♦ Press "ENTER" to validate the entry. | ♦ The "NUMERICAL VALUE" window appears.<br>♦ The value is displayed under the window title.<br>♦ The "COFDM PARAMETERS" window appears. The value is displayed on the parameter control keys. |

The configuration parameters of the MediaFLO can be defined in the "FLO1 PARAMETERS" window and "FLO2 PARAMETERS" window of the PCL in maintenance mode.

These parameters are used in MediaFLO Transmitters only.

| ACTIONS | | RESULT |
|---|---|---|
| To call up the "FLO1 PARAMETERS" window of the PCL | ♦ Press "MODUL" in the "CONTROL MAINT Level 2" window. | ♦ The "FLO1 PARAMETERS" window appears on the PCL and displays the current MediaFLO configuration parameters (GENERAL / DATA SRC / Clock / TIMING / INPUT). |
| To call up the "FLO2 PARAMETERS" window of the PCL | ♦ Press "NEXT SCREEN" in the "FLO1 PARAMETERS" window. | ♦ The "FLO2 PARAMETERS" window appears on the PCL and displays the current MediaFLO configuration parameters. (MODULATION / CHANNELIZER) |
| Changing a FLO parameter | ♦ Press on the control keys corresponding to the parameter to be changed and then press repeatedly until the required configuration appears.<br>♦ Press the valid key for validation the new entry | ♦ The names of the available configurations for the parameter in question will appear one after the other on the control keys. |

## 1.4. Procedure for inserting Ethernet network parameters

The following parameters of the Ethernet network can be inserted in the “ETHERNET INSTALLATION PARAMETERS” window of the PCL :

- IP address of the transmitter,
- Sub-net mask number,
- IP address of the gateway.

| ACTIONS | | RESULT |
|---|---|---|
| To call up the "INSTALLATION PARAMETERS Level 1" window | ♦ Set switch SW1, situated in the exciter/CPU interconnection card on the side of the sub-units behind the CPU card, such that the dot is visible.<br>♦ Reset the CPU Board | ♦ The transmitter is switched to installation mode.<br>♦ The "INSTALLATION PARAMETERS Level 1" window appears on the PCL and displays the current transmitter configuration parameters. |
| To call up the "ETHERNET INSTALLATION PARAMETERS" window of the PCL | ♦ Press "INSTALL NEXT" in the "TRANSMITTER INTERFACE INSTALLATION PARAMETERS", "CABINET CONFIGURATION PARAMETERS" and "INSTALLATION ADAPT PARAMETERS" window. | ♦ The "ETHERNET INSTALLATION PARAMETERS" window appears on the PCL and displays the current configuration parameters. |
| To insert a parameter value | ♦ Press on the control keys of the parameter to be inserted,<br>♦ Enter the required value on the window keyboard,<br>♦ Press "ENTER" to validate the entry<br>***IMPORTANT :***<br>• The network parameter must be furnished by your network administrator.<br>• Setting bad parameter disturbs the network.<br>Note:<br>♦ To cancel and entry press the "CANCEL" key. | ♦ The "NUMERICAL VALUE" window appears.<br>♦ The value is displayed under the window title.<br>♦ The "INSTALLATION PARAMETERS" window appears. The value is displayed on the parameter control keys.<br>♦ The "INSTALLATION PARAMETERS" window appears. The value remains unchanged. |
| Calls up the "INSTALLATION PARAMETERS Level 1" for validation | ♦ Press "INSTALL NEXT" in the "ETHERNET INSTALLATION PARAMETERS" window. | ♦ The "INSTALLATION PARAMETERS Level 1" window appears on the PCL. |

Leaving the installation mode: When the PCL displays the "INSTALLATION PARAMETERS Level 1" window, proceed as follows :

| ACTIONS | | RESULT |
|---|---|---|
| Leaving the installation mode | ♦ Press the valid key in the "INSTALLATION PARAMETERS Level 1" window<br>♦ Set switch SW1, situated in the exciter/CPU interconnection card, such that the dot is not visible.<br>♦ Reset the CPU board | ♦ The transmitter stores the new configuration parameters.<br>♦ The system is initialised with the new status and operational parameters.<br>♦ The "STATUS" window appears and indicates that the system is in normal operating mode. |

## 1.5. Procedure to activate "SNMP" or "WEB" agent

Each option is associated with an activation code. Each code is single and associated with one CPU board. The identification number of the CPU board is given on the “ETHERNET INSTALLATION PARAMETERS” window. With this number you can get the activation code of the SNMP agent and/or WEB agent option (ask for THALES).

| ACTIONS | | RESULT |
|---|---|---|
| To call up the "INSTALLATION PARAMETERS Level 1" window | ♦ Set switch SW1, situated in the exciter/CPU interconnection card on the side of the sub-units behind the CPU card, such that the dot is visible.<br>♦ Reset the CPU board | ♦ The transmitter is switched to installation mode.<br>♦ The "INSTALLATION PARAMETERS Level 1" window appears on the PCL and displays the current transmitter configuration parameters. |
| To call up the "ETHERNET INSTALLATION PARAMETERS" window of the PCL | ♦ Press "INSTALL NEXT" in the "TRANSMITTER INTERFACE INSTALLATION PARAMETERS", "CABINET CONFIGURATION PARAMETERS" and "INSTALLATION ADAPT PARAMETERS" window. | ♦ The "ETHERNET INSTALLATION PARAMETERS" window appears on the PCL and displays the current configuration parameters. |
| Set the Ethernet network parameters | ♦ IP address of the transmitter,<br>♦ Sub-net mask number,<br>♦ IP address of the gateway.<br>♦ Refer to procedure § “Procedure for inserting Ethernet network parameters”<br>***IMPORTANT :***<br>• The NetWare parameters must be furnished by your network administrator.<br>• Setting bad parameter disturbs the network. | |
| To insert the activation code | ♦ Press on the control keys of the code to be inserted,<br>♦ Enter the required value on the window keyboard,<br>♦ Press "ENTER" to validate the entry.<br>IMPORTANT :<br>• Enter a bad code leads the control keys display to cone back to “0”.<br><u>Note:</u><br>To cancel and entry press the "CANCEL" key. | ♦ The "NUMERICAL VALUE" window appears.<br>♦ The value is displayed under the window title.<br>♦ The "INSTALLATION PARAMETERS" window appears.<br>♦ The value is displayed on the control keys.<br>♦ The "INSTALLATION PARAMETERS" window appears.<br>♦ The value remains unchanged |
| Calls up the "INSTALLATION PARAMETERS Level 1" for validation | ♦ Press "INSTALL NEXT" in the "ETHERNET INSTALLATION PARAMETERS" window. | ♦ The "INSTALLATION PARAMETERS Level 1" window appears on the PCL. |

Leaving the installation mode: When the PCL displays the "INSTALLATION PARAMETERS Level 1" window, proceed as follows :

| ACTIONS | | RESULT |
|---|---|---|
| Leaving the installation mode | ♦ Press the valid key in the "INSTALLATION PARAMETERS Level 1" window<br>♦ Set switch SW1, situated in the exciter/CPU interconnection card, such that the dot is not visible.<br>♦ Reset the CPU board | ♦ The transmitter stores the new configuration parameters.<br>♦ The system is initialised with the new status and operational parameters.<br>♦ The "STATUS" window appears and indicates that the system is in normal operating mode. |

## 1.6. Procedures for adjusting or changing operational parameters

### 1.6.1. Procedure to call the maintenance mode

Adjustments or changes to operational parameters can only be carried out in maintenance mode and when the PCL is unlocked.

If the PCL screen is locked (disabled), unlock it (refer to procedure for unlocking the PCL, § procedure lock or unlock the PCL.

| ACTIONS | | RESULT |
|---|---|---|
| To call up the "CONTROL" window of the PCL: | ♦ Press the "CONTROL" key. | ♦ The PCL "CONTROL Level 1" window appears. |
| If the transmitter is in normal mode, switch to maintenance mode | ♦ Press on the «MODE» key in the PCL "CONTROL Level 1" window.<br>♦ Press the "VALID" key. | ♦ The "NORMAL" message window above the «MODE» key is replaced by a flashing "MAINT MODE" message window.<br>♦ The "MAINT" message window stops flashing and remains lit.<br>♦ The system is now in maintenance mode. |
| To call up the "CONTROL MAINT Level 2" window | ♦ Press "CONTROL LEVEL 2" in the "CONTROL Level 1" window. | ♦ The "CONTROL MAINT Level 2" window appears. |

### 1.6.2. Procedure for adjusting the calibrated transmitter power

Adjustments or changes to calibrated transmitter power can only be carried out in installation mode.

The calibrated transmitter can be inserted in the " INSTALLATION PARAMETERS Level 1" window of the PCL. The RF probes of the transmitter are adjusted depending on required power value and according to RF feedback input value.

| ACTIONS | | CONSEQUENCES |
|---|---|---|
| To call up the "INSTALLATION PARAMETERS Level 1" window | ♦ Set switch SW1, situated in the exciter/CPU interconnection card on the side of the sub-units behind the CPU card, such that the dot is visible,<br>♦ Reset CPU board. | ♦ The transmitter is switched to installation mode.<br>♦ The "INSTALLATION PARAMETERS Level 1" window appears on the PCL and displays the current transmitter configuration parameters. |
| Select the required power value | ♦ In the "INSTALLATION PARAMETERS LEVEL 1" window, press on the "CAL PWR" key. | |
| To insert a parameter value | ♦ Enter the calibrated value on the window keyboard,<br>♦ Press "ENTER" to validate the entry.<br>Note:<br>To cancel an entry press on the "EXIT" key. | ♦ The "NUMERICAL VALUE" window appears.<br>♦ The value is displayed under the window title.<br>♦ The "INSTALLATION PARAMETERS" window appears.<br>♦ The "INSTALLATION PARAMETERS Level 1" window reappears.<br>♦ The calibrated power value remains unchanged |

| ACTIONS | | CONSEQUENCES |
|---|---|---|
| Leaving the installation mode | ♦ Press the valid key in the "INSTALLATION PARAMETERS Level 1" window,<br>♦ Set switch SW1, situated in the exciter/CPU interconnection card, such that the dot is not visible,<br>♦ Reset the CPU board. | ♦ The transmitter stores the new configuration parameters.<br>♦ The system is initialised with the new status and operational parameters.<br>♦ The "STATUS" window appears and indicates that the system is in normal operating mode. |

### 1.6.3. Procedure for adjusting the required transmitter power

Having already configured the system in maintenance mode and also having unlocked the PCL and called up the "TRANSMITTER STATUS" window, carry out the following operations :

| ACTIONS | | RESULT |
|---|---|---|
| Select the required power value | ♦ In the "TRANSMITTER STATUS" window, press on the "REQUIR POWER" key | ♦ The "REQUIRED POWER" window appears.<br>♦ The current value is displayed under the window title. |
| 1 - To insert the required power value | ♦ Enter the required value on the window keyboard,<br>♦ Press "ENTER" to validate the entry.<br>***IMPORTANT :***<br>Range of variation:<br>0.25 *Cal Pwr ≤ REQ Pwr ≤ 1.12 Cal Pwr and<br>REQ Pwr ≤ MAX Pwr<br>Cancelling the selection:<br>♦ Press “CANCEL” key in the "REQUIRED POWER" window. | ♦ The new current value is displayed under the window title<br>♦ The system activates the new power reduction value.<br>♦ The "TRANSMITTER STATUS" or "RF LEVEL” window appears.<br>♦ The system ignores the new power reduction value. |
| 2 - Select the required power reduction value: | ♦ In the "POWER REQUIRED" window, press on the "x dB" key successively until the required power reduction value is displayed<br>♦ Press the "ENTER" key for Validation of selection:<br>Cancelling the selection:<br>♦ Press “CANCEL” key in the "REQUIRED POWER" window. | ♦ The available values of power reduction appear successively on the key. he key flashes until the selection is validated.<br>♦ The "x DB" key stops flashing and remains lit.<br>♦ The system activates the new power reduction value.<br>♦ The "TRANSMITTER STATUS" or "RF LEVEL” window appears.<br>♦ The system ignores the new power reduction value. |

### 1.6.4. Procedure for changing the modulator input

This procedure describes how to change the input signal type of the modulator unit and the clock type of ADAPT exciter in DVB-T Transmitter only.

Having already configured the system in local control, maintenance mode, and also having unlocked the PCL and called up the “COFDM PARAMETERS” window.

***Note*** :

- MODAP Version only

  To set up a new parameter configuration of the modulator, the three corrections (ALE, LUT and OLDC) should be set to the FIXED mode. The control keys can be defined in the "MISCELLANEOUS" window and "CONTROL MAINT Level 4" window.

- SIRIUS Version only

  To set up a new parameter configuration of the modulator, the two corrections (ALE, and LUT) should be set to the FIXED mode. The control keys can be defined in the "MISCELLANEOUS" window.

| ACTIONS | | RESULT |
|---|---|---|
| Set the corrections of ADAPT exciter to FIXE MODE : | ♦ Refer to procedure for changing the configuration parameters of the ADAPT exciter.<br>♦ Refer to procedure for changing the configuration parameters of the OLDC card *(Available in MODAP version only)*. | In FIXE position, the correction parameters are not continuously adjusted.<br>ALE and LUT corrections are FIXE MODE.<br>♦ OLDC correction is in FIXE MODE. |
| Select the required parameters input | ♦ In the “COFDM PARAMETERS” window, press on the “DATA XXXX” key successively until the required input signal type is displayed.<br>♦ In the “COFDM PARAMETERS” window, press on the “CLOCK XX” key successively until the required clock type is displayed. | ♦ The available values of input parameters appear successively on the key.<br>♦ The key flashes until the selection is validated. |
| Validation of selection | ♦ Press the “VALID” key. | ♦ The “DATA” or “LOCK” keys stops flashing and remains lit.<br>♦ The system activates the new input parameter |
| Cancelling the selection | ♦ Press the “CANCEL” key. | ♦ The system ignores the new input parameter. |
| Set the corrections of ADAPT exciter to ADAPTIVE MODE | ♦ Refer to changing the configuration parameters of the ADAPT exciter.<br>♦ Refer to for changing the configuration parameters of the OLDC card *(Available in MODAP version only)*.. | ♦ ALE and LUT corrections are ADAPT MODE.<br>♦ OLDC correction is in ADAPT MODE. |

### 1.6.5. Procedure for changing the configuration of the Adaptation parameters (ALE and LUT)

This procedure provides for changing the type of linearity "ALE" and non linearity "LUT" signal correction (fixed or adaptive) performed by the DAP card (MODAP version) or TS card (SIRIUS version).

Summary

In fixed position, the correction parameters are not continuously adjusted.

Having already configured the system in local control, maintenance modes, and also having unlocked the PCL and called up the "MISCELLANEOUS" window (refer to procedures which are necessary prior to adjusting or changing an operational parameter), carry out the following operations :

| ACTIONS | | RESULT |
|---|---|---|
| To change the type of correction | ♦ Press "N. LIN COR ADAPTIVE MODE" (or "FIXED MODE") in the "MISCELLANEOUS" window.<br>♦ Press " LIN COR ADAPTIVE MODE" (or "FIXED MODE") in the "MISCELLANEOUS" window. | ♦ The control keys flashes and displays the new selection in reverse video.<br>♦ The control keys flashes and displays the new selection in reverse video. |
| Validation of selection | ♦ Press the "VALID" key. | ♦ The control keys label stops flashing and displays the new selection picked up the system in normal video. |

### 1.6.6. Procedure for changing the configuration parameters of the OLDC card

Note : This procedure is achieve in COFDM MODAP version only

This procedure provides for changing the type of signal correction (fixed or adaptive) performed by the OLDC card.

Remember

In fixed position, the correction parameters are not continuously adjusted.

Having already configured the system in local control, maintenance modes, and also having unlocked the PCL and called up the "CONTROL MAINTENANCE Level 4" window (refer to procedures which are necessary prior to adjusting or changing an operational parameter), carry out the following operations :

| ACTIONS | | RESULT |
|---|---|---|
| To change the type of correction | ♦ Press "SELECT MODE" in the "CONTROL MAINT Level 4" window | ♦ The message window above the control keys flashes while displaying the newly selected operating mode (OLDC ADAPT or OLDC FIXE). |
| Validation of selection | ♦ Press the "VALID" key. | ♦ The message window above the "SELECT MODE" control keys stops flashing and remains lit while displaying the newly selected operating mode. |
| Cancelling the selection | ♦ Press the "CANCEL" key. | ♦ The message window above the "SELECT MODE" control keys stops flashing and remains lit while displaying the operating mode which had been previously selected. |

### 1.6.7. Procedure for changing the frequency of the RF synthesiser

Having already configured the system in maintenance mode and also having unlocked the PCL and called up the "CONTROL MAINT Level 3" window (refer to procedures which are necessary prior to adjusting or changing an operational parameter), carry out the following operations :

| ACTIONS | | CONSEQUENCES |
|---|---|---|
| To change the frequency | ♦ In the "CONTROL MAINT Level 3" window, press on the "FREQ SYNTHE (Hz)" key.<br>♦ Enter the frequency value on the window keyboard.<br>***IMPORTANT :***<br>Before validating a new synthesiser frequency, make sure that the settings of all RF filters (ex. output RF filter, RF combiner, ...) are consistent with the new frequency. | The "NUMERICAL VALUE" appears.<br>♦ The value is displayed under the window title. |
| Validation of selection | ♦ Press "ENTER" to validate the entry. | The "CONTROL MAINT Level 3" window reappears.<br>The new frequency value is displayed in the "FREQ SYNTHE (Hz)" key. |
| Cancelling the selection | ♦ Press the "CANCEL" key. | ♦ The "CONTROL MAINT" window reappears.<br>♦ The frequency value remains unchanged. |

### 1.6.8. Procedure for changing ripple and shoulder threshold settings in maintenance mode

This procedure describes how to change the ripple and shoulder thresholds beyond which the ADAPT exciter performs a correction.

Having already configured the system in local control, maintenance modes, and also having unlocked the PCL and called up the "CONTROL MAINTENANCE Level 3" window (refer to procedures which are necessary prior to adjusting or changing an operational parameter), carry out the following operations :

| ACTIONS | | RESULT |
|---|---|---|
| Changing thresholds | ♦ Press on the message window of the threshold to be changed.<br>♦ Enter the required value on the window keyboard. | The "NUMERICAL VALUE" window appears.<br>The value is displayed under the window title. |
| Validation of selection | ♦ Press "ENTER" to validate the entry. | The "CONTROL MAINT Level 3" window reappears.<br>The new threshold value is displayed on the corresponding key. |
| Cancelling the selection | ♦ Press the "CANCEL" key. | The "CONTROL MAINT Level 3" window reappears.<br>♦ The threshold value remains unchanged. |

### 1.6.9. Procedure for changing the threshold settings of the OLDC card

| Note : | This procedure is achieve in COFDM MODAP version only |
|---|---|

This procedure describes how to change the central frequency rejection threshold and the I/Q amplitude error threshold beyond which the OLDC card performs a correction.

Having already configured the system in local control, maintenance modes, and also having unlocked the PCL and called up the "CONTROL MAINTENANCE Level 4" window (refer to procedures which are necessary prior to adjusting or changing an operational parameter), carry out the following operations :

| ACTIONS | | RESULT |
|---|---|---|
| Changing thresholds | ♦ Press on the message window of the threshold to be changed.<br>♦ Enter the required value on the window keyboard. | The "NUMERICAL VALUE" window appears.<br>The value is displayed under the window title. |
| Validation of selection | ♦ Press "ENTER" to validate the entry. | The "CONTROL MAINT Level 4" window reappears.<br>The new threshold value is displayed on the corresponding key. |
| Cancelling the selection | ♦ Press the "CANCEL" key. | The "CONTROL MAINT Level 4" window reappears.<br>♦ The threshold value remains unchanged. |

### 1.6.10. Procedure for changing RF digital power threshold settings for triggering alarm and fault signals

This procedure describes how to change digital power threshold settings for triggering alarm and fault signals on the PCL (three-colour "Alarm" indicator lamp).

Having already configured the system in maintenance mode and also having unlocked the PCL and called up the "CONTROL MAINT Level 2" window (refer to procedures which are necessary prior to adjusting or changing an operational parameter), carry out the following operations :

| ACTIONS | | RESULT |
|---|---|---|
| To call up the «RF THRESHOLD» window of the PCL | ♦ In the "CONTROL MAINT Level 2" window, press on the "RFTHRES" key. | ♦ The «RF THRESHOLD» window appears. |
| Changing thresholds | ♦ Press on the message window of the threshold to be changed.<br>♦ Enter the required value on the window keyboard. | ♦ The "NUMERICAL VALUE" window appears.<br>♦ The value is displayed under the window title. |
| Validation of sélection | ♦ Press "ENTER" to validate the entry. | ♦ The «RF THRESHOLD» window reappears.<br>♦ The new threshold value is displayed on the corresponding key. |
| Cancelling the selection | ♦ Press the "CANCEL" key. | ♦ The «RF THRESHOLD» window reappears.<br>♦ The threshold value remains unchanged. |

## 1.6.11. Procedures for changing quality thresholds

The quality threshold is the maximum permissible deviation (in dB) from a set point before the occurrence of a major fault (overall quality assessment of 13/20), which produces a transmitter changeover in an N+1 or Passive Reserve system. In SD or DD systems, no changeover is performed.

- The set point (Shoulder, Ripple) is the parameter threshold beyond which the ADAPT exciter performs a correction. The set points can be defined in the "CONTROL MAINT Level 3" window.
- The power set point is the calibrated RF power of the transmitter, it is fixed and is available to the operator in the "INSTALLATION PARAMETERS Level 1" window.

Having already configured the system in maintenance mode and also having unlocked the PCL and called up the "CONTROL MAINT Level 2" window (refer to procedures which are necessary prior to adjusting or changing an operational parameter), carry out the following operations :

| ACTIONS | | RESULT |
|---|---|---|
| To call up the "QUALITY THRESHOLD SETTINGS" window | ♦ In the "CONTROL MAINT Level 2" window, press on the "QUALITY THRESHOLDS" key. | ♦ The "QUALITY THRESHOLD SETTINGS" window appears on the PCL and displays the current quality thresholds. |
| Changing quality thresholds | ♦ Press on the message window of the threshold to be changed.<br>♦ Enter the required value on the window keyboard. | The "NUMERICAL VALUE" window appears.<br>♦ The value is displayed under the window title. |
| Validation of selection | ♦ Press "ENTER" to validate the entry. | ♦ The "QUALITY THRESHOLD SETTINGS" window reappears.<br>♦ The new threshold value is displayed on the corresponding key. |
| Cancelling the selection | ♦ Press the "CANCEL" key. | The "QUALITY THRESHOLD SETTINGS" window reappears.<br>♦ The threshold value remains unchanged. |

## 1.6.12. Procedure for setting the time and the date

Having already configured the system in maintenance mode and also having unlocked the PCL and called up the "CONTROL MAINT Level 2" window (refer to procedures which are necessary prior to adjusting or changing an operational parameter), carry out the following operations:

| ACTIONS | | RESULT |
|---|---|---|
| To call up the "DATE & TIME" window of the PCL | ♦ Press on the "DATE" key in the "CONTROL MAINT Level 2" window. | ♦ The "DATE & TIME" window appears; the time and date values are frozen to the time instant when the window was called up. |
| Changing the time and date values | ♦ Set the time and date values using the incrementation and decrementation keys ("+" and "-"). | ♦ The changed parameter values appear in the corresponding message windows. The number resulting from the increment or decrement is being displayed between the two control keys ("+" and "-") . |
| Validation of selection | ♦ Press "VALID" to validate the entry. | ♦ The new values appear under the title of window "DATE & TIME". |
| Cancelling the selaction | ♦ press on the "EXIT" key. | ♦ The "CONTROL MAINT Level 2" window reappears.<br>♦ The time and date settings have not been changed. If the "VALID" key of the "DATE & TIME" window was not selected. |

## 1.7. Procedure for changing the PCL password

For this procedure the system can be either in maintenance mode or normal mode. With the PCL enabled and the "CONTROL MAINT Level 2" window or "CONTROL OPER Level 2" window already called up, carry out the following operations :

| | ACTIONS | CONSEQUENCES |
|---|---|---|
| | ♦ Press on the "MODIFY PASSWORD" message window in the "CONTROL MAINT Level 2" window or in the "CONTROL OPER Level 2" window. | ♦ The "NUMERICAL VALUE" window appears showing the "ENTER NEW PASSWORD" prompt. |
| Insertion of current password | ♦ Enter the current password on the window keyboard. | ♦ Asterisks are displayed in order to hide the password. |
| | ♦ Press "ENTER" to validate the entry. | ♦ If the password is correct: the "ENTER NEW PASSWORD" prompt is displayed.<br>♦ If the password is incorrect: the message "INVALID PASSWORD" is displayed in the window; try again. |
| | Note:<br>♦ To cancel an entry press the "CANCEL" key. | ♦ The "CONTROL MAINT Level 2" or "CONTROL OPER Level 2" window appears.<br>♦ The password has not been changed. |
| Insertion of new password | ♦ Enter the new password on the window keyboard.<br>♦ Press "ENTER" to validate the entry.<br>♦ Enter the new password again on the window keyboard.<br>♦ Press "ENTER" to validate the entry. | ♦ Asterisks are displayed in order to hide the password<br>♦ The user is prompted to confirm the new password: "CONFIRM NEW PASSWORD" is displayed in the window.<br>♦ Asterisks are displayed in order to hide the password.<br>♦ If the second password entry is correct:<br>• The "CONTROL MAINT Level 2" window or the "CONTROL OPER Level 2" window reappears.<br>• The password has been changed.<br>♦ If the password is incorrect: the message "INVALID PASSWORD" is displayed in the window :<br>• The "CONTROL MAINT Level 2" window or the "CONTROL OPER Level 2" window reappears.<br>• The password has not been changed.<br>• Try again. |
| | Note:<br>♦ To cancel an entry press the "CANCEL" key. | ♦ The "CONTROL MAINT Level 2" or "CONTROL OPER Level 2" window appears.<br>♦ The password has not been changed. |

# 1.8. Procedures for changing a status condition or transmitter operating mode

## 1.8.1. Procedure for lock to unlock the PCL

### 1.8.1.1. Procedure for lock the PCL

| ACTION | | RESULT |
|---|---|---|
| With the PCL unlocked | ♦ Press on "LOCK PCL" key in the "STATUS" window. | ♦ The PCL "Unlock" indicator lamp lights up.<br>♦ Message "LOCK PCL" displayed in the "STATUS" window.<br>♦ In the "STATUS" window: the message "LOCK PCL" displayed in normal video is replaced by the message "PCL LOCKED" displayed in reverse video.<br>♦ The PCL "Unlock" indicator lamp is extinguished. |

### 1.8.1.2. Procedure for unlock the PCL

| ACTION | | RESULT |
|---|---|---|
| With the PCL locked | | ♦ The PCL "Unlock" indicator lamp is extinguished.<br>♦ "PCL LOCKED" message is displayed in the "STATUS" window in reverse video. |
| | ♦ Enter the user password:<br>♦ Press on "PASSWORD" control keys in the "STATUS" window.<br>♦ Enter the password on the window keyboard. | ♦ The "NUMERICAL VALUE" window appears<br>Asterisks are displayed under the window title in order to hide the password.<br>♦ The "STATUS" window appears: the message "PCL LOCKED" in reverse video is replaced by the message "LOCK PCL" displayed in normal video.<br>♦ The PCL "Unlock" indicator lamp lights up. If not the inserted password is not valid. |
| | Note:<br>♦ To cancel an entry press the "CANCEL" key. | ♦ The "STATUS" window appears.<br>♦ The PCL screen is still locked. |

### 1.8.2. Selection of transmitter operation mode

Selecting the transmitter operating mode (maintenance mode or normal mode) is carried out in the PCL "CONTROL Level 1" window.

This operation is only possible if the PCL is unlocked (see § Procedure to Unlock the PCL).

| Note: | In normal mode all transmitter functions are operational. No settings or parameters can be adjusted by the operator.<br>In maintenance mode :<br>♦ The fault processing facilities are not operational,<br>♦ The operator can adjust some settings and parameters. |
|---|---|

| ACTIONS | | RESULT |
|---|---|---|
| Selection of operating mode (NORMAL/MAINT) | ♦ Press the «MODE» control keys in the "CONTROL Level 1" window. | ♦ The message window above the control keys flashes indicating the newly selected operating mode which can be either the maintenance mode or normal mode. |
| Validation of selection | ♦ Press the "VALID" key. | ♦ The message window above the "MODE" control keys stops flashing and remains lit while displaying the newly selected operating mode. |
| Cancelling the selection | ♦ Press the "CANCEL" key. | ♦ The message window above the "MODE" control keys stops flashing and remains lit while displaying the operating mode which had been previously selected. |

### 1.8.3. Manuel change over of exciter

*Only in Double Drive Version*

The procedure for manual changeover of exciter is only possible if the PCL is unlocked, and if the system is in local control mode. It consists of changing the exciter already selected.

It can be carried out in the "EXCITER Level 1" window.

| ACTION | | RESULT |
|---|---|---|
| Changing the selected exciter | ♦ Press on "EXCITER" control keys in the "EXCITER Level 1" window. | ♦ The «EXC A (or B)» message window flashes while displaying the reserve exciter. |
| Validation of selection | ♦ Press the "VALID" key. | ♦ The «EXC A (or B)» message window stops flashing and remains lit while displaying the newly selected exciter. |
| Cancelling the selection | ♦ Press the "CANCEL" key. | ♦ The «EXC A (or B)» message window stops flashing and remains lit while displaying the previously selected exciter. |

**Exciter changeover override**

Switches SW4 and SW5 on the exciter/CPU interconnection card provide for switching exciter A (SW4) or B (SW5) to air if the CPU card is unavailable or missing.

### 1.8.4. Selection of exciter changeover mode

Only in Double Drive Version

The selection of the exciter changeover mode is only possible if the PCL is unlocked, i.e. enabled (see relevant procedure).

It is carried out using the "EXCITER Level 1" window independently of the transmitter operating mode (normal mode or maintenance mode).

Note: The changeover switch between the two exciters can take place automatically or under manual control.

- In the automatic changeover mode the facilities for an automatic switch between the two exciters (A → B or B → A) if a fault appears on the selected exciter channel have been enabled; in this mode it is possible to initiate the changeover switch manually.

  In the automatic changeover mode the identity of the selected exciter is not changed; this is not the case with manual changeover.

- In the manual changeover mode the switch can only take place as a result of a command from a user interface (PCL or remote user interface)

  The manual changeover switch changes the identity of the selected exciter.

| ACTIONS | | RESULT |
|---|---|---|
| Selection of changeover mode | ♦ Press on "CH OVER" control keys in the "EXCITER Level 1" window. | ♦ The «MAN (or AUTO)» message window flashes while displaying the newly selected changeover mode (manual or automatic). |
| Validation of selection | ♦ Press the "VALID" key. | ♦ The «MAN (or AUTO)» message window stops flashing and remains lit while displaying the newly selected changeover mode. |
| Cancelling the selection | ♦ Press the "CANCEL" key. | ♦ The «MAN (or AUTO)» message window stops flashing and remains lit while displaying the changeover mode previously selected. |

### 1.8.5. Selection of user interface

The selection of a local (PCL) or remote user interface can only be carried out at the PCL.

For this selection it is not necessary to enable the PCL.

It is carried out using the "CONTROL Level 1" window independently of the transmitter operating mode (normal mode or maintenance mode).

| ACTION | | RESULT |
|---|---|---|
| Selection of user interface | ♦ Press on "CTRL" control keys in the "CONTROL | ♦ The message window above the "CTRL" control keys flashes and displays the newly selected user interface (remote or local). |
| Validation of selection | ♦ Press the "VALID" key. | ♦ The message window above the "CTRL" control keys stops flashing and remains lit while displaying the newly selected user interface. |
| Cancelling the selection | ♦ Press the "CANCEL" key. | ♦ The message window above the "CTRL" control keys stops flashing and remains lit while displaying the previously selected user interface. |

## 1.9. Procedure for switching on and off

### 1.9.1. Switching on-air and switching off-air

Switching on (TX on) means switching the transmitter to air when mains has already been switched to the transmitter.

Switching off (TX off) means taking the transmitter off-air while keeping the mains switched on.

On-air and off-air switching are carried out by using the "ON" and "OFF" keys of the PCL.

| ACTION | | RESULT |
|---|---|---|
| Switching the transmitter on | ♦ Press on the PCL "ON" key. | ♦ The PCL "On" indicator lamp lights up to indicate that the transmitter is on-air.<br>♦ The amplifier power supplies and cooling system are switched on.<br>♦ The system is on-air. |
| Switching the transmitter off | ♦ Press on the PCL "OFF" key. | ♦ The PCL "Off" indicator lamp lights up to indicate that the transmitter is off-air.<br>♦ The amplifier power supplies and cooling system are switched off.<br>♦ The system is off-air. |

**On/off override**

The SW2 and SW3 switches on the exciter/CPU interconnection card and RSCOM software can be used to switch the transmitter off (SW3) or on (SW2) if the CPU card is missing or faulty.

### 1.9.2. Switching the reserve exciter on and off

Only in Double Drive Version

Switching the reserve exciter on and off is only possible if the PCL is unlocked, i.e. enabled (see relevant procedure).

It is carried out using the "CONTROL Level 1" window independently of the transmitter operating mode (normal mode or maintenance mode).

Note : While the reserve exciter is on, automatic changeover of the exciters is impossible.

| ACTION | | RESULT |
|---|---|---|
| Selection | ♦ Press the "STDBY" control keys in the "CONTROL Level 1" window. | ♦ The message window above the control keys flashes while displaying the function (on or off) to be carried out. |
| Validation of selection | ♦ Press the "VALID" key. | ♦ The message window above the "STDBY" control keys stops flashing and remains lit while displaying the status (on or off) of the reserve exciter. |
| Cancelling the selection | ♦ Press the "CANCEL" key. | ♦ The message window above the "STDBY" control keys stops flashing and remains lit while displaying the status (on or off) of the reserve exciter. |

## 1.10. Procedure for adjusting PCL screen contrast

| ACTION | | RESULT |
|---|---|---|
| Adjusting the contrast | ♦ Press on the upper left and right corners of the screen. | ♦ A range of contrast values appears in the bottom of the screen. |
| | ♦ Press on the tab which corresponds to the required contrast. | ♦ The screen contrast changes. |
| | ♦ Press in the centre of the screen. | ♦ The range of contrast values disappears. |

## 1.11. Procedure for transmitter reset

| ACTIONS | | CONSEQUENCES |
|---|---|---|
| Transmitter re-initialisation | ♦ Press on the PCL "RESET" key. | ♦ Faults will be erased and their consequences will be cancelled.<br>♦ Any power reduction carried out will be cancelled.<br>♦ Operator selections carried out on the PCL will be cancelled.<br>♦ Return to selected exciter if an automatic changeover has been carried out. |

# 1.12. Procedure for using maintenance information

## 1.12.1. Display of faults and status conditions

### 1.12.1.1. Display of last three faults to appear

| ACTION | RESULT |
|---|---|
| ♦ Call up "STATUS" window of the PCL. | ♦ Last three faults to appear are displayed.<br>Note:<br>Other faults can be examined using the log book. |

### 1.12.1.2. Displaying power amplifier status conditions

| ACTION | | RESULT |
|---|---|---|
| | ♦ Call up "AMPLIFIERS" window of the PCL. | |
| Selecting an amplifier | ♦ Select the bay which contains the amplifier using the "± CAB" keys *.<br>♦ Select the amplifier using the "± AMPLI" keys. | ♦ The number of the selected bay is displayed on the key.<br>♦ The number of the selected amplifier is displayed on the key.<br>♦ Message windows show the status conditions of the amplifier selected. A faulty status is displayed in reverse video (on white background). |
| Display the status conditions of the other amplifiers by changing | ♦ The amplifier using the "± AMPLI" keys.<br>♦ If necessary the bay using the "± CAB" keys *. | ♦ Message windows show the status conditions of the new amplifier. |

* Only high-power transmitters with more than one cabinet.

### 1.12.1.3. Displaying amplifier power supply status conditions

| ACTION | RESULT |
|---|---|
| ♦ Call up the «POWER SUPPLY» window of the PCL.<br>If necessary the status conditions of the power supplies in another cabinet can be displayed by selecting the other bay using the "± CAB" keys *. | ♦ The window displays the status conditions of the amplifier power supplies in the cabinet shown in the "± CAB" message window. A faulty status is displayed in reverse video (on white background).<br>♦ A cabinet which has not been configured cannot be accessed using the ± keys. |

* Only high-power transmitters with more than one cabinet.

### 1.12.1.4. Displaying protection system status conditions

| ACTION | RESULT |
|---|---|
| ♦ Call up the "INTLOCK" window of the PCL. | ♦ This window has the facilities to display the status conditions of the protection system in the cabinet whose number appears on the "± CAB" display. The data from the sensors are arranged in the order in which they physically appear in the actual cabinet. The data to the left of the vertical bar in the window trigger an emergency shutdown when the associated fault occurs; those to the right of the bar leave the transmitter in operation. A faulty status is displayed in reverse video (on white background). |
| If necessary, the status conditions for the protection system in another bay can be displayed by selecting the other cabinet using the "± CAB" keys *. | ♦ A cabinet which has not been configured cannot be accessed using the ± keys. |

* Only high-power transmitters with more than one cabinet.

### 1.12.1.5. Displaying exciter card status conditions

**Single Drive Version**

| ACTION | RESULT |
|---|---|
| ♦ Call up the "EXCITER PANEL" window of the PCL. | ♦ This window displays the exciter status conditions. The message window for a fault is displayed in reverse video (on a white background). |

**Only in Double Drive Version**

| ACTION | RESULT |
|---|---|
| ♦ Call up the "EXCITER Level 1" window of the PCL. | This window provides the status conditions of the exciter cards. The message window for a faulty card is displayed in reverse video (on white background). |
| ♦ Press "EXCITER (2)" in the "EXCITER Level 1" window. | ♦ The "EXCITER Level 2" window appears.<br>♦ This window shows the status conditions for signals processed by the exciters. A faulty status is displayed in reverse video (on white background). |

### 1.12.1.6. Check on signal quality

| ACTION | RESULT |
|---|---|
| ♦ To call up the "RF LEVEL" window<br>♦ Press "RF LEVEL" in the "CONTROL MAINT Level 2" window. | ♦ The "RF LEVEL" window is displayed.<br>♦ This window displays the quality variables of the RF feedback signal (ripple level, shoulder level, gain and quality assessment), the power and the SWR of the output RF signal of the transmitter. |